KEYNOTE ADDRESS TO BANKNOTE 2005
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Good afternoon. When I was first asked to speak at this conference, it was suggested that I provide you with an overview of some of the key initiatives the Reserve Banks have underway in our responsibility as the wholesale distributor of U.S. currency. To put these initiatives in perspective, though, it is important that I start by saying a little about the three major drivers that influence our thinking and our planning at the Fed.

The first of these is maintaining confidence in our currency. I am about to complete my 25th year of employment at the Fed, but I still recall something from the orientation session on my first day. The speaker asked us the question "as the central bank, what business are we in?" Several answered monetary policy, some replied banking supervision, others mentioned cash and still others said wire transfers. The speaker replied, "While all that is true, you should never forget that we are first and foremost in the business of building and maintaining confidence – confidence in our economy, our banking system, our payments systems and our currency." As my career at the Fed progressed, those simple words took on more and more meaning; to the point where I am now the one saying them at orientation sessions and conferences like this one.

In the context of currency, I think of confidence as having three dimensions. The first, and most important, is the integrity or genuineness of the currency in circulation. We obviously don't have complete control over this, but we do have some control over the frequency with which notes are passed through the Fed "filter," the anti-counterfeiting features designed into our currency, and the robustness of our authentication equipment and processes, and we take each of these very seriously. A second dimension of confidence is the availability of currency, particularly when a crisis occurs. Often, other payments systems are inoperable when there are major disruptions, and it is important to the confidence of the public that currency be available. The third dimension of confidence is the quality of currency in circulation. While not as important as integrity, public perception of the quality of currency does, at the margin, impact confidence.

The second major driver that influences the Fed's efforts in the currency arena, after maintaining confidence, is efficiency. I think of efficiency in two contexts, societal efficiency, and internal efficiency. Societal efficiency takes into account the complex relationship between all the entities in the cash chain and what steps can be taken to reduce the aggregate costs of the transaction flow. Internal efficiency focuses on the Fed's costs of doing business, including the cost of new currency we procure from the BEP.

The third and final major driver is collaboration. The cash cycle is extremely complex, with many entities having a hand in the equation. I must admit that we were guilty of central bank arrogance for many years by focusing more on internal issues than on working with the commercial banking, armored carrier, and vendor community to understand how our processes affect them, and how theirs affect us. I'd like to think we've become better at this, but it's something we are continually pressuring ourselves to improve in.

Now let me turn to some of our major initiatives, which I hope you will find compatible with these drivers of confidence, efficiency and collaboration. The first major initiative I'd like to say a few words about is the improved cycle time for issuing new designs of banknotes. This is a joint effort between the Treasury Department, the Secret Service, the Bureau of Engraving and Printing, and the Fed. Effective design obviously is an important element of our overall strategy to keep counterfeits at low levels and maintain confidence in our currency. As you know, since 1996 the United States has issued one new generation of the $5, $10 and $100 notes, and two new generations of the $20 and $50 notes. Moreover, we've targeted a cycle time of 7-10 years for issuing new series in the future. One of the things we've learned from our experience with rollouts of new designs is the need to provide access to the community of vendors who manufacture the equipment that will process the new currency. The BEP has a program in place that provides vendors with access to samples of a new design six months prior to rollout. Likewise, the Currency Technology Office of the Federal Reserve, located in Richmond Virginia, co-sponsors a program with the Secret Service that allows currency processing manufacturers to come onsite and run actual counterfeits through their sensors. If you would like more information on either of these programs, there will be several representatives of the BEP, Currency Technology Office, and Secret Service making presentations throughout this conference.

Next I'd like to provide some information about a multi-year project we have been working on called the Recirculation Initiative. The Federal Reserve has long had in its operating circular a description of our role as follows. 1) We provide currency to financial institutions upon demand.

2) We accept currency from financial institutions if it is either unfit for circulation or, if it represents surplus currency that the institution will not need for several days. The deposit of fit currency and ordering of the same denomination by the same financial institution during a short timeframe is considered "cross-shipping" and this long has been prohibited in our operating circular.

While this prohibition has been on the books for quite some time, as a practical matter it was difficult to enforce in part because it was difficult to measure. I won't go into all the details; suffice it to say that our software wasn't sophisticated enough to catch cross-shipping unless we took a number of extra manual steps. Up until the mid-1990's this wasn't much of a problem, though, because the cross-shipping that did occur was relatively modest.

Three things changed that made cross-shipping more prevalent. First, reserve requirements became much lower for commercial banks, and as a result, cash holdings often exceeded the requirement. Consequently, banks incurred an opportunity cost on the holdings that exceeded the requirement. Second, there was a strong drive by banks to manage their non-interest expenses more aggressively during this era. For both of these reasons, banks concluded that it would be more efficient to send a large portion of receipts to the Fed, and use the Fed-fit currency to supply a large portion of their orders, rather than doing the fitness sorting and storage themselves. The third factor increasing cross-shipping was that many large banks began to manage their ATM channel and the rest of their cash business as separate functions. Since the ATM business is almost exclusively an outflow of currency, the ATM function frequently ordered from the Fed. What gets taken out of an ATM gets spent, though, and this money often came back into the banks through retail or corporate deposits. As there wasn't a significant outlet for these deposits in the non-ATM side of the cash business, the bank would often deposit them with the Fed.

The end result was that deposits and orders began to escalate significantly and it became apparent that merely having a cross-shipping prohibition in our operating circular was no longer effective. So, we studied the problem and ultimately came up with a proposal that we vetted with the large banks.

Our proposal was based on the premise that since most banks are using automation to count, verify and prepare incoming deposits for forwarding to the Fed, it generally would be less expensive for them to add the step of fitness sorting than it would be for the currency to be transported the Fed, where it would be received, recounted, verified and fitness sorted, then sent back to the commercial bank for them to distribute it. Of course, it wouldn't necessarily be cheaper for the commercial bank, but it would be cheaper in terms of all-in societal costs. We recognized there would be exceptions where the all-in societal costs might be greater – say, for example, in a region where the commercial bank doesn't have sufficient volumes to warrant an investment in equipment. To account for these situations, our proposed policy allows for cross-shipping to occur, but a fee will be charged that is equal to the Fed's costs of processing the cross-shipped currency. Thus, we're not telling a bank it can't cross-ship, we're just signaling the societal costs associated with it and giving the bank to option to pay those costs or do it themselves if they can do it cheaper.

There were two major shortcomings with our proposed approach. The first is that it would require commercial banks to hold more currency for a period of time until they had a need for it. For example, it is not uncommon for large banks to receive significant deposits from retailers early in the week, but not have demand (often to fill their ATM's) until later in the week. Holding the currency during the week would result in a significant opportunity cost. We addressed this problem by structuring an arrangement whereby the commercial banks could hold this excess currency in their vaults but on the Fed's books; we call this arrangement a "custodial inventory," and we are currently piloting the concept in several regions of the country. The second shortcoming is that there are sophisticated counterfeits in the $50 and $100 denominations that aren't always caught by commercial banks when they process the currency on their machines. Given the value of these denominations and the sophistication of some of the counterfeits, we concluded it would be best if these denominations passed through the Fed "filter" as often as possible, so we have exempted them from the cross-shipping prohibition.

We are approaching the completion of our pilots with the custodial inventories, at which time we intend to present a final policy to the Board of Governors for approval. If approved, the policy will be fully implemented about a year after we make the custodial inventory program available to all eligible depository institutions.

An observation I often hear from other central bankers is that under our proposed approach, the Fed will still be the intermediary between commercial banks. In other words, commercial banks with net surpluses will deposit those with the Fed, and banks with net needs will order those from the Fed. These central bankers often ask why we don't go one step further and create a system like that which exists in many other countries, where the commercial banks exchange directly with one another and only ship unfit currency to the central bank. My answer harkens back to my initial comments about what drives the Federal Reserve's thinking in the currency business. To us, maintaining confidence in the currency is the first and foremost consideration. To achieve this, we still want to see a substantial amount of currency flowing through our shops so that we can remove counterfeits, control quality, and be in a position to meet emergency demand. Thus, we've tried to craft a policy that enables us to actively manage confidence while improving societal efficiency at the margin.

I would now like to turn to a program we implemented after the terrorist attacks on September 11, 2001. Not surprisingly, we saw a spike in demand for currency in the days immediately following the attacks. Fortunately, the operations of the Reserve Bank cash vaults were not directly hindered by the incidents. Thus, we were able to meet the heightened demand with little difficulty. We recognized, though, that there are circumstances under which a Fed cash vault could be disabled <u>and</u> there could be a corresponding spike in demand for currency in that Fed region. Because our normal contingency plans have a lag between when a Fed vault is disabled and currency service can be restored, it was possible that a significant spike in demand might exceed commercial bank supplies, and the Fed would be unable to immediately restock the banks.

To rectify the situation, we established what we call SIL's, which stands for Strategic Inventory Locations. These stocks are held in commercial bank or other vaults on behalf of the Fed. We maintain these holdings both domestically and internationally. I should note that if the Recirculation Program is implemented, we will probably reassess the need for the domestic SIL's, as the currency holdings at commercial banks are likely to rise under the custodial inventory arrangements.

Before closing, I'd like to say a few words about our efforts in the Fed to improve internal efficiency. You'll notice I've saved this topic for last. To do otherwise would contradict what I said at the outset about the primacy of maintaining confidence over achieving efficiency. Nevertheless, we hold ourselves to a standard of continuous efficiency improvement, and I'd like to touch on ways in which we've accomplished this. First, we've worked with our vendor on a number of software and configuration changes to drive down reject rates, as well as to balance rejects more efficiently. The result has been far fewer stoppages on the high speed machine, improving total output per shift.

We have also reconfigured our processing and control environment to enable the grouping of multiple machines in one large processing room, which reduces the personnel needed to achieve a given level of output.

A couple of years ago, we implemented a new optical inspection sensor that improved our ability to make the fitness determination. With this sensor the Fed was able to lower the number of fit notes prematurely destroyed, while providing for a more consistent quality in fit cash paid to the commercial banks. And finally, we have begun to close down some of our smallest processing centers, particularly those located within one half day's driving distance of a neighboring larger Fed processing center. Doing so enables us to eliminate the overhead associated with these smaller sites, and achieve economies of scale that cannot be reached in a one or two machine shop. These savings exceed the costs we incur from CIT's with whom we contract to transport the currency to and from a depot located in the city of the former site.

Combined, over the four year period ending in 2004 these efficiencies enabled us to decrease the number of processing shifts we utilize by 5%, despite volume increases totaling 14%. In constant dollars, we have reduced our costs by almost 15%.

I hope this overview has provided you with a good sense of what we consider to be strategically important, and how some of our major initiatives fit within that context. Thank you for the opportunity to share our direction with you.