

# Discussion 1

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It appears to me that the conference papers and the issues they discuss fall into four categories. First, the paper by Van den Heuvel examines the role of bank credit in the transmission of monetary policy. Second, three papers deal with the behaviour and performance of financial institutions: they are by D'Souza and Lai, Stiroh, and Chant, while the paper by Gobert et al. also addresses important elements in financial institution behaviour. Third, two papers, by Dionne and Gale, look at microprudential regulation. Finally, four papers deal with macroprudential risk and systemic risk: the authors are Gropp and Vesala; Das, Quintyn, and Chenard; Santor; and, again, Gobert et al.

The disparate nature of the papers is a disadvantage and an advantage to a panellist. It is a disadvantage because of difficulty in finding a common theme. It is an advantage, however, because the panellist can choose which of the papers to discuss. And that is what I will do today. I will focus first on Van den Heuvel's paper on bank credit, and then on some of the papers dealing with financial institution behaviour.

Before beginning, however, I would like to put some of the issues discussed in this conference into a central bank perspective, by examining the evolution in research done at the Bank of Canada of the types of analyses we have heard at this conference. This will expand on some of the themes that the Governor touched on in his presentation at last evening's dinner.

Although from its inception in 1935, the Bank has not had responsibility for the regulation or supervision of individual financial institutions, it has always done research on the behaviour of financial institutions. Two main forces drove this type of research. The first driving force was the role of such analyses in understanding the transmission mechanism from central bank

actions to the real economy and to inflation. Thus, in earlier years, considerable emphasis was placed on the effect on chartered bank lending of Bank of Canada actions that influenced the liquidity position of banks (Dingle et al. 1972). Later on, when the Bank adopted monetary targeting, there was a great deal of research on the liability side of bank balance sheets, and, in particular, on how financial innovation led to changes in the kinds of deposits offered by banks and, hence, resulted in shifts in the demand for the target monetary aggregate (Freedman 1983). Indeed, the analysis done by Bank researchers of the shift in demand for M1 in the late 1970s and early 1980s resulting from financial innovations played an important role in the Bank's decision in 1982 to withdraw the targets. In recent years, focus shifted back to the asset side of the banks' balance sheets, with increased attention paid to the willingness of banks (and other financial institutions) to supply credit to final borrowers under differing circumstances. This research was influenced by the episode of financial headwinds in the United States in the early 1990s. Such research has recently been broadened from credit granted by financial institutions to include credit extended through markets (Dolar and Meh 2002).

The second force behind research at the Bank of Canada on financial institutions was the Bank's role as adviser to the government on the periodic revisions of financial institution legislation, since this required an in-depth understanding of the behaviour of financial institutions.

In the past two decades, another focus of financial research has developed, which is related to both systemic and macroprudential risk. Initially, much of the analysis and research in this area was devoted to systemic risk in clearing and settlement systems, since the Bank was deeply involved in overseeing the design of such systems for transactions in securities, payments, and foreign exchange. Subsequently, the emphasis broadened to what has come to be called macroprudential or systemwide risk. As the Governor noted yesterday evening, the Bank now issues a semi-annual *Financial System Review*, which highlights domestic and international developments and trends in the financial system, discusses developments in policy and infrastructure in the financial sector, and reports on recent research on financial matters.

This increased emphasis on financial stability was to a considerable extent an outgrowth of the financial crises that had buffeted developed and emerging economies. The enormous costs of these crises made their prevention and resolution important issues in central banking and government circles. Indeed, at the G-10 meetings held at the Bank for International Settlements, the central bank governors went from spending about 90 per cent of their time in the 1970s and 1980s on monetary policy

and macroeconomic developments to a much more even split in recent years between macroeconomic developments and matters of financial stability. And the Bank of Canada's participation in a variety of international committees that deal with crisis prevention and resolution and with the development of international standards, such as the Group of Seven (G-7), the Group of Ten (G-10), the Group of Twenty (G-20), the Basel Committee on Banking Supervision, the Committee on Payment and Settlement Systems, the Committee on the Global Financial System, and the Financial Stability Forum, deepened the Bank's involvement in these matters and its desire for sound basic and applied research on financial sector issues.

Against that background, what have we learned from the papers at this conference? Let me begin with the paper on bank credit by Van den Heuvel. I liked its emphasis on bank capital as a key causal element in determining bank credit, since, in my view, it corresponds better than the traditional models of the bank lending channel to the kind of slowdown in bank credit supply (or "crunch") that we saw in the United States in the early 1990s. In anecdotal discussions of that episode, attention typically focused on the loan losses that banks suffered in the latter part of the 1980s and the early 1990s and on the pressures banks faced to meet the requirements of the Basel Capital Accord. By slowing down the rate of growth of their loans or by reducing the amounts outstanding, those banks short of capital were able to slow the growth of their balance sheets or to shrink them. This, in turn, reduced the pressure on them to increase their capital. There is also research suggesting that better capitalized banks were able to expand at the expense of banks that were not as well capitalized during this episode. Subsequently, banks in the United States were able to improve their capital positions, in part by borrowing short term and investing long term during the first half of the 1990s in the expectation that the very positively sloped yield curve would be maintained for some time, a speculative gamble that paid off in higher profits.

While I am positive about the direction that Van den Heuvel's research is taking us, I would note that both his analysis and the earlier analyses of the bank lending channel make assumptions that may fit the U.S. institutional arrangements but would have to be significantly adjusted for the Canadian setting. In his introductory discussion of the traditional model of the bank lending channel, Van den Heuvel points out that it depends importantly on reserve requirements and shocks to reserves. In Canada and in a number of other countries, reserve requirements have been eliminated, and banks have the ability to issue relatively large amounts of non-reservable liabilities at market rates (although this capacity would be constrained by risk concerns if there were any question about the viability of the banks trying to issue the liabilities). Thus, the shift from this type of model to one that focuses on

capital would fit the Canadian context much better (in addition to being more realistic even in the U.S. context).

Another institutional characteristic in the Canadian setting that might not fit in Van den Heuvel's model and one that received considerable attention in the general discussion of his paper is the role of maturity transformation. A crucial feature of his model is that bank loans are assumed to have a longer maturity on average than the banks' non-equity liabilities. While this type of maturity transformation is true from the standpoint of the commitment of funds by depositors to the bank and by the bank to its borrowers, it may not be true from the perspective of the interest rate resetting process on loans and deposits. In Canada, a substantial proportion of bank loans are made at rates related to the prime lending rate and are adjusted whenever there is a movement in short-term rates (in particular, in the Bank of Canada target rate). When I looked some years ago at the response of bank profits to a rise in interest rates, the analysis indicated that there would initially be an increase in profits (as more assets than liabilities effectively bore floating rates). Then, over time, the profits would decline and turn into losses (as there were more liabilities than assets at, say, 90-day money market rates and as these liabilities became due and were reissued). More recent analysis (Bank of Canada *Financial System Review*, December 2003, 10) shows that a one percentage point increase in interest rates for one year would result in a 10 per cent reduction in after-tax net income and in a "rather small" reduction in net assets. Thus, perhaps Van den Heuvel's view that a rise in short-term rates would affect profits negatively would hold, but only with a lag or to a relatively small extent. It would be of interest to know whether the same outcome held in the United Kingdom, where mortgage interest rates float with very short-term market rates. And, of course, in today's world, banks can enter into interest rate swaps to offset mismatches in the interest rate resetting arrangements on their assets and liabilities, which would also affect the analysis.

That said, I want to repeat that this paper is moving us in the right direction with its emphasis on profits and capital. But I think the focus should be on the effect on bank lending of changes in bank capital, regardless of the source of the change, rather than only on the result of interest rate changes. I expect that there will be periodic episodes in which banks behave differently than is typical in their approach to granting loans because of their capital position, and that it will be important to understand and assess such developments in making monetary policy. In this context, I would note that one concern that has been raised about the proposed New Basel Capital Accord is the possibility that changes in capital and capital requirements during cyclical downturns and upturns will lead to changes in bank lending behaviour that will exacerbate the business cycle.

Let me turn now to some of the papers that deal with the behaviour and performance of banks—D’Souza and Lai, Stiroh, and parts of Gobert et al.

Stiroh examines diversification in the United States, while D’Souza and Lai look at diversification from the Canadian perspective. The focus in both papers is the effect of diversification on risk and return. This is an important topic to examine given the broadening of the powers granted to financial institutions in a number of countries in recent years, and the cross-pillar mergers in Canada, the United States, and Europe. Interestingly, as pointed out in Stiroh’s paper, there have been a number of divestitures of late, suggesting that financial conglomeration has not been universally successful. Indeed, what we may be beginning to see in the financial sector is a phenomenon similar to what we have seen in the non-financial sector—namely, periodic pendulum swings between conglomeration and divestiture. Or, to put it slightly differently, there may be periodic swings between the perception at times by financial institutions that there are major benefits to them from diversification and, at other times, that there are advantages to them of focusing more narrowly on their areas of comparative advantage and expertise, sometimes termed “sticking to one’s knitting.”

The Stiroh paper reaches largely negative conclusions about the balance between the costs and benefits of diversification. The analysis is interesting and the methodological approach appealing. And given the difficulties that other studies have had in finding large synergy benefits from cross-pillar mergers and financial conglomeration more generally, I do not find the results surprising. I would like to raise a couple of technical questions, however. First, the treatment of all non-interest income as a single item makes me wonder whether there would be a difference in results between entities that combined banking and insurance and those that combined banking and the securities business. As noted earlier in the conference, the returns from the securities business are much more volatile than those from insurance. One way of testing the hypothesis that different combinations would yield different results would be to examine financial holding companies that are in different lines of business. Second, the measures used by the author are all based on accounting data. It may be the case that the banking part of the business allows for the smoothing of results through the treatment of loan loss provisions, while the securities part of the business is less amenable to smoothing because of mark-to-market requirements. Hence, the volatility of return on assets and return on equity in entities that combine banking and securities may, in part, although certainly not entirely, be an artifact of the way that net profits are calculated in the various lines of business.

D'Souza and Lai examine risks and returns over five business lines. In addition, non-mortgage loans are disaggregated by industry, and total assets are disaggregated by region. In apparent contradiction to the results in Stiroh, D'Souza and Lai find that mergers of banks with differences in business lines but similarities in the regional composition of their portfolios could lead to more efficient entities (according to their definition of efficiency). Interestingly, their analysis implies that there would be no important scale effects from the expansion of banks through mergers, but that there might be important economies and diseconomies of scope from such expansions. The latter result would be worth probing further. On a technical level, I was concerned about the authors' use of gross returns to assets as their return measure. At times of higher rates of inflation, nominal interest rates would be higher and, hence, gross returns would be higher, but so would the interest costs of funding the assets, which are not taken into account in the analysis. Thus, the approach would incorrectly treat lending as yielding higher returns in such circumstances. However, this is probably not a problem over their sample period. Similarly, the gross return to retail banking may appear high, since the cost of branches is not accounted for.

I would encourage Stiroh and D'Souza and Lai to pursue their analyses, since this will continue to be an important issue. Indeed, as Stiroh has indicated, his results raise an interesting question—if the results do not support the view that there are gains from financial conglomeration, why has the trend in recent years been in the direction of conglomeration? I look forward with interest to Stiroh's further work on trying to tease from the data which of his hypotheses might best explain the conglomeration trend in practice.

I now want to turn briefly to a discussion of liquidity, a subject that was central to the paper by Gobert et al., played an important role in this morning's paper by Douglas Gale, and was touched on in yesterday's survey by Dionne.

While the approach in Gobert et al. was interesting and imaginative, I have difficulty linking it to what financial institutions mean when they talk about liquidity. The authors' attempt to model bank behaviour in a "real economy" setting, in which cash and goods are conceptually interchangeable, seems to be an abstraction that misses some of the key elements of the financial economy in which banks actually operate. To start with, the only liquid asset in the model is an interbank loan that is not storable. This biases the result in the direction of contagion, since it links the banks more closely than in reality. In practice, there is a wide variety of liquid assets available to banks, ranging from completely riskless liquid assets, such as government short-term treasury bills, to assets with some credit risk, such as commercial

paper, and to marketable assets with price risk, such as longer-term government bonds (which are nonetheless readily exchangeable for cash). What all these assets have in common is storability, i.e., they don't disappear every period, and hence are available to meet unexpected withdrawals.

It is important to distinguish between a problem of meeting obligations when they come due, i.e., a liquidity problem, and an insolvency problem resulting from, say, loan losses that reduce the equity of a bank to zero or negative values. In the case of a liquidity problem, a bank can access liquidity either from the market or, if the market is uncertain about the bank's viability, from the central bank. As long as the central bank judges the illiquid bank to be solvent, it will be willing to act as a lender of last resort. Indeed, there are two kinds of lending done by central banks. The first involves standby loan facilities, which can be an integral part of the daily operation of the payments system, facilitating its smooth functioning. The second is emergency lending assistance, which is provided to banks that are judged to be solvent but are having difficulty obtaining funds from depositors or other banks.

In Canada, these lender-of-last-resort facilities are provided to both systemically important banks and systemically unimportant banks, as long as they are judged to be solvent. These facilities play an important role in promoting financial stability and in supporting the efficient operation of the payments system. So, while in principle, a bank can fail both because of insolvency and because of liquidity problems that prevent it from meeting its commitments to depositors, in practice, only insolvency leads to failure, and liquidity problems can be handled by the lender of last resort. That said, it is not always easy in practice to make the distinction between illiquidity and insolvency.

In conclusion, I enjoyed the conference papers and they have given me much to think about. As noted by the authors themselves, in many cases the papers are works in progress and the authors' future work in this area should be aided considerably by the comments of the discussants and of other conference participants. While parts of this literature are in their early stages, progress is being made, and I look forward to further analytic and empirical studies that will increase our understanding of the financial sector.

## References

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