

U.S. Retail Payments: Opportunities and Challenges

**by Cathy E. Minehan, President & Chief Executive Officer
Piper Jaffray Retail Banking Symposium
June 17, 2004**

One of the enduring hallmarks of the U.S. economy over the last nearly 10 years has been its tremendous, in some respects awe-inspiring, growth in productivity. After better than two decades of productivity growth that averaged 1.5%, annual rates of productivity growth jumped to 2.5% for the years 1995 to 2000. Then it accelerated even more through the equity market bust, the recession, and the long slow recovery. Even now, four-quarter growth in productivity is 5.4%, or better than four times what it was just a decade ago.

Clearly, some of this is cyclical, and some reflects the unusual nature of the events surrounding this economic period. Faced with geopolitical uncertainty, and uncertainty born out of a new regime of intense focus on corporate reporting and transparency, U.S. businesses have worked hard to do more with less. They have worked hard to exploit the technology purchased during the late '90s boom, and until the last 6-9 months or so, they have met increasing demand without hiring new staff. The "job-loss" recovery puzzled everyone, but with productivity growing faster than the 5% growth in GDP, increased staff weren't necessary, and pressure on resources, and resulting inflationary growth, was small.

With the job growth of the last three months or so, this puzzling period in the economy appears to be ending. Businesses are hiring again, and the unemployment rate is down. Moreover, growth worldwide is putting pressure on key commodity resources, while geopolitical upheaval in the mid-east has contributed to higher oil prices. Inflation has bottomed out, apparently, and while most forecasts expect a small upward move in core measures of price growth, the message for monetary policy makers seems clear. Highly accommodative policy that was appropriate for the situation the economy faced earlier now must be rethought, and brought into balance with solid real growth and an increased pressure on resources.

But, through all of this, productivity is likely to remain strong, at least based on everything that we hear anecdotally. To some degree, productivity will rise or fall as economic cycles ebb and wane, but its underlying growth - or the so-called structural rate of growth - seems to have moved to a new level. Businesses large and small confirm that even now they continue to be focused on working harder and smarter, using technology more effectively, and restructuring management processes to be more efficient. They've seen the light and aren't going to change what has been a winning strategy. In the early '90s, we thought structural productivity growth might be below 1%. Now, most analysts believe it is 2.25% or better. Over time that kind of change can mean that standards of living will double in half the time - truly a remarkable achievement.

Now, why am I rattling on about productivity change to a roomful of institutional investors in retail banking? Well, I would argue that retail banking, and particularly banking services oriented around retail payments, is in the midst of a transformation that will markedly change its underlying rate of productivity. That is, to whatever degree retail banking services have participated in the recent economy-wide surge in productivity - and I'll bet they have - the future holds more change in store. Why is this? It's simple. Paper checks as a retail payment mechanism are going the way of the dodo. Consumers and businesses are increasingly choosing electronic payment forms. Moreover, even when checks are written, recent changes in law should make it possible, over time, to take the paper out of the clearing and settlement process completely, thereby increasing speed of settlement and overall efficiency.

What I'd like to talk to you about today is how this change is taking place. How does the retail payment process of

check clearing work now? How could it work in the future? And because no change is painless, or without cost, what are the issues that retail banking organizations will need to face as they approach this transition? Retail payments are very profitable for banking institutions; as the process of making these payments changes, banks will address the related challenges differently. Some will do it better than others – and you may find that interesting as you plan future investments.

First, some perspective is necessary. Overall the U.S. payment system is highly electronic. Reflecting this, of the \$2.9 trillion in payments and settlements that flow through the Reserve Bank books on a daily basis, 97.9% is fully electronic. Much of this reflects the activity of wholesale financial and security markets, which are both highly electronic, and, in many ways, models for the rest of the world to follow. Retail payments in the U.S., however, remain heavily rooted in paper both in the form of checks and cash. For non-cash payments, some of this is because the U.S. banking system and the Reserve Banks have worked hard to make check processing as efficient as possible. Most checks are collected overnight, and, as I noted before, check collection is a revenue generator for the banks. Thus, paper checks continue to play a prominent role in our payments system. In 2000, checks represented 60% of all non-cash retail payment transactions made by consumers and businesses while electronic retail payments comprised approximately 40%. In 2000, there were 42 billion checks written in the US for a combined value of \$39 trillion.

But paper check processing is a resource-intensive business. From the time a check is written to the moment it returns to its sender, the check is typically handled by several financial institutions. At every step of the way, the check has to be sorted, accounted for, and transported to the next stop. At the Reserve Banks alone, 17 billion checks a year are processed, employing about one quarter of our staff, using 300 electronic sorters and over a million square feet of office space to clear and account for checks around the clock. Each night, checks processed by the Reserve Banks are flown on more than 200 air routes, and picked-up or delivered on almost 400 different truck routes. Adverse weather conditions and transportation problems may disrupt this complex arrangement any time. The grounding of air traffic following September 11 demonstrated how vulnerable the check distribution system can be. Even without national disasters, the check collection process is time consuming and subject to fraud. The American Bankers Association estimated that banks lost about \$700 million due to check-related fraud in 2002.

The US has the most paper-intensive and hence labor- and capital-intensive retail payments system in the developed world. Even on a per-capita basis, it is one of the most expensive payments systems to operate. Most other developed countries have retail payments systems that use cheaper and faster technologies; indeed, for a variety of reasons, many never used checks to any great degree at all. According to statistics released by the Bank for International Settlements, the number of checks written per person in the US was almost twice as high as in the number two country — France — in 2002. At the same time, the number of automated credit and debit transfers per person in the U.S. was lower than in any European country or Canada.

What could the retail payments system look like tomorrow? The volume of checks being written now is falling. Based on what we see at Reserve Banks, and what we observe in the private sector, the number of checks written has been shrinking at a rate of at least 5 percent a year since the late '90s, and the rate of decline is expected to accelerate over the next few years. At the same time, the number of payments initiated electronically, such as ACH, credit and debit cards is growing rapidly. Our research suggests that by 2005, the number of retail payments initiated electronically will likely equal or surpass paper payments. Moreover, the way paper checks are collected is changing. Banks tell us that the number of checks that are still cleared in the traditional, resource-intensive process is falling by double-digits each year. Although market research shows that consumers and businesses want to continue writing checks, they are less concerned about the way those checks are collected and are increasingly willing to accept digital images in place of cancelled checks.

So checks will continue to be written, albeit fewer of them each year, but most paper will disappear soon after it enters the collection stream — at a cash register, at the lockbox, or at a local bank branch. Check transactions, although originated with paper, will be cleared either based on digital images or on information contained in an electronic file. Most paper will not travel any further than to its initial entry into the collection process.

All participants in the payment system are finding ways to stop the costly process of moving paper. Retailers have been investing in technologies that enable them to capture the MICR line from checks and hand them back to their customers,

while those payments are collected electronically via the ACH. Businesses are now beginning to convert checks sent to them in the mail by their customers into electronic debits, also collected via ACH. Both of these types of check conversions have been growing rapidly. The number of checks mailed by consumers that were later converted to electronic payments grew tenfold in 2003. Last April, over 3 million checks were converted to an electronic process *every day*, and the number is increasing at a growing rate.

The Check Clearing for the 21st Century Act — or Check 21 as it is fondly called in the industry — will become effective in October of this year. This provides for substitute checks constructed from digital images to be recognized as legal substitutes for original paper items. The law will permit banks to present checks electronically if they choose to do so, and to require paper items created from digital images to substitute for the original check when that is necessary.

Where will this change in law, combined with technological change, take us? As I see it, at some point, every check that is written will be either transformed into an electronic payment by the retailer, or transformed into a digitized image by the first financial intermediary that handles it. The image could be stored locally or uploaded to national image archives that have already been built by both the private sector and the Reserve Banks. At that point, the check would be presented and collected fully electronically using the MICR data on the check. If needed, paper copies of substitute checks could be created by the consumer or business simply by tapping into their electronic banking links.

Gone will be the huge infrastructure of people, machines, and airplanes that support the current check collection process, and gone will be the losses from fraud that accompany this process. To illustrate the potential for cost reductions from infrastructure changes alone, if all checks processed by Reserve Banks in April of this year had been ACH payments, Reserve Bank costs would have been \$60 million lower in that month alone – a decline of about 60% or so. Obviously, this is a very rough estimate, but it is important to note that this would be a huge reduction in a cost base, but reflect no underlying change in payments processed, or related services to customers. A dramatic and true increase in productivity.

Clearly, a brave new world in retail payments processing is possible, and we may be on the cusp of that world. But new worlds are never entered into without some form of wrenching change. The transition to a fully electronic retail payment and check collection process will involve challenges. What are they likely to be?

The first challenge clearly involves existing bank infrastructure and investment. The declining number of checks is making the current paper check collection infrastructure redundant. We are confident excess capacity in check processing facilities and check sorters already exists, both in banking organizations and at Reserve Banks. All of us involved in check processing have invested in enormous infrastructures to process paper checks. As check volumes continue to decline, excess capacity will become more apparent in the payments processing business. A reduction in infrastructure will be necessary and unavoidable.

We at the Reserve Banks, for example, will have closed 13 of our check processing sites, or more than one quarter of the total sites, by the end of this year. And we will continue to review our infrastructure each year – we need to be efficient to be sure, but the reality is that as paper goes away there will be less and less for existing staff and machines to do. Further consolidation of processing infrastructure and reductions in staff are certainly options, and we are pursuing those options as are other check processors. But sooner or later, investments in existing hardware and software will have to be written off. That's easy to say but sometimes hard to do, and not cheap.

But that's only half the problem. Investment in new check processing infrastructure still will be required in the near term as the collection process becomes more electronic. The resources needed to prepare for electronic check collection vary from bank to bank. A community bank that is image-enabled today may need to spend relatively little money to be fully capable to convert checks into digital images and process them electronically, while a large bank may have to make some significant investments. However, because large banks process a disproportionate share of large-dollar checks, they also have the most to gain from collecting checks faster with electronics. In this payments system transformation, each bank needs to assess its existing check infrastructure and determine whether to make near-term investments or perhaps to outsource to other service providers.

All of this naturally will have an impact on costs. During the transition from the current to the ideal state, the cost of handling each check could be higher. Banks will have to support a dual infrastructure of paper and electronic check

processing for some time. Once that period is over and banks move to fully electronic check collection, it will be much cheaper to process retail payments than it is today. To get there, bank branches may have to be equipped with image-capture technology, and retailers may have to invest in check-scanning devices. Once over the hump, however, all participants in the payments market will benefit.

A shift from paper to electronic collection of checks is a move toward technologies with higher fixed costs, but potentially very low variable costs, and consequently with higher economies of scale. The greater the volume of transactions, the lower the cost per transaction will be. This seems like a win-win situation: user costs will fall without eroding profits to banks providing the services. And in this scenario consumers and businesses can continue writing checks if they want to.

For many bank accounts, checks already are not returned to the checkwriters — a process known as check safekeeping or check truncation — and that trend will accelerate in preparation for Check 21. In many instances, images are sent to the checkwriters instead. Banks see transportation as the biggest cost saving from Check 21, especially for those institutions with a widely dispersed branch network. Check truncation also reduces the costs of preparing and mailing cancelled checks. Initially, the savings are likely to be small. Over time, as all paper is replaced with digital images, all banks — large and small — are bound to reduce their costs.

Now what happens to bank income during the transition? Anecdotal evidence suggests that for some banks, income related to retail payments is a major share of the total. Some of this income comes from payments other than checks, such as credit card interchange fees. However, a not inconsequential portion comes from check-related fees, lockbox processing fees and check float management. Managing the transition from paper to electronics will require the revenue generated from paper to be replaced by fees from new electronic payments products and information services. Banks will have to determine what kind of electronic payments services best fit their customers' needs. The dilemma will be to induce customers to move to the more cost-effective electronic services and simultaneously to create new income streams - a challenge, to be sure, and one that will be addressed differently by different banking organizations.

To summarize so far, the transformation in the payments system will require some investments to be written off and staffs to be reduced; it will require near-term investment to make the paper collection process more electronic; but over time it will free up capital for other investments. Costs in the new electronic payments world will be significantly less than in today's labor-intensive paper processing environment. Banks will lose sources of current income and will need to find new revenue streams to replace this lost income. But now let's think about how integral checks are to broader bank strategies.

Evidence shows that banks are continuing to expand their branch networks. But why do consumers and small businesses go to branches? Often it is to cash or deposit checks. Banks then use this as an opportunity to cross-sell other services. When consumers and small businesses no longer have checks to cash, what is going to happen to all those branches? Will they still be cost-effective channels for delivering and selling services? Could we really be on the cusp of that world we thought was here a few years ago when some analysts thought branch networks a thing of the past? I was dubious then, but perhaps less so now.

The nature of competition in the payments market is changing as well. As electronic payments reach critical mass, non-banks can become more effective competitors. It is easier for non-banks to enter those markets than to compete in traditional paper check processing. In this competitive environment, early adopters of new electronic payments technologies may be the ones to reap the benefits. Online banking and bill payment services have become important factors in consumer selection and perception of banks. Clearly, the competitive environment is shifting.

In conclusion, checks are fundamental to banks on many different levels — they are an important component of bank costs and income. As the retail payments system is changing and check collection is undergoing transformation, each bank needs to have a strategy to manage that change. Although there is still uncertainty as to how exactly the payments system will evolve, banks need to be aware of those changes and ask themselves if they are prepared to confront them. As you are considering institutional investments in retail banking, here are some questions you may want to consider:

- What is the institution's payments-related cost and revenue profile?

Has it assessed the changes that are happening to the retail payments system and their impact on their costs and revenues?

- What are the near-term and longer-term investment strategies it will employ as their existing infrastructure becomes under-utilized?
- Does the institution understand how its consumer and business preferences are shifting?
- In short, does it have a strategy that leverages the changes in the payments system to create a new and more dynamic platform?

The transition from paper to electronics is best for the U.S. payments system, for the economy, and even for individual financial intermediaries. It represents yet another opportunity for significant productivity growth in the financial services industry. Electronic payments are cheaper to process, and that cost will be lower as more retail payments are converted from traditional paper processing. Consolidating and over the longer term eliminating much of the paper collection infrastructure today will release resources that might be used elsewhere tomorrow. The process is already taking place throughout the payments market. Those institutions, which adapt to the change in a deliberate way will be more productive and will be able to release capital to be invested in other ventures. These are the firms that may come out as the winners over time.

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