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FEDERAL RESERVE BANK OF NEW YORK
CURRENT ISSUES IN ECONOMICS AND FINANCE
October 2000 Volume 6 Number 11

Changing Technology and the Payment System

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On September 11, 2000, Jamie B. Stewart, Jr., First Vice President and Chief Operating Officer of the Federal Reserve Bank of New York, delivered the following remarks at Sibos 2000, the international banking operations seminar sponsored by the payment network SWIFT (Society for Worldwide Interbank Financial Telecommunications).

The Sibos 2000 conference provides an important forum for discussion of the payment system and payment issues. I believe that the payment system in the United States—like its counterparts elsewhere in the world—is critical to ongoing confidence in our financial markets, to the competitiveness of our financial sector, and to the continued health of our banking system. All of us here today—including representatives of both commercial and central banks—share a common set of values in that we are concerned about the continued strength and vitality of the payment system.

This year, we face a rapidly expanding set of opportunities and challenges. We also face the need to act quickly. Indeed, I cannot recall a time of more fundamental and pervasive change in the financial services industry. Much of this change—and the pace at which it is taking place—is driven by extraordinary advances in computing and telecommunications technology. These advances in technology are not just evolutionary, they are revolutionary, and they are transforming virtually every aspect of commerce and banking.

Today, I want to talk about the implications of some of these developments for commercial bankers and central bankers. Both groups enjoy natural advantages as trusted intermediaries and trusted agents. But both groups also face significant challenges in how they adapt in a time of profound change. In this environment, I believe that we will need to manage our organizations in new ways to be successful.

The growing number of e-commerce products offered and the unexpected alliances of business and technology announced each week offer ample evidence of the revolution currently under way. In the banking industry specifically, we see commercial banks using technology and newly formed alliances to leverage traditional account relationships with corporate customers into completely new service offerings.

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Some banks, for example, have worked with customers to develop innovative distribution and supply-chain management systems. Other banks are joining forces with "aggregators" to cut across traditional

in-house offerings, competitors' services, and nonbank financial services to offer individual customers comprehensive and customized financial information services. These banks see themselves as very active financial advisors and cash managers for customers—not just deposit takers.

Banks are thus moving into business areas that bear little resemblance to traditional banking—a development that regulators are clearly monitoring. For the moment, however, I want to consider not the regulatory and supervisory implications of these developments, but rather the effects of these developments on the competitiveness of commercial banks. One of my main concerns is that as banks strive to innovate and transform themselves, they could lose sight of the importance that payment services continue to have for them—as sources of both their near-term revenues and long-term competitive viability.

In my view, the importance of payment services as a business line for commercial banks is not widely appreciated. To view payments as a cost center that should be reduced is a strategic mistake. Even with all the technological changes taking place in the financial services industry, providing payment services remains a significant source of revenue for commercial banks. The largest banks in the United States, for example, derive approximately 40 percent of their total net revenues from payment-related service offerings.

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I find that payment services offered by commercial banks are particularly useful as a source of steady, noncyclical revenue. Moreover, many banks are able to use these payment services as an entry point to offer their retail and wholesale customers a broader suite of services, including cash and portfolio management. In this way, the provision of payment services enhances commercial banks' ability to meet their customers' needs and develop profitable relationships.

Beyond their value to the competitive viability of commercial banks, payment systems and payment services play a broad role in the functioning of the global financial system, a role that is of special importance to central bankers. The ability of the payment system to ensure that financial transactions are made in ways that are timely, reliable, and secure is vital to the maintenance of market confidence and to the safe and sound functioning of financial markets. The efficient processing of payments is a necessity in a marketplace as competitive as ours is in the United States today. This last point is important because, in my view, we will see much more competition among financial centers in the future. Because financial centers are a source of high-paying jobs, cities around the world will increasingly compete to be prime financial locations.

Commercial banks clearly have much to contribute to the evolving world of e-commerce. Their knowledge of and experience with payment services and their reputations as trusted agents are valuable attributes in the uncertain and often untested arena of e-commerce.

To date, however, payments and payment issues have received limited attention in the e-commerce revolution, despite the fact that the settlement of payments is an essential element in any e-business transaction. Many of these otherwise highly automated transactions still result in payments that are made by paper checks. This practice does not seem sustainable to me.

Commercial banks clearly have much to contribute to the evolving world of e-commerce. Their knowledge of and experience with payment services and their reputations as trusted agents are valuable attributes in the uncertain and often untested arena of e-commerce. For example, banks have proven tools and techniques to manage the risks associated with payment transactions and to ensure the security and confidentiality of customer information.

Although recent advances in technology create new opportunities for commercial banks to leverage their traditional payment services into valuable new offerings, pursuing such opportunities will not be easy for bank managers. Let me be more specific about a few of the challenges I believe commercial banks face.

The first challenge is simply how best to manage the use of new technology in an environment where change is occurring through increasingly rapid cycles of innovation. New tools and products leapfrog others that have only recently been introduced.

In the United States, PC (personal computer) banking is a good example of this phenomenon. Before PC banking over private networks had become established, it was superseded by PC banking over the Internet. This application of technology, in turn, may be superseded by wireless banking from cell phones and hand-held electronic organizers. This uncertainty about the long-term value of technical investments creates discomfort for any traditional business person.

Related to the challenge of how to manage the new technology are the many unknowns banks face with respect to customer acceptance of the new products they introduce and the cost-effectiveness of the innovations they put in place. How do bankers make choices under these conditions of constant change and unprecedented uncertainty?

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Some banks are responding by investing in multiple products and technologies in order to hedge their bets and stay in the game. To use this approach successfully, however, an organization must adopt a mind-set and management style very different from those associated with the relatively predictable environment of traditional banking, in which branches have long life cycles and corporate products are expected to last for decades.

The approach called for today requires a portfolio mind-set and a venture-capital style of decision making in which the organization makes investments in a variety of products and tools. Projects that fail to show promise are eliminated promptly in order to cut losses and make way for new investments. This approach requires, among other changes, a very different attitude toward project failure than that held by traditional banking organizations. If banks are not experiencing some failures in this environment, they are almost certainly too conservative to succeed.

This method of making business decisions stands in stark contrast to traditional processes in which bank management selects each product and platform after much consideration so as to achieve a careful deployment and long life. Adopting a different approach to decision making will not be easy, but making the change is important because the real competitors for the next generation of payment service providers may not be banks.

A second challenge for banks is to decide what services to provide. Changes in technology open new possibilities that extend far beyond the cluster of services that have traditionally defined commercial banking. These new service options range from simply re-facing traditional service lines to offering completely new services such as inventory management and logistics.

Is there a downside risk to the banking industry in this expanding variety of service options and strategies? I think there may be at least one. In the past, banks were able to come together—in times of stress or opportunity—to agree on common industry practices, standards, and even shared infrastructure. One example that comes to mind is the agreement on a common infrastructure and standards for automated teller machine networks. Cooperative efforts like this benefited the industry as well as individual institutions, even as those same institutions remained commercial competitors. Collaboration was possible because banks had a great deal in common—structure, services, processes, and goals.

As banks develop sharply different corporate visions, organizational structures, and service offerings, the question is whether their ability to come together around common interests and to address shared goals will be diminished. Yet it seems clear that, to remain viable, banks need to cooperate on standards and related service and infrastructure issues now more than ever as nontraditional competitors move quickly to develop new networks and product offerings.

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Of course, all of us in the financial services industry are familiar with the long-standing need for joint industry initiatives to address important systemic risk and efficiency issues. But here as well, we see such efforts posing new challenges as they are applied to ever more difficult and complex issues. I am thinking here of projects such as the push for T+1—the settlement of securities transactions within one day of the trade

date—and the adoption of straight-through processing—the fully integrated electronic processing of financial transactions. I also have in mind the important Continuous Linked Settlement Bank project, which provides a mechanism for the simultaneous exchange of payments in different currencies. Increasingly, ambitious efforts like these will require attention from all of us because the stakes are very high.

A third challenge confronting banks is how to manage a number of complex new business relationships. How, for example, will banks deal with newly formed nonbank competitors, new technology partners, and an array of service providers? I believe that organizational and cultural differences will make these partnerships difficult.

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Almost daily, it seems, we are bombarded by announcements from existing technology firms and "new-economy start-ups" of innovative products designed to meet e-commerce requirements. Many of these new products cross over into traditional business lines of banks.

Why do I think the organizational and cultural limits of many banks will be challenged by these changes? Because in my view it is becoming increasingly apparent that no single organization can "go it alone" and flourish in the current environment of rapid technological change. Despite traditions of solid self-sufficiency and strict confidentiality, banks, like their customers and new competitors, are being forced to seek new service partners and business alliances. The number and variety of these alliances, partnerships, and service mergers almost defy comprehension. Many of these new relationships will fail, but business partnership has become a necessary hallmark of the e-world. Establishing and managing these new alliances will not come easily to traditional bank managers accustomed to working within their own organizational walls, because in the past self-sufficiency was considered a sign of strength.

These are just a few of the challenges confronting the banking industry as the global financial market is transformed by advancing technology. I have spent a good deal of time talking about the challenges banks face, but how do these forces affect the U.S. Federal Reserve? Like central banks elsewhere in the world, we must grapple with most of these same challenges along with a few additional ones that stem from our role as a supervisor and regulator. Like many of you, we are working hard to bring our own organization up to speed to deploy new tools and function effectively in the rapidly changing marketplace.

As a provider of payment services, we are working on strategies to use the power of the new technologies to improve and ultimately transform the services we offer. To do so, we must listen carefully to our customers and attempt to understand emerging payment service requirements. These requirements are not clear or well defined, but trends are beginning to appear.

We know, for example, that we operate within a linked international payment system whose requirements are increasingly important for us. Accordingly, we have made a number of enhancements to Fedwire, the Federal Reserve's electronic funds and securities transfer system, in recognition of the fact that Fedwire is no longer just a domestic payment service, but rather a part of the global payment system.

For instance, at the end of 1997 we expanded the operating hours of Fedwire, in large part to achieve greater overlap with the hours of other nations' payment systems. Also in the 1990s, we changed the format of Fedwire's payment messages to conform more closely to the SWIFT message format, which is also used by CHIPS (Clearing House Interbank Payments System), a private network that specializes in the international transfer of funds.

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Like commercial banks, we at the Federal Reserve need to make certain that as we innovate, we maintain the reliability and security of our payment services. As the operator of Fedwire and other important elements of the payment system, we have very special responsibilities to ensure that we do not compromise the safety and soundness of the payment and banking system when we incorporate new capabilities and technologies in our service environment.

For example, as we automate payment transactions more completely by using distributed processing and the Internet, we need to be sure that these technologies, oriented toward the mass market, are compatible with the requirements of high-value transactions.

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Consequently, we are deploying new network configurations and infrastructures to verify identity and to control access—measures that will help ensure message integrity and security of access. We must move forward, but with due caution.

This brings me to my final thoughts: a few questions I want to pose and address briefly. First, what role does the Federal Reserve plan to play in the world of e-commerce? Second, how does the Federal Reserve, as a provider of services, plan to interact with the private sector—that is, with its customers and other providers of financial services here and abroad?

First and foremost, the Federal Reserve wants to support rather than limit innovation in the private sector. Although this has always been our stance, we see it as especially important in this time of unprecedented technological change. I want to emphasize, however, that this policy stance should not be interpreted to mean that the Federal Reserve plans to be a passive observer.

On the contrary, we are committed to enhancing our role as a constructive participant with our customers and the markets we support. Recent examples of this commitment include hosting an industry-oriented workshop on electronic check presentment, drafting progressive U.S. e-signature legislation, and participating actively in the SWIFT user group in the United States.

Like commercial banks, central banks cannot go it alone in this complex and demanding environment. We need to develop new partnerships and alliances with private sector providers of services and with central banks in other countries.

One example of such an alliance is our work with SWIFT to develop closer working ties for the benefit of our customers. A very tangible, near-term goal of this collaboration is to ensure that the message formats and standards we use support straight-through processing and the creation of compatible operating systems. At this time, we are defining changes we must make to ensure that messages can be transferred from one payment network to another seamlessly. In the future, you will see further evidence of these cooperative efforts. While this degree of collaboration will not always be easy to maintain, we see it as a requirement in an increasingly interdependent marketplace.

As I have noted, central banks, like commercial banks, enjoy special advantages as trusted intermediaries. These advantages, however, will not guarantee that central banks retain a vital role in the evolving e-world unless we are responsive to the changing environment in which we operate.

Central banks, like commercial banks, enjoy special advantages as trusted intermediaries. These advantages, however, will not guarantee that central banks retain a vital role in the evolving e-world unless we are responsive to the changing environment in which we operate.

One of our most basic goals at the Federal Reserve is to ensure that the payment system remains efficient and strong. Let there be no doubt, we are firmly committed to the belief that a well-functioning payment system is essential to the financial health of our economy. Moreover, we see commercial banks as the bedrock of the payment industry, and we plan to continue working with you to make certain that the payment system remains sound and secure as it responds to the changing needs of our global economy.

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Current Issues in Economics and Finance is published by the Research and Market Analysis Group of the Federal Reserve Bank of New York. Dorothy Meadow Sobol is the editor.

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