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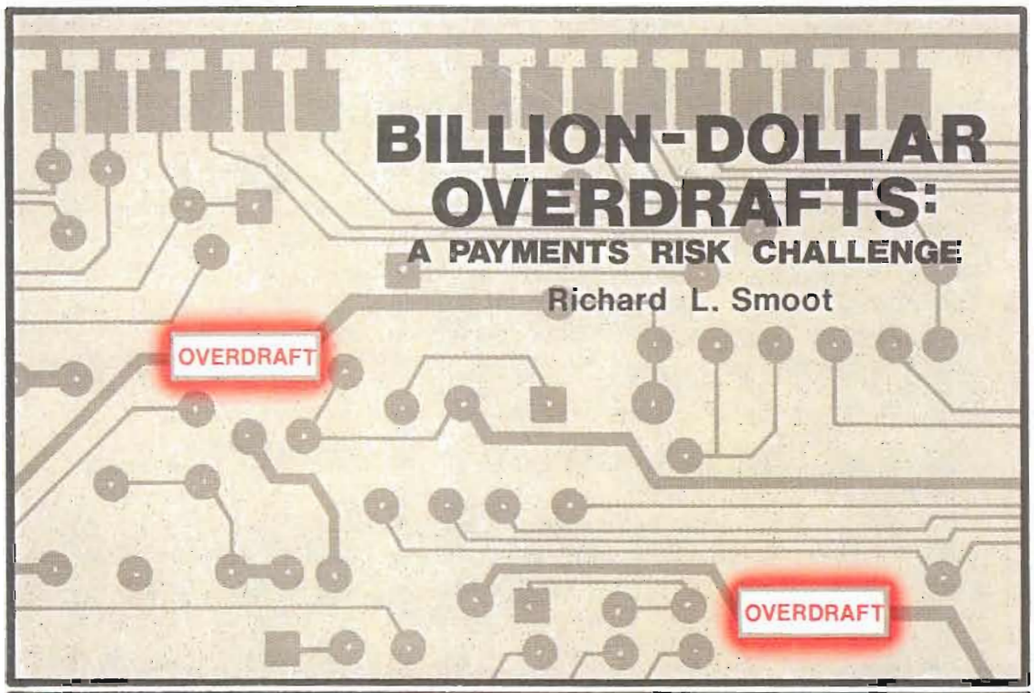

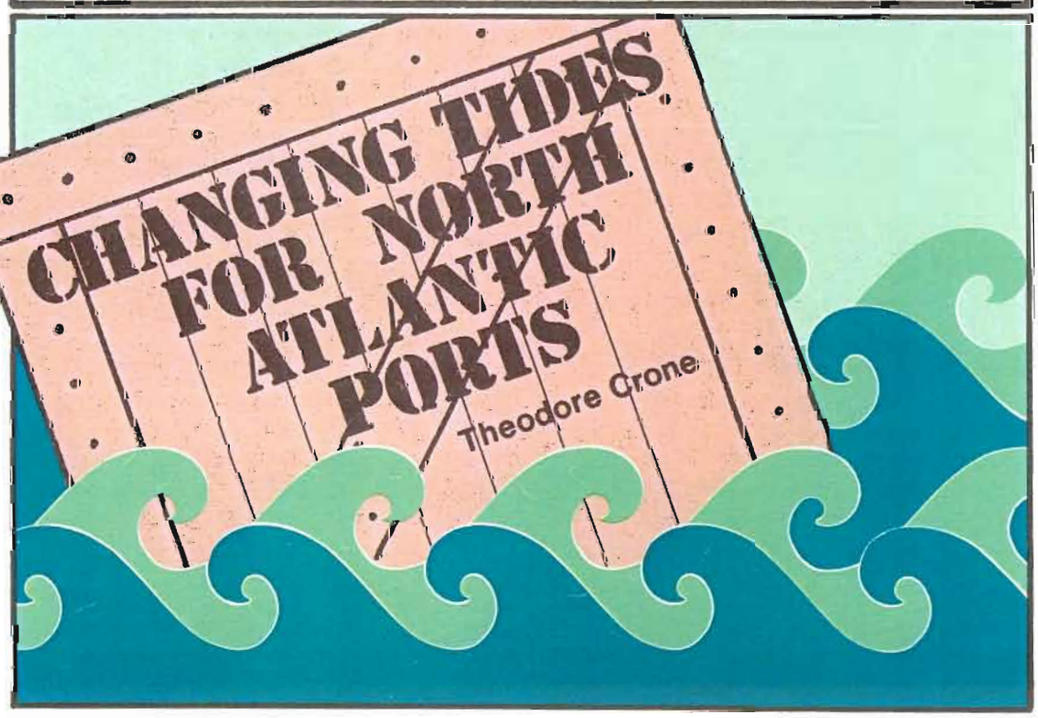

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Federal Reserve Bank of Philadelphia
Ten Independence Mall
Philadelphia, Pennsylvania 19106

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BILLION DOLLAR OVERDRAFTS: A PAYMENTS RISK CHALLENGE 3
Richard L. Smoot

Electronic technology has made it possible to transfer millions, even billions, of dollars from one bank account to another with just a few keystrokes at a computer terminal. While this capability makes large-dollar transactions easier and faster to perform, it also has given rise to occurrences of equally large overdrafts at banks during the business day. These "daylight" overdrafts may signal potentially serious problems for the overdrawn bank, and even for the banking system as a whole. Therefore, efforts are underway to develop the management and regulatory technology required to ensure the stability of the payments system in this new environment.

CHANGING TIDES FOR NORTH ATLANTIC PORTS. 15
Theodore Crone

The share of U.S. foreign trade passing through the North Atlantic ports has been declining in recent years, as U.S. population and industry have moved to the South and West, and as U.S. trade has shifted from Europe to the Far East. The result has been intensified competition among these ports for a shrinking market. In this new environment, the battle for market shares will be waged with technology to specialize and improve port facilities, and with coordinated management to contain labor costs and facilitate port administration.

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The Federal Reserve Bank of Philadelphia is part of the Federal Reserve System—a System which includes twelve regional banks located around the nation as well as the Board of Governors in Washington. The Federal Reserve System was established by Congress in 1913 primarily to manage the nation's monetary affairs. Supporting functions include clearing checks, providing coin and currency to the banking system, acting as banker for the Federal government, supervising commercial banks, and enforcing consumer credit protection laws. In keeping with the Federal Reserve Act, the System is an agency of the Congress, independent administratively of the Executive Branch, and insulated from partisan political pressures. The Federal Reserve is self-supporting and regularly makes payments to the United States Treasury from its operating surpluses.

Billion-Dollar Overdrafts: A Payments Risk Challenge

*Richard L. Smoot**

Next time you are embarrassed by an overdrawn bank account, take comfort in the fact that sometimes the bank's management may have the same problem. A bank is obliged to pay whatever checks its customers write. Since it receives no forewarning about when customer checks will be presented for payment, any bank (or thrift) must estimate how much it will need to cover those payments and must hold an appropriate balance in an account with either the Federal Reserve or a correspondent bank which acts as its payments agent. Most of the time, these balances are sufficient, but sometimes they aren't—and then the bank is "overdrawn" from one business day to the next.

Such "overnight overdrafts" are not very common, however. First of all, banks have learned how to make accurate estimates of balances they will need to hold to cover incoming checks or other demands for payment. Second, banks are often charged for overdrafts (just like us), so they have an incentive to avoid them. Third, the reserve balances that many banks are required to hold

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against deposits serve to cushion some deposit outflows. Consequently, overnight overdrafts have not been so large or so frequent that they have posed much of a problem for banks or for the Federal Reserve.

There is another kind of overdraft, however, whose growing frequency is causing considerable concern among bankers and regulators. This is the overdraft that occurs when a bank's balance in its checking account with the Fed or with other banks falls below zero *during* the business day. This "daylight overdraft" results when more funds are electronically transferred out of an account than exist as a collected balance in the account. This can occur at any time during the business day. In most cases the overdraft is "covered" with incoming electronic transfers of funds from some other institution by the time the day's business draws to a close. Yet, for a few minutes, or even hours, the bank's account is overdrawn—and in the case of large banks it can be overdrawn for amounts in the hundreds of millions or even billions of dollars.

Overdrafts create risk for some party in the payments process. If the overdraft is on the books of the Federal Reserve, it is the Fed's resources that are at risk. If a bank fails while its account is overdrawn, the Fed may incur a loss, but the other banks which received electronic payments from the failed bank through the Fed are safe. Any failure is a serious problem, but a central bank—which can guarantee payment by virtue of its ultimate power to create money—is capable of absorbing and managing this risk in individual cases.

What happens, however, when the overdraft occurs on the books of a privately operated electronic funds transfer network? The individual banks that operate such private networks are not as able as the central bank to absorb such risk. They cannot create whatever funds are needed to cover a loss or to guarantee that payment will always be made. Failure by the sender of funds creates uncertainty for receiver banks (and their customers) about whether the payment will ever be collected.

Under a dire scenario, the failure of one large institution could create losses affecting the solvency of many other institutions. The prospect of a secondary round of failures is particularly disturbing to the Federal Reserve. Since well over $600 billion changes hands each day via electronic transfers of funds, the dollar amounts that could be at risk in such failures are huge. Large dollar amounts, high turnover rates, interdependencies among numerous institutions, and potential lack of warning about trouble, all combine to make electronic transfer systems particularly fragile. As the bank regulator most responsible for stability of the payments mechanism, the Fed has been searching for ways that these risks can be reduced and better managed.

CREATING A DAYLIGHT OVERDRAFT

A variety of events can precipitate a daylight overdraft, but they are all related to electronic (wired) movements of funds. These are the only transactions that are charged or credited to a bank's accounts as they occur *during* the business day. Other transactions are normally settled and posted after the business day is finished. In principle, any transaction, such as the clearing of checks or shipping of currency, could cause such an overdraft if it occurred during the day. However, bookkeeping conventions and practice make it more convenient to defer settlement of these transactions until day-end. The nation's daytime payment machinery is instead dedicated to large-dollar flows of funds in which immediate movement of money, notices of completed transactions, and quick settlement are essential. These payments gravitate naturally to electronic transfer networks.

Until a few years ago, there was only one such network—Fedwire, the Federal Reserve's wire transfer facility. Fedwire allowed any commercial bank that was a member of the Federal Reserve System to transfer funds from its account on the books of the Fed to the account of another member bank for immediate settlement. Simultaneous notice of the transaction was sent to the receiving institution. Nonmember banks could duplicate this procedure only through a member bank's account at the Fed. However, during the 1970s, several groups of banks joined forces to develop alternative private wire transfer systems (see A COMPARISON OF WIRE TRANSFER SYSTEMS), and since 1980 all depository financial institutions have been able to use Fedwire.

A COMPARISON OF WIRE TRANSFER SYSTEMS

The nation's electronic payments business is currently shared by several major networks. There is a substantial overlap in the constituencies they serve and the messages handled, but there are important differences among them as well.

Fedwire is a nationwide network operated by the Federal Reserve System through reserve and clearing accounts held by depository financial institutions. Almost 8,000 institutions have direct access to this network, and on an average day about 150,000 funds transfers totaling well over $300 billion are sent through Fedwire. The funds are transferred from one account to another on the books of the Federal Reserve, and the institutions receiving transfers can treat them as irrevocable. The settlement is treated as immediate.

CHIPS (Clearinghouse Interbank Payments System) is a New York City network with a much more limited membership. About 120 institutions participate in the network. Roughly half are U.S. banks and the rest are U.S. branches and agencies of foreign banks or Edge Act Corporations affiliated with U.S. banks.[a] CHIPS specializes in funds transfers and financial messages arising from the international trade and foreign currency business of these financial institutions. Daily volume on the CHIPS network averages nearly 100,000 messages worth about $300 billion. In late 1982 the Federal Reserve modified its settlement policies to allow the CHIPS network to accelerate its settlement from the following business day to 6 p.m. on the *same* business day as the funds transfer messages are sent.

BankWire is a private financial message service currently being used by fewer than 200 banks. It does not offer funds transfers *per se,* but it operates a separate service called *CashWire.* CashWire is a funds transfer message service which recently arranged same-day settlement (end of business day) through the Federal Reserve. Prior to that, CashWire settled at the end of each day, but the settlement was not finalized until 9 a.m. the following morning. CashWire serves only a portion of the BankWire institutions. Message volume and dollars transferred are relatively small.

CHESS (Clearing House Electronic Settlements Service) is the electronic funds transfer service operated by the Chicago Clearing House Association since 1981. CHESS is modeled after CashWire, but it settles its network with provisional debit and credit accounting entries each night rather than with an irrevocable series of wire transfers through Fedwire.

[a]An Edge Act Corporation is a bank subsidiary that specializes in transacting international business and finance.

Bank Funds Management. Several common transactions create the need to move funds messages immediately. Federal funds transactions are a prime example. Many banks routinely finance a portion of their assets with overnight or short-term borrowings in the federal funds market.[1] Banks usually borrow funds overnight to meet temporary needs for cash. A bank may borrow from multiple sources throughout the day, and it relies on the lending institution to wire the funds soon after a borrowing agreement is reached. These funds are wired back to the lender at the start of the next business day. At that time the borrowing bank begins to search anew for the funds needed to finance its position for another day.

It is easy to see that funds repaid at 9:30 a.m. (wired out) and reborrowed that morning but not received until early afternoon (wired in) could create a potentially large, if temporary, drain on the bank's account at the Federal Reserve. Overdrafts arising from repayments of borrowed funds are of real concern to bank regulators. Problems encountered by Continental Illinois Bank point out the risk of heavy dependence on short-term funding. However, as long as the federal funds transaction is processed through Fedwire, the central bank can intervene to prevent the risk of one bank's daylight overdraft from creating problems for other banks. The risk of daylight overdrafts can be reduced by the banks themselves if they reduce their dependence on overnight funds and rely more on longer-term borrowings.

[1]Federal funds are funds on deposit in a Federal Reserve bank account. Their ownership can be transferred from one bank to another very quickly by instructing the Fed to debit the seller's account while crediting the receiver's.

Purchases of U.S. Treasury securities also produce funds transfers that can overdraw a bank's account. When a Treasury security held in book entry form at the Federal Reserve is purchased by a bank, whether at original issue or on the secondary market, payment is made with an immediate charge to its account on the books of the Fed.[2] Any charge that creates an overdraft is a *potential* signal of a problem in the institution's management of its account. To the degree that the overdraft indicates lack of care in money management or carelessness in handling transactions for a customer, the Federal Reserve is concerned about the risk it creates. A record of the securities transfer, however, never really leaves the Federal Reserve's book entry system. In that sense the ownership claim on Treasury debt is available after the purchase to collateralize the overdraft. Perfecting a collateral interest in such securities is still a concern for the Fed, but overdrafts caused by securities trading are a risk that the central bank is in a position to manage and control so that they are not a threat to the stability of the payment system.

Third-Party Payments. The most troublesome source of daylight overdrafts stems from transfers of funds for corporate customers. It is common practice for banks to release funds to a customer (or send funds on the customer's behalf) before "covering" funds are received for that customer's account. This practice is not standard operating procedure for serving banks' individual retail customers, but it is a common practice in serving major business customers. In principle, a bank engaging in this practice is making a *very short term* commercial loan—occasionally in excess of normal overnight lending limits—while the position is uncovered.

Such practices have become much more common in recent years as high interest rates have spurred corporate treasurers to manage working capital much more carefully. Elaborate on-line communications systems now exist that allow corporate funds to be collected in separate accounts throughout the country, transferred to concentration points, and used for major disbursements or transferred out to still other payment points to cover incoming obligations. Funds must move very rapidly. Processing delays make proper coordination of these payment flows even more difficult. It is very cumbersome to handle a series of interdependent transactions one at a time, waiting patiently for each to clear before executing the next. Instead, businesses expect their bankers to handle transactions in whatever order is practical. If processing delays prevent the accounts from balancing before the end of the day, that is viewed as the bank's problem.

If the amounts of money being transferred were small, this practice wouldn't be a serious concern. But they aren't small. They're huge—routinely in the tens and hundreds of millions of dollars. When the timing of transactions isn't well synchronized, the temporary credit these banks extend to their customers is often well beyond the available collected funds in the banks' accounts. The result is a daylight overdraft.

OVERDRAFT RISKS

Electronic funds transfer networks have created a new setting for an old banking risk—releasing funds before final settlement has taken place. Yet the degree to which the overdraft creates real risk depends on which network is used to make the transfer. This might be illustrated with an example of how funds are transferred electronically on the Fedwire network and on private networks (see Figures 1 and 2).

There are two substantively different forms of risk in these networks: *credit risks* and *systemic risks.* Credit risks have both a "sender" form and a "receiver" form. Suppose, for example, that ABC Corp. wants to transfer $1 million to XYZ Corp. to pay for a shipment of corn. If ABC Corp. has the funds on deposit at First National Bank, ABC's treasurer simply instructs that bank to wire funds to XYZ's account at its bank, say the Last National Bank.

Sender Risk. Suppose ABC does not have $1 million in collected funds on deposit with First National. ABC may intend to cover that transfer

[2]As fiscal agent for the U.S. Treasury, the Federal Reserve is the chief bookkeeper of government debt ownership records. When a bank purchases U.S. Treasury securities (short-term bills, intermediate-maturity notes, or long-term bonds), the primary record of ownership is usually held on the books of the Federal Reserve System. As a security matures, both interest and any repayment of principal are automatically credited to the funds account that bank maintains with the Fed.

FIGURE 1

FUNDS TRANSFER THROUGH FEDWIRE

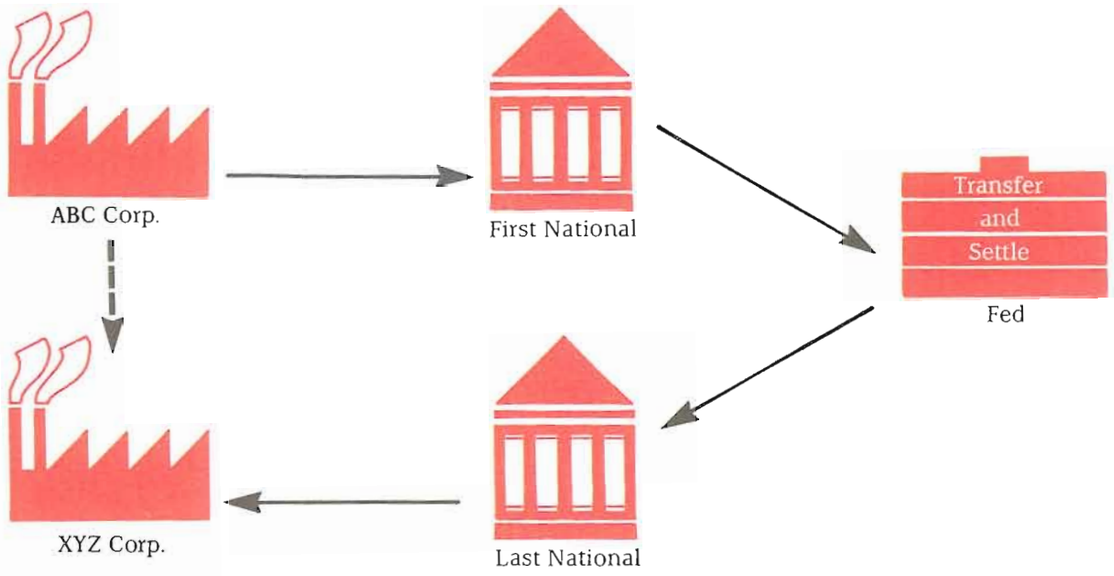
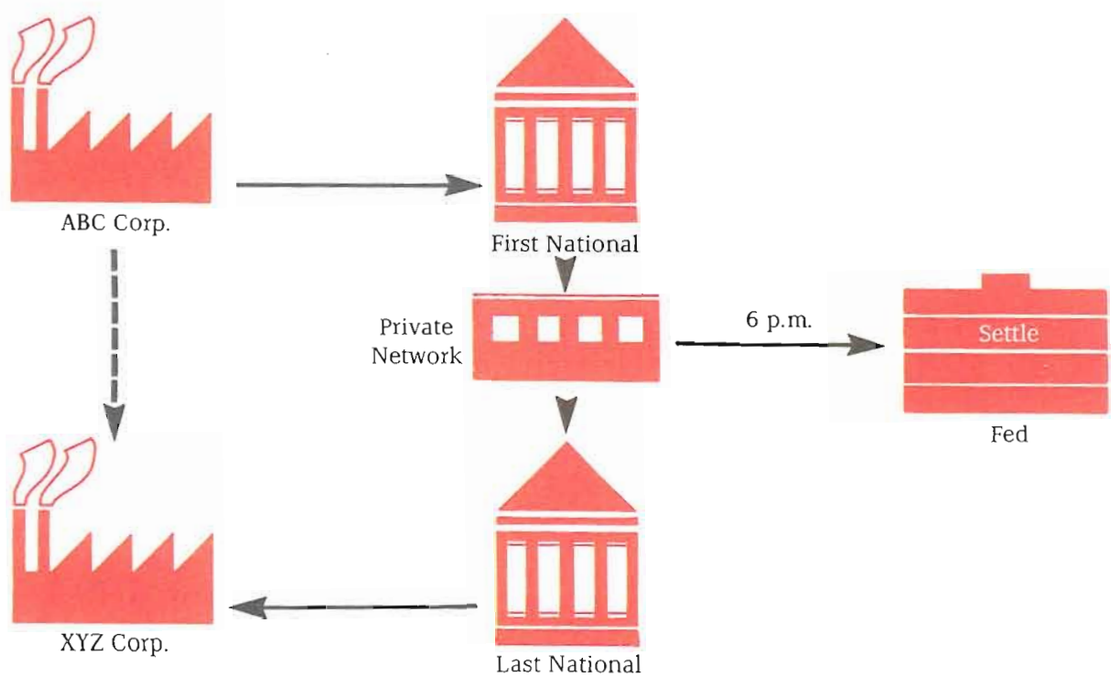


FIGURE 2

FUNDS TRANSFER THROUGH PRIVATE NETWORK



with the sale of marketable securities or with funds from other bank accounts. If it wishes to be safe, First National must hold the $1 million payment wire until "good funds" are received for credit to ABC's account. However, ABC Corp. may pressure First National into sending the funds immediately so that XYZ, the receiver, will be able to use them on that same day. If First National complies, it will be absorbing a *sender risk.* If ABC should fail, for any reason, to cover the transaction, First National could be the loser.

Assume that First National was prepared to wire the funds against an uncollected account balance and to accept sender risk on behalf of ABC. If the wire transfer message goes through Fedwire, the receiving bank, Last National, will be assured that the funds are credited to its account because settlement is immediate and final through Fedwire. Last National can release the funds to XYZ Corp. immediately with no risk that payment will not be made. In the extreme case, if ABC Corp. fails to honor its transfer and this causes First National Bank to fail, the Fed insulates the receivers of the wired funds (Last National Bank and XYZ Corp.) from that failure. The receivers have no credit risk.

Receiver Risk. Fedwire may not have been used, however. Several privately operated wire systems stand ready to handle such payments. These systems connect participating banks to a central switching facility. Messages to transfer funds are captured on the books of the network, and advices of the transaction are forwarded to the receiving institution. Settlement for the transfer does not take place until the close of the business day when a net settlement is performed and messages to move funds among various bank accounts are then sent to the Fed. Between the time that the messages to transfer funds are sent and a successful net settlement of all participating banks in the private network is completed on the books of the Fed, no money has actually been moved.

If a receiving bank such as Last National releases funds to its customer, XYZ Corp., the bank runs the risk that the network will fail to settle. If that should happen, Last National may lose $1 million. This is *receiver risk.* It is a credit risk in the sense that the receiving bank is extending credit for the amount of the funds advanced before final settlement. In summary, a transfer through a private wire network could create both sender and receiver risk if funds are released before being collected. A transfer through Fedwire, on the other hand, could create sender risk, but there can be no receiver risk since the payment cannot be cancelled once it is sent.

Systemic Risk. Bank regulators are concerned about sender and receiver risks because both could be damaging to the economy if large losses were to occur. An even more troubling prospect is *systemic risk*—the risk that the failure of one bank in a funds transfer network could create losses and liquidity problems for other banks which would cause some of them, in turn, to fail also. Widespread failures have not occurred to date on such funds transfer networks, but that doesn't mean that such failures could not occur. Hypothetical simulations using historical transfer and settlement data from private networks indicate that a failure by one large institution can create a ripple effect that causes a large number of other banks in the network to fail to settle at the same time. Exposure to risk of payment failures is not currently controlled by credit limits in the same way that lending risks between institutions are controlled. With about $600 billion changing hands each day, the potential for a serious problem is not trivial. The Federal Reserve System can use its ability to create money to prevent the failure of a sender from creating payment risks for other receivers in the Fedwire system, but it can't cushion private networks in the same way. Those networks must either adopt rules that protect participants from the decisions of others to create sender risks, or must agree to guarantee payments within the network.

Measures of the Credit Risk. Bank regulators have no way to measure the aggregate credit risk in the payments system. When a bank extends daylight credit to a corporate customer and the bank can cover that funds outflow from its own reserves of cash assets, regulators see no signal of abnormal activity. Even daylight loans in excess of an institution's overnight lending limit will not be noticed. The only things that can be monitored (and only with considerable difficulty) are the daylight overdrafts occurring in banks' accounts at the Federal Reserve.[3] Overdrafts are a proxy, not

[3]Banks can hold either reserve or clearing accounts at the

for aggregate payments credit risk, but for the liquidity exposure of the banks which incur these risks.

At present, daylight overdrafts on the major wire networks cannot be measured as they are being created. The electronic systems needed to perform required accounting at the same moment that transactions occur have not yet been developed (although they are being planned).[4] However, when account records are reconstructed the following day, the timing of transaction flows in and out of accounts at the Fed produces a clear picture of the bank's status over time. During one period several months ago, several hundred of the 8,000 institutions with access to Fedwire incurred at least one overdraft per month that exceeded their capital, a few by substantial amounts. The incidence of overdrafts in the Third Federal Reserve District is similar to the national experience.

These are the patterns for Fedwire only. Some of the same banks creating overdrafts on Fedwire may also be producing overdrafts on private wire transfer networks. Others may be operating their position on a private network to offset the debit entries in their Federal Reserve accounts.

Overall Risk Exposure. Statistical measures of overdraft activity give an incomplete notion of the risk of daylight credit exposures. They reflect the *frequency* of risk exposure but not the *probability* of actual losses occurring. Judging from the past, the probability of a major problem occurring is low. There have never been any actual network losses resulting from this credit exposure; individual banks electing to extend such credit have lost money, but no wire system has ultimately failed to settle.

However, a low probability is not the same as a zero probability. If the chances of network collapse were as high as one chance in one million on any given day, the cost of buying insurance for such a failure for one of the multi-hundred billion dollar private wire transfer systems could be very high. In all likelihood, insurance couldn't be purchased anywhere in the private sector. It would be very difficult for the prospective insurer to gauge the losses to other banks that could result from the failure of a major player in one of these networks. Some losses from uncovered transactions might be partially recovered from the sending (failed) institution. Receivers may also be responsible for the return of some funds.

Yet, if a major network couldn't settle, the costs would still be significant under even the best of conditions. There may be losses for participants in the network. There may be substantial legal questions about loss recovery if branches of foreign banks are involved. Liquidity problems throughout the industry could produce a heavy demand for the Fed's discount window assistance credit.[5] Faced with requests for loans well in excess of its usual level of lending, the Fed might find itself constrained—at least temporarily—from carrying out its other monetary policy objectives. And finally, a major liquidity or credit problem in the financial markets would severely damage the public's confidence in the payments system. It could become more difficult and costly to transfer funds, and far more of society's resources might have to be used to manage the payments process, constituting a substantial drain on the nation's productivity.

LIMITING RISK EXPOSURE

In an oversimplified sense, when there is daylight overdraft risk on Fedwire, it must be borne by the Federal Reserve. When that risk is created in private wire networks, the residual risk—that is, that the private wire network will fail to settle all of its accounts—also becomes the responsibility of the Federal Reserve as lender of last resort. Any lessening of this risk will probably depend on moving responsibility for the risk more into the private sector or on increasing the costs to users of such credit. In both cases, private participants in the payments process would then have a greater incentive to reduce these risks.

Fed. A clearing account is a transaction account for monies that are not needed to meet a bank's legal reserve requirement. They are identical to reserve accounts for the purposes of the risks described in this article.

[4]The New York Federal Reserve Bank has a system which prevents U.S. branches or agencies of foreign banks from incurring daylight overdrafts on Fedwire, unless they are prearranged and fully collateralized.

[5]It can be argued that having the discount window available reduces the incentive individual banks have to control these liquidity risks voluntarily.

The Federal Reserve's objectives in this process are to cut the risk associated with daylight overdrafts without harming the efficiency of the payments system. The Fed would like, first, to see the amount of sender and receiver risk in the payments system reduced absolutely. In addition, it would like to see any remaining daylight overdraft risk better controlled. This is most likely to occur if the private sector's incentives for further control are increased. The Fed would also like to assure that settlement instability in the nation's financial markets does not spill over into the non-financial part of the economy. To do this, private networks would have to offer the same kind of payment guarantees to receivers as are available on Fedwire. Finally, all of these goals must be accomplished without seriously disrupting the smooth operation of the payments mechanism.

Ideally, voluntary industry cooperation to establish self-policing mechanisms might be the best way to curb these risks. The banking industry is currently trying to develop a consensus on such standards. Alternatively, regulatory policies might have to be adopted in order to accelerate compliance and make it more uniform. The question of how best to curb this risk is a principal discussion point between industry and regulators.

Initial Efforts to Curb Daylight Overdrafts. The credit risk exposure implicit in daylight overdrafts has been receiving low-key attention for several years. This attention has produced a greater awareness of the potential problem but few of the necessary steps towards a solution.

Since 1981 the Federal Reserve System has been using *moral suasion* to reduce overdrafts. Discussions have been held with banking industry leaders and task forces have been studying the problem. The Fed has adopted a policy of analyzing the daylight overdrafts created on its books and meeting periodically with the institutions that are most often in this position. This "counseling" program has had mixed results. Some institutions have modified the timing and sequence of their own operations to reduce the incidence of overdrafts. Some have worked with major customers to try to convince the customer that there is an alternative way to handle the payments that create overdraft problems. The most important impact that counseling may have had is to spur banks into developing more sophisticated *internal* information systems reflecting their own funds positions. In many instances, the institutions creating the daylight risk exposure were unaware of the problem and were grateful to have been given a chance to reduce that risk before it became serious. A large number of institutions are now involving their credit officers in decisions to extend temporary payments credit rather than simply leaving those decisions to operating people in the payments processing function.

There are limits to the progress that can be made through modifying the timing of payments operations. One serious risk that both bankers and regulators wish to avoid is having all banks delay releasing payments to each other until incoming funds have been received. The result of that response would be a "gridlock" in which no payments move until late in the day, but then the volume surge chokes the communications network. Another crucial constraint on voluntary progress is competition between banks for corporate payment business. All of the major participants in the market are reluctant to adopt operating policies which might cause customers to search for a new bank to service their needs.

The leadership of the banking industry has also been trying to address these concerns about reducing risk but is firmly convinced that no new regulations are needed. The Association of Reserve City Bankers and a joint Payments System Committee sponsored by the Federal Advisory Council and the Thrift Institutions Advisory Council studied these issues during 1983.[6] In summary, they concurred that the payments risk was real and had to be reduced. They also agreed, however, that the industry needed more time to experiment with alternative methods for reducing risk. Since the proposed solutions were not regarded as foolproof, industry leaders argued for further study and experimentation. They were concerned that the cost and disruptiveness of a new set of regulations would exceed the value of the benefits of reduced payments risk.

The Menu of Options for the Future. Regardless

[6] *Risks in the Electronic Payments Systems,* (Washington, DC: Association of Reserve City Bankers, October, 1983).

of differences over timetables and degrees of voluntarism, major banking organizations and the Federal Reserve generally agree on one thing: real progress in reducing daylight overdraft risk exposure will probably not occur until the operating policies of large-dollar electronic funds transfer networks are changed. Several options are receiving active consideration.

Bilateral Credit Limits. One way to control risk is to prevent a situation from arising in which any single institution owes another institution more money (net) over a private network than the receiver can afford to have at risk. This is an attractive control because it allows a receiver of funds to use credit judgment to evaluate the sender. Heavily-capitalized, well-managed institutions can be accorded higher limits than ones that aren't as sound. However, there is nothing to prevent banks from setting these limits so high that they are not effective. In addition, this control—by itself—will not prevent an institution from getting into a position in which it owes its "limit" to several other banks at the same time. In the aggregate this situation exposes the industry to considerably more risk than any individual receiver can perceive.

Net Debit Caps. A net debit cap would require that the aggregate "sendings" (debits) of an institution at any point in time not exceed its aggregate "receipts" (credits) by some limit. This limit could be set as a multiple of the bank's capital. If such a cap were applied across all wire transfer systems simultaneously, it could severely limit the ability of an institution to expose the entire payments industry to excessive risk. However, this form of control requires coordinated on-line monitoring of account positions on all public and private networks at the same time. It will be several years before automated accounting systems could be modified to handle this task. Any cap that is set mechanistically in relation to the asset size or equity capital of an institution has the further disadvantage of treating the risk of a very safe bank's transfers as equivalent to those of a riskier one's. Bankers have argued that more factors than just capitalization should be considered in setting a "cap." Management control systems, sophistication in payments businesses, and the underlying credit risk of the payments being made are all factors that could legitimately be included in decisions to set caps.

Receiver Guarantees. From the point of view of some institutions, the most controversial proposal is one that would require participants in private large-dollar transfer networks to agree to guarantee finality of payment to all messages sent through the system.[7] In short, they would be agreeing that if a bank which was a net sender of funds failed, the other institutions would assure the receivers of those funds that payment would be made. All of the remaining banks in the network would be obliged to share the loss. As stern as this notion sounds, it has considerable appeal for two reasons. First, it has the effect of making banks very careful in performing credit analyses on other participants in private networks. Each would have a strong incentive to exclude weak institutions from using the private network and exposing all participants to the shared risk of loss. Second, it insulates the rest of the economy from failures in the banking sector, thereby making it much easier to stabilize the economy during times of turmoil.

Alter the Federal Funds Market. Other options for reducing daylight overdraft exposure involve changing the way the overnight money markets operate. Several possibilities are being explored. First, funds purchases could be made for 24 hours. For example, if a bank received purchased funds at 10 a.m., it would return them at 10 a.m. the next day. The second option is to make all funds purchases or sales (or all that exceed some large-dollar cutoff) effective at exactly the same time each day—say, 11 a.m. Under this plan, the notices of trades could be executed at any time during the day, but the moment at which ownership changed would be uniform throughout the industry. Yet a third option might be to create an *intra-day* market for funds and allow purchases for several hours within the central portion of the business day at whatever interest rate the markets thought appropriate. For example, a bank might buy funds at 10:00 a.m. under a contract to return them to the seller at 3:00 p.m.

Collateralization. The final change in rules that might reduce the daylight overdraft problem is to

[7] Such arrangements can be found in futures markets and the stock market through the use of an exchange, which is a separate organization that guarantees trades.

allow major participants to collateralize their overdraft position with marketable securities. This idea has some surface appeal, but there are drawbacks that need to be thought through.[8] First, this would tie up a great deal of collateral. Given the fact that most marketable securities are already being used for repurchase agreement borrowings, government deposits, or other collateral requirements, the quality of the securities available for daylight overdraft coverage might not be very high unless banks expanded their holdings of securities by reducing their loans. It is not clear how much of the new collateral could be obtained by banks from the customers they are attempting to serve. In addition, collateralization doesn't reduce society's risk. It only shifts this payment risk from the Fed and the private networks to the Federal Deposit Insurance Corporation in the event of a bank failure. Collateral ultimately sold to cover losses from payments failures can't be used to offset the government's costs in making good on deposit insurance. The banking system needs to be looking for ways to reduce and manage the risk, not mask it with collateral.

RECENT STEPS TOWARD RISK CONTROL

The road to effective control of risks from daylight overdrafts is likely to be a bumpy one. There appears to be no consensus among regulators and the banking industry about the best way to place limits on this risk. Each of the available tools has its faults and costs. Even taken together they do no more than reduce, rather than eliminate, systemic risk. While the dialogue continues within the industry, several steps have been taken to test alternative approaches to risk control. One is a campaign to educate payments processors further about the need for risk management. The second involves setting stiffer operating requirements on private funds transfer networks which wish to use the Fed for net settlement.

Consciousness Raising. The Federal Reserve's use of counseling as a means to focus the industry's attention on risk management has already been noted. The Fed has also solicited the reaction of the general public to this problem by publishing a proposal describing the risks and citing several approaches to curtailing such risks.[9] Analysis of the public's comments will help the Fed decide how (or whether) to pursue a regulatory solution to payments risk reduction.

In addition to counseling and soliciting public comment on these questions, the Federal Reserve is also working with the American Bankers Association and the individual state bank regulators to publicize the dimensions of the daylight payments risk problems. During the fall of 1984, meetings were held throughout the country to bring regulators and bankers into face-to-face discussions of these issues. Both the causes and potential cures were debated at length from the perspective of credit risk management, operating problems, banking system soundness, and bank examination practices.

The Association of Reserve City Bankers has continued its active role in researching payments risks. In late 1984 the Association's Risk Control Task Force produced a further set of recommendations, again advocating industry self-regulation in setting caps on net sendings of funds over all electronic networks and proposing a methodology by which these limits should be set.[10]

Network Operating Policies. While debate over risk limitations continues, however, the Federal Reserve has adopted an interim policy designed to tighten the operational controls enforced by private networks wishing to use the Fed for net settlement. In brief, the Federal Reserve asks that these networks adopt policies which require participants to set bilateral credit limits on funds transactions between each other and over the network as a whole and to set sender net debit caps. All private wire transfer networks have moved to adopt credit limits and are experi-

[8]The Federal Reserve Bank of New York requires that daylight overdrafts by U.S. branches and agencies of foreign banks and by Edge Act Corporations be fully collateralized. Also, securities transfer overdrafts are to be collateralized by the underlying security being transferred.

[9]"Proposals to Reduce Risk on Large-Dollar Transfer Systems," (Federal Register Docket No. R-0515), published for comment on March 29, 1984.

[10]"The Final Report of the Risk Control Task Force," (Washington, DC: Payment System Committee, Association of Reserve City Bankers, October, 1984).

menting with debit caps to determine the impact that caps would have on their operations.

The final words will not be written on this topic for a long time to come. None of the parties to this process can be certain that they have the correct solution to managing electronic payments risk. The "correctness" of any solution depends on the probability that one assigns to the actual occurrence of a serious settlement problem in transferring funds and on the cost such an occurrence could impose on society. The strategy ultimately selected must blend judgment, prudence, and a sense of the operationally practical. The only certainty is that the dollars at stake make it essential that the risk be addressed.

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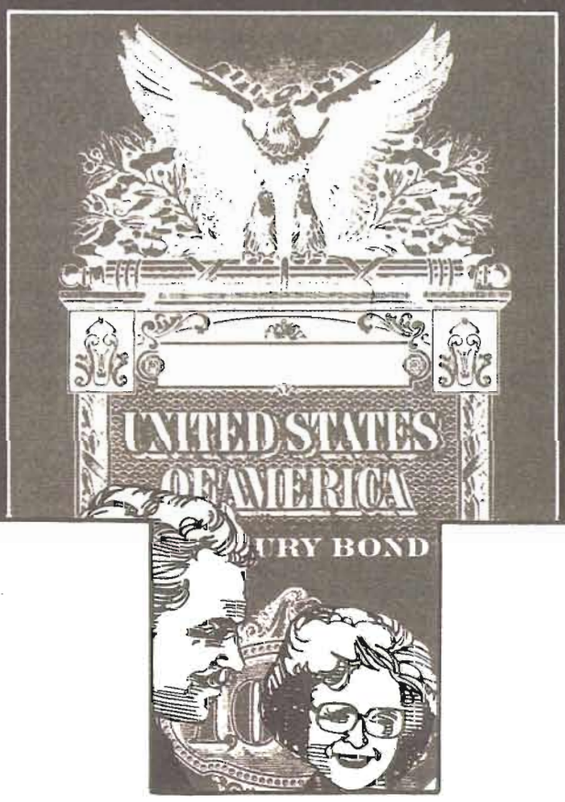

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