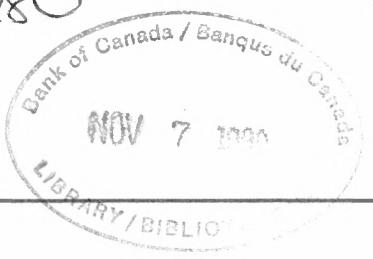
BANK OF CANADA



Clearing and settlement of financial transactions: A perspective from the Bank of Canada

Notes for remarks by
John W. Crow
Governor of the Bank of Canada

at the
Treasury Management Association of Canada's
Eighth Annual Cash and Treasury Management Conference
Toronto, Ontario
7 November 1990

Not for publication before 7 November 1990 at 1:00 p.m. eastern standard time

Notes for Remarks by
John W. Crow
Governor of the Bank of Canada
at the Treasury Management Association of Canada's
Eighth Annual Cash and Treasury Management Conference
Toronto, Ontario
7 November 1990

CLEARING AND SETTLEMENT OF FINANCIAL TRANSACTIONS: A PERSPECTIVE FROM THE BANK OF CANADA

As Governor of the Bank of Canada, my speeches often concern monetary policy -- its framework and the economic environment in which it is conducted. This conference gives me an occasion to break out of that pattern, at least temporarily. I am here today to share with you a Bank of Canada perspective on matters related to the clearing and settlement of financial transactions.

Of course, this topic is not unrelated to monetary policy. The Bank of Canada needs stable and efficient financial markets and well-functioning clearing and settlement systems if it is to carry out monetary policy in an efficient manner. Indeed, it is the central bank's control over the availability of ultimate means of settlement in the economy that is the crucial lever of monetary policy. This control over settlement balances also means that central banks traditionally act as lenders of last resort to the financial system. By their very nature, clearing and settlement systems concentrate activity by linking all participants together through a clearing house. As a result these systems have the potential to transmit problems from one participant to others, or worse still, to other systems and markets, and thus to threaten the stability of the financial system generally. Problems in a poorly-designed clearing and settlement

system could lead to unexpected and large requirements for liquidity support from the central bank.

Many people have an interest in the efficiency and reliability of clearing and settlement systems. After all, such systems are crucial in facilitating the daily flow of financial transactions that are an integral part of trade and commerce in the economy. I cannot think of a better venue for discussing this important topic than this Annual Cash and Treasury Management Conference.

Today, I would like to give you an overview of the remarkable amount of activity taking place in Canada and in other major industrial countries: activity that is aimed at improving the efficiency and safety of clearing and settlement systems. I will refer to the Bank of Canada's involvement in these matters and will conclude with a discussion of the policy issues that they raise.

The high level of activity in this area reflects a profound change in the global financial environment. Massive increases have taken place in the volume, value and complexity of financial transactions in world markets, and at the same time deregulation and liberalization of capital movements have strengthened international linkages. This means that not only have settlement and liquidity risks risen with higher volumes, but it is more likely that a problem originating in one market will contaminate other markets.

Although many market participants had some intuition of such possibilities, it took a number of disturbances to jolt the financial community into examining the issues systematically and beginning to make the necessary adjustments. Among the most significant of these disturbances was the computer failure at the

Bank of New York in November 1985, resulting in the Federal Reserve Bank of New York extending overnight financing to that one institution of almost U.S.$23 billion -- a collateralized advance almost double the total size of the institution. And of course there was the stock market crash of October 1987. These disturbances, and others since, were effectively contained through cooperation among major market participants, and through official action. You probably recall the temporary injection of liquidity by central banks that helped to prevent the October 1987 financial problems from degenerating into solvency problems. In retrospect, it is clear that the global community has come altogether too close to situations where market difficulties could have been severe enough to inflict lasting damage on financial markets and even on national economies.

The mere chance that key Canadian financial markets, not to mention global financial markets, might be seriously disrupted by unexpected events is enough to make all of us uncomfortable. What is being done to manage and reduce this risk and uncertainty? In answering this question, I want to review the work that is being done in Canada to ensure that the clearing and settlement of financial transactions remains on a solid basis. This work includes projects in three areas: the securities market, the payments system and the foreign exchange market.

I will begin with the securities clearing and settlement side, where a number of potentially serious problems were brought into relief as a result of the October 1987 stock market "crash". The most important of these was a heightened awareness that purchasers of securities might in fact not be prepared to pay for them at delivery if there were a sharp decline in the market value between the time when they were bought and the time when they had to be paid for. Obviously, the

longer the lag between transaction and payment, the greater the uncertainty whether a securities deal will in fact settle. This time-lag problem was, and still is, compounded by the wide divergences among the settlement practices prevailing in major countries. In some countries -- Canada and the United States for instance -- stock market deals settle five business days after the transaction is struck. But in some other countries, France and Great Britain for example, the settlement of stock market transactions occurs only once or twice a month.

Following the 1987 stock market crash, a number of reports were produced dealing with these issues. One of the most important was by a prestigious international group of business and financial leaders known as the Group of Thirty (G-30). This report dealt with cross-border issues and it proposed the harmonization of practices across countries. The report's nine specific recommendations -- the most notable of which call for central depositories for securities, delivery versus payment, and rolling settlement -- are aimed at improving the efficiency and safety of securities markets around the world. Delivery versus payment, as many of you know, is the simultaneous delivery of securities against the receipt of value by the delivering party. Rolling settlement -- as opposed to periodic settlement -- means the daily settlement of transactions negotiated a specified number of days beforehand. The major industrial countries, including Canada, have now endorsed the G-30 recommendations in principle, and are working to make the necessary changes in their respective markets.

At present clearing and settlement arrangements vary widely from country to country. Canadian securities markets are relatively advanced. They already conform to, or are moving toward conformity with, the general thrust of the G-30 recommendations. The major areas requiring change in Canada are

the proposed earlier trade settlement for equities transactions (known as the T+3 recommendation) and same-day, irreversible, settlement of the payment. It is clear that shortening the equity settlement period from five days after trade date, as it is now in Canada, to just three days will significantly reduce the number of unsettled trades outstanding. This will reduce both market price exposures and counterparty risk.

Making the changes required to comply with the G-30 recommendations has different implications for different segments of the Canadian financial system. These implications are now being examined by committees made up of representatives of the major sectors of the financial industry. The Bank of Canada is involved in this work and thus is able to monitor progress.

Also on the securities side, work is progressing in the financial community on expanding the scope of operations of the Canadian Depository for Securities (CDS). Large portions of the fixed income securities held in Canada are not presently immobilized in a central depository. Transporting these securities by messenger, in addition to being inefficient, heightens the danger of theft and loss. A secure clearing and settlement system is under development for both debt transactions and money market instruments. The Bank of Canada, in its role as the government's fiscal agent and as a potential participant itself, is cooperating with the major segments of the financial community in this project. Once in place and properly constructed, the new system will increase efficiency while at the same time substantially reducing the risks in the present environment. In the meantime an immediate and valuable by-product of this important project has been a strengthening of the risk containment mechanisms prevailing in existing CDS services, and a generally greater awareness of the risks involved in the business of clearing and settling securities transactions.

Improvements are also being planned for the Canadian payments system, where the major issues are the achievement of payment finality and the determination of an appropriate distribution of risk in the system. The Canadian Payments Association (CPA), whose chairman is an officer of the Bank of Canada, is working on a proposal to set up a large value transfer system or LVTS -- an electronic credit transfer system for large value items. The LVTS will in effect be a clearing and settlement system for payments. It is being designed to provide irreversible settlement and therefore to support finality of payment. The initiative for the project has come from the CPA member institutions concerned about the risks inherent in the present payment system environment. While there are complex issues involved in the design of such a system, all parties involved, including the Bank of Canada, recognize the importance of achieving finality of payment. Achieving finality is important, because at that point, the recipient not only has possession but also has unchallenged right to the funds in question.

Turning to international banking markets, considerable effort is being devoted to issues related to interbank netting schemes for cross-border payments and foreign exchange transactions. It is not difficult to see why. The volume and size of transactions in the foreign exchange market have been growing very rapidly over recent years. We know that they doubled in the three years to April 1989. The credit and liquidity risks of institutions involved in these markets have increased apace.

Some of our chartered banks have already responded to these increased risks by entering into bilateral netting arrangements with each other for foreign exchange transactions. Bilateral netting, which reduces the numerous individual payments

that must be made between two counterparties on any given day to just one single payment per currency, effectively reduces the credit exposure between the two counterparties from a gross to a net amount. The technical term for this type of arrangement is netting by novation.

Multilateral netting arrangements are designed to extend the benefits of netting, but by definition these types of arrangements are substantially more complex. They cover foreign exchange contracts that originate with any one of a group of participating counterparties. They require the establishment of a clearing house to act as a central counterparty to all transactions. Such arrangements have the potential to reduce the credit and liquidity risks substantially further -- both the risks to participants and the risks to the financial system as a whole. Some estimates promise a reduction of up to 90% of gross counterparty credit risk. However, this impressive reduction in risk depends critically on the enforceability of the netting itself and on the financial condition of the clearing house. The failure of a clearing house would clearly have systemic effects. It could impose losses on all of its participants, and it could create liquidity pressures in the money markets for all of the currencies involved in the netting.

Because of these systemic risks, and because of the cross-border nature of the schemes, the central banks of the Group of Ten countries have spent the last year and a half examining issues related to cross-border and multi-currency netting. An important report on this subject will be published in the next few weeks under the auspices of the Bank for International Settlements.

The fact that Canadian groups are at the same time working on similar initiatives in the areas of payments, foreign

exchange and securities settlement has provided the private sector and the authorities with fertile ground for cooperation. Restructuring clearing and settlement systems is an enormously complex task. This is in part because of the interrelationships among the proposed systems. For example, it is expected that the electronic payments system, aimed at enhancing finality of payment, will eventually be used for the net settlement of both securities deals and the Canadian dollar side of foreign exchange transactions.

The restructuring process also involves some important and complex public policy considerations, to which I now turn.

There are four main policy requirements, and they apply to all three of the clearing and settlement projects to which I have referred: first, the minimization of systemic risk; second, the appropriate distribution of risk; third, the maintenance of equitable access to these systems; and lastly, the effective supervisory oversight of the systems. I would like to spend a few moments on each of these requirements.

The most important public policy issue relates to containment of systemic risk. All the initiatives to which I have referred aim at reducing and containing risk within the particular clearing and settlement system, as well as increasing efficiency and reducing costs. But what if something went wrong? Any operational breakdown, liquidity problem or, worse still, a default, could affect all participants in the system, including participants that may not have had any involvement with the counterparty or counterparties that were at the source of the problem. It is not difficult to see that to put in place a clearing and settlement system that was not operationally and financially sound could well entail greater systemic risk than a decision not to set up any new system. That is why great

attention needs to be paid to risk management implications when a system is being built.

The question of who should bear the risk of a default in any one of these systems has no simple answer. The degree of risk, if any, that is borne by the public sector, and hence the taxpayers, must be weighed carefully. The relevant authorities in many countries are increasingly reluctant to take on the risks inherent in these systems. In part this is because assumption of risk by the public sector can reduce the incentive for the systems to be designed by their users with sufficient built-in mechanisms and incentives to control risk. Clearly, if members do not bear a significant portion of the costs arising from the default of a participant, they will be tempted to engage in riskier behaviour than otherwise.

A related risk-sharing aspect, from a public policy perspective, is the need to determine the amount of securities, if any, that members would be permitted to pledge in order to protect the system if a participant were to default. For example, if financial institutions pledge securities to guarantee their performance in the system, this would in the event of a default effectively place an increased burden on the unsecured creditors of the failed institution. Those unsecured creditors could well include the provider of deposit insurance. The policy issue is the degree to which such pledging should be allowed. The proposals for the three new clearing and settlement systems in Canada -- the LVTS, the foreign exchange netting scheme, and the CDS debt clearing system -- all provide for some pledging. To the extent that pledging helps reduce overall systemic risk, some increased burden on unsecured creditors in the event of a default could be considered acceptable. However, there are limits to the amount of pledging that should be allowed in any one system or overall, especially since some institutions can be

expected to participate in all three proposed systems, as well as in systems in other countries.

This brings us to the question of who should participate in these systems. Access needs to be fairly open, since membership could affect an institution's ability to compete in the market place. Furthermore, broader membership would tend to increase market liquidity. However, access should not be so open as to undermine the system's integrity. The standards for participation should be fair and publicly known, but they should also be based on sound prudential standards, since all participants may have to share risk in one form or another.

The final public policy issue that I will comment on is the need for official oversight. Given the crucial role that these new netting systems will play in the financial system and indeed in the economy, official oversight is needed to ensure not only that these systems are set up appropriately but also that their operations continue to be sound. The federal government recognized this need when it established legislation creating the CPA in 1980. With respect to CDS this is an issue that now involves the joint efforts of CDS, the Office of the Superintendent of Financial Institutions and the various provincial securities commissions. There has been a lot of good cooperation.

Let me conclude by reiterating the major themes of my talk. Dramatic increases in transaction volumes and the rapid trend towards integration of financial markets -- around the clock and on a global scale -- have increased the chances that a problem occurring in one segment of the market could affect others. While such contagion effects have so far been contained, reviews of recent financial disturbances reveal that more serious problems might well have arisen had underlying conditions

been less favourable. It is clear that we need to press on with all the initiatives that I have talked about today: immobilizing securities; reducing settlement lags in securities markets; strengthening existing clearing and settlement systems and establishing new ones; and achieving certainty of settlement and finality of payment. Besides reducing systemic risk, these improvements in the infrastructure of Canadian financial markets will increase efficiency and reduce costs. They are also necessary for competing in the global marketplace.

However, to realize these benefits, the schemes have to be sound from legal, operational, and financial points of view. Designing a secure clearing and settlement system -- whether for payments, securities or foreign exchange -- is complicated and time consuming. We must take the time to ensure that each system is properly constructed and adequately safeguarded. This means ensuring, among other things, that the system provider and the participants have both the incentive and the capacity to manage and contain the risks they bear.

Finally, I encourage you to bear in mind that properly constructed systems of the kind I have talked about today are only a contribution to a sound and efficient financial system. The more traditional requirements still remain -- namely, for an effective regulatory and supervisory structure, and for the highest quality of business and credit decision-making in the private sector.