

Bank of Canada Oversight Activities during 2005 under the Payment Clearing and Settlement Act

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Since 1996, under the Payment Clearing and Settlement Act (PCSA), the Bank of Canada has had formal responsibility for the oversight of clearing and settlement systems that could be operated in a manner that would pose systemic risk. Systemic risk is defined in the PCSA as the risk that the default of one participant in a clearing and settlement system could, through the operation of the system, lead to the default of other participants in the system or in other systems. A clearing and settlement system is the set of instruments, procedures, and rules for the transfer of funds or other assets among system participants. Typically, there is agreement among the system participants on the technical infrastructure to be used.

This report summarizes the Bank of Canada's oversight activities under the PCSA during 2005. An article on the general oversight strategy and processes used by the Bank is presented on page 57 of this issue (Engert and Maclean 2006).

Under the PCSA, the Bank identifies clearing and settlement systems in Canada that could be operated in a manner that could pose systemic risk. Once identified, and provided the Minister of Finance agrees that it is in the public interest to do so, these systems are designated for oversight by the Bank of Canada and must satisfy the Bank that they have appropriate risk controls in place to deal with concerns related to systemic risk. Three systems have been designated by the Bank: the Large Value Transfer System (LVTS), CDSX, and CLS Bank.

The Large Value Transfer System

The LVTS is owned and operated by the Canadian Payments Association (CPA). It began operations in February 1999. During 2005, it processed about 18,000 transactions per day,

worth approximately \$145 billion. There have been few changes to the LVTS design or rules during its years of operation that could raise concerns about systemic risk, and 2005 was no exception. One important change was made to the system in 2005, however, to permit participants that might be experiencing problems with normal communication mechanisms to send each other payment messages using another route. This alternative mechanism, called the Direct Network, is normally used to send information about LVTS operations. After extensive discussion with the Bank, the CPA developed an arrangement that would permit participants to use the Direct Network to send a limited number of their most important payment messages to other participants should they have difficulties using their customary arrangements. Use of the Direct Network in these circumstances should significantly reduce the possibility of payments gridlock arising from a lack of liquidity in the system and would permit important time-sensitive payments to be made.

A rule change was made to the LVTS to permit the Direct Network to be part of the system. Payment messages sent using the Direct Network will be subject to LVTS risk controls and will benefit from the legal protection afforded such messages under the PCSA. The Bank was satisfied with this rule change, and the rule became operational in November 2005.

An important part of the Bank's oversight process is the use of Memoranda of Understanding (MOUs) with operators of designated systems. MOUs elaborate on the Bank's powers and its exercise of oversight responsibilities as laid out in the PCSA. They also address such questions as confidentiality of information, time frames for review of significant system changes, and the use of minimum standards. Having put such an arrangement in place with the operator of the CDSX, the Bank continued to work with the

CPA during 2005 to develop an MOU applicable to the oversight of the LVTS. The Bank expects that an MOU will be in place before the end of 2006.

CDSX

CDSX is a system for the clearing and settlement of securities transactions in Canada. The system is owned and operated by The Canadian Depository for Securities Limited (CDS) and processed about 300,000 trades daily, worth \$200 billion, in 2005.

During 2005, the most important issue dealt with by the Bank and CDS involved potential systemic risk arising from the provision of cross-border services. Early in the year, CDS examined the possibility of consolidating three existing cross-border services into a single service. Under this arrangement, CDS would act on behalf of its participants in the clearing and settlement of equity trades in the U.S. market. Analysis by CDS and the Bank highlighted a number of areas in the structure of the proposed service where the potential to create financial losses for CDS could, in turn, impair its ability to operate CDSX. Of particular concern was the possibility that in the U.S. arrangement for clearing and settlement, transactions that had previously been accepted by the system could be unwound in the event of a participant failure. Further analysis by CDS indicated that it would be difficult to deal with these concerns in an acceptable manner. Consequently, CDS decided not to pursue this initiative and began to determine how they might address risks present in their current cross-border services.

The analysis and discussion regarding the risks posed by cross-border services are a prime example of the Bank's desire to foster effective and co-operative relations with the operators of designated systems. The timely and co-operative interaction between CDS and the Bank served to identify key issues early in the discussions, led to an examination of possible ways to address these concerns and, ultimately, resulted in a decision not to proceed with the original proposal before any significant development resources had been spent.

As part of the analysis of cross-border services, the Bank is also working with CDS to examine how U.S.-dollar liquidity could be accessed in the event of contingency situations to support

continuing the operations of CDS and its participants.

Other issues examined by CDS and the Bank during 2005 included the reconstitution of collateral pools and participant funds following a participant's suspension (these pools and funds are an integral part of the arrangements to control systemic risk), methods used by CDS to calculate replacement-cost risk, and other arrangements used by CDS to protect itself as the central counterparty in its Continuous Net Settlement and DetNet services. A number of changes to the CDSX rules followed these examinations and were part of the fourteen rule changes approved by the Bank in 2005.

Bilateral meetings between the Bank and CDS that examine a range of topics related to the operation of CDSX are an extremely valuable part of the Bank's oversight of the system. These meetings provide the Bank and CDS with an opportunity to explore any concerns or questions related to proposed changes to the CDSX on a timely and efficient basis. The Bank can be alerted to possible changes very early in the process and can inform CDS of concerns that it may have, so that they can be dealt with efficiently by CDS as it develops changes to the system. During 2005, the Bank held three such meetings with CDS.

CLS Bank

Introduced in 2002, the CLS Bank now clears and settles foreign exchange transactions in fifteen currencies, including the Canadian dollar. Since CLS Bank operates transnationally, the Bank of Canada, as well as a number of other central banks, has oversight responsibilities or interests in the operation of the system. Most of the developments with regard to CLS Bank in 2005 involved its overall operations, and there were no specific changes to the arrangements used to settle the Canadian-dollar portion of foreign exchange transactions.

Four new currencies were smoothly incorporated into the system in December 2004. The U.S. Federal Reserve, which is the lead regulator of CLS Bank, reviewed CLS liquidity and capital policies relative to the standards set for CLS Bank. The results of this review, as well as additional information, were developed in consultation with other central banks that have their currencies settled in CLS Bank. This is part of the

co-operative oversight arrangement for CLS Bank that facilitates the sharing of information among central banks (subject, of course, to confidentiality requirements), the discussion of common oversight policies and approaches, and the coordination of oversight activities.

The G-10 central bank Committee on Payment and Settlement Systems announced that it will carry out a survey on the management of foreign exchange settlement risk at major banks. The survey will be conducted during the first part of 2006, and more than 100 institutions have been invited to participate.

The Bank of Canada continued to work with the Office of the Superintendent of Financial Institutions to encourage Canadian banks to make greater use of CLS Bank for the settlement of foreign exchange transactions. The CLS arrangement is now considered the most effective means through which to mitigate foreign exchange settlement risk. While some Canadian banks initially were very slow to settle their eligible foreign exchange transactions in CLS Bank, most are now doing so.

Other Oversight Activities

To date, most of the Bank of Canada's oversight activities have involved reviewing and analyzing new design proposals for systemically important systems or major innovations to these systems. With the establishment over the past seven years of a number of systemically important clearing and settlement systems that adequately and efficiently control systemic risk, the Bank conducted an extensive review in 2005 of its oversight strategy and processes. As a result, the Bank decided to implement more formalized internal processes, including those for handling system changes and conducting annual audits. The Bank and the Department of Finance reviewed the operation of the Payment Advisory Committee, which resulted in a clearer mandate and oversight processes.

Over the past few years, the Bank has also enhanced its oversight resources to provide for greater analytical capability and better backup for important staff functions. These changes have enhanced the Bank's ability to carry out high-quality oversight of systemically important systems with a small number of staff focused on risk issues, while collaborating with

the private sector to bring about safe and efficient clearing and settlement systems.

The Bank has also become more involved in the co-operative oversight arrangement for the Society for Worldwide Interbank Financial Telecommunication (SWIFT). SWIFT is the principal payment-messaging service provider for financial institutions around the world and for critical systems such as the LVTS and CLS Bank. The co-operative arrangement has been made more robust through a documented clarification of roles and responsibilities of the lead overseer (the National Bank of Belgium), other central banks, and the external auditors of SWIFT.

In line with international developments, changing perceptions of best practices, and domestic imperatives, the Bank of Canada continues to work with the operators and participants of systemically important Canadian clearing and settlement systems in their efforts to enhance arrangements for continuity of operations. These systems are at the centre of Canada's financial system, and serious economy-wide repercussions could arise if their operations were not extremely reliable. In 2005, the operators of these systems took steps to make their continuity of operations more robust by locating business staff at separate sites and by improving their ability to recover from severe operational disruptions in less than the current target of two hours.

The Bank has also been active in increasing its own ability to operate in a wide variety of circumstances. In 2005, it completed a three-year effort to improve the ability of its backup site to respond effectively to serious operational disruptions. It is examining other potential changes to its business-continuity plans, including the possibility of geographically splitting its banking-service operations to reduce the potential impact of so-called "wide-area disruptions." The Bank has also communicated its views on the crucial role of systemically important clearing and settlement systems to certain emergency-management organizations, with a view to having them give priority to supplying these systems with essential inputs, such as hydro, diesel fuel, or other municipal services.

Published Research Relevant to the Bank's Oversight Function

During 2005, the Bank published the following work carried out by its staff:

- McVanel, D. 2005. "The Impact of Unanticipated Defaults in Canada's Large Value Transfer System." Bank of Canada Working Paper No. 2005-25.
- Arjani, N. 2005. "Simulation Analysis: A Tool for Examining the Balance between Safety and Efficiency in Canada's Large Value Transfer System." Bank of Canada *Financial System Review* (December): 55–63.

Bank staff collaborated with others in the following areas:

- Tripartite Study Group (Bank of Canada, Department of Finance, Canadian Payments Association). 2005. "Conditions for Direct Participation in the ACSS." Consultation Report, Canadian Payments Association, June.
- With the Bank of England, the Bank of Finland, and the Federal Reserve Bank of New York, the Bank of Canada enhanced the functionality of a payment system simulator created by the Bank of Finland. The simulator is a useful tool for carrying out research on clearing and settlement systems.

Reference

- Engert, W. and D. Maclean. 2006. "The Bank of Canada's Role in the Oversight of Clearing and Settlement Systems." Bank of Canada *Financial System Review* (current issue).