### ELECTRONIC PAYMENTS AND THE CENTRAL BANK

Thomas M. Hoenig
President
Federal Reserve Bank of Kansas City

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The views expressed by the author do not necessarily reflect those of the Federal Reserve System, its governors, officers or representatives.

#### Introduction

Everyone in this room is well aware of how dramatically the payments landscape has changed over the past decade. Developments in technology have greatly improved both the efficiency and convenience of electronic payments, and innovation is occurring at a tremendous pace. This spring, PayPal introduced an application to make it easier for casual payments between individuals to be made using an iPhone. In only three weeks after its launch, this payments application was downloaded a million times. Not only has the pace of change accelerated, but the players are changing as well. No longer are innovations being driven by financial institutions and the traditional clearing networks. Technology firms, communications companies and other non-bank firms are jumping into the payments business for a simple reason: Consumers have embraced convenience and mobility, creating the demand for solutions that cards, electronic checks and the automated clearing house (ACH) cannot adequately fulfill today. So what does this mean to a central banker? The payments system is a critical component of our financial infrastructure. Without an efficient, safe, reliable and accessible payments system, the economy cannot function properly day to day and cannot grow at full potential.

Today's young consumers have made technology very much a part of their daily lives.

On even the most basic of cell phones, the capacity for voice communication seems to run a distant second to numerous applications available from service providers over the internet. It is no coincidence that this is also where we are finding the next major development in payments technology.

Today, I want to talk about the future and my views on the payments system and mobile payments. My views are based on recognition of the critical importance of not only a safe and

secure payments system, but also a broadly accessible one. I know this importance is exceptionally clear to you.

As a central banker who gets paid to worry, I have a number of concerns that I think we need to give more attention to as we plan for this all-electronic future. How will we deal with the next crisis that attacks our payments infrastructure? What happens when, in the midst of firms focused on meeting demand for convenience and mobility, we find that we've not invested enough in security and reliability? What if, instead of these trends in electronic payments leading to more competition, the advantages of scale in the payments business drive the payments market to become more concentrated than it already is? Which consumers are likely to be left out of this new payments future and how will they be served?

In fact, the last two questions may have led Congress, as part of the Dodd-Frank regulatory reform legislation, to require the Federal Reserve to "in effect" set the price charged by issuers and the networks for handling authorization and clearing of electronic debit transactions. I have talked about the role of the Fed as a regulator and operator in the payments system a number of times in recent years. I believe the best way for the Federal Reserve to achieve its policy goals is through its operator role, as opposed to setting prices. By competing in the market for payment clearing services, introducing innovative solutions, maintaining efficient operations, and including the appropriate level of security and resiliency in our network, we can provide an alternative in the market that will guarantee access, force competitive pricing, and encourage innovation and competition. It avoids the unintended consequences that come with price controls and yet ensures the public's confidence in this all-electronic payments system.

### **A Historical Perspective**

The Treasury has always been our most important customer in our role as a provider of payments services. Without the Treasury's interest to make and receive payments as efficiently as possible, we could not have justified some of our most important advances in the payments system. One of those advances is check image technology that the Treasury and Federal Reserve worked together to develop in the 1980s. This technology reduced the costs to the Treasury from the old paper check microfilm process and provided the foundation for saving the industry hundreds of millions of dollars in processing and transportation costs when the Federal Reserve's check image exchange services were introduced in 2004.

Even earlier, some of you may recall in the 1970s, while bankers and the regional clearinghouses were struggling to manage the costs of handling substantial increases in check payments, the Federal Reserve and the Treasury partnered in the development of the Automated Clearing House, known as ACH. This system now carries close to 20 billion commercial and government payments annually. Though the banking industry embraced the concept of electronic payments for small, recurring transactions, the private sector could not on its own make the business case due to high startup costs and uncertain volume growth.

Clearly, ACH has served our nation well over the past four decades. And, as one of two ACH operators, the Federal Reserve continues to enhance ACH offerings in response to evolving consumer needs. Recently, we have accelerated the clearing and return schedules (reducing risk) for ACH by introducing same-day settlement for ACH payments converted from check, as well as online and telephone-initiated ACH payments. In addition, we are expanding our International ACH services to countries throughout Europe and the Americas. Just this month,

we launched a new product that enables U.S. banking customers to send an ACH payment to family members in Mexico and several other countries even if they do not have a bank account. Although this role has been critical, and ACH volumes continue to rise, the rate of growth has begun to flatten in recent years. Meanwhile, debit card transactions have continued to rise, with significant growth in small-value transactions.

The Treasury will make important advancements in the evolution of the payments landscape in the coming years with the All Electronic Initiative announced earlier this year. I can say with confidence, based on our monitoring of card market trends, that the success of the Treasury's All Electronic Initiative has been greatly enhanced by the debit card alternative. And through our Bank's work to support FMS' Payment Modernization efforts, I had the opportunity to see first-hand former Commissioner Judy Tillman's excitement about being able to offer the debit card as a very viable and affordable alternative to checks for non-banked consumers. I want to applaud the Treasury for their efforts in working so diligently to educate your constituents on the benefits of an All Electronic environment and for taking the risk with your customers to gracefully push them toward either the ACH or debit card alternatives.

#### A Look to the Future

Though the Federal Reserve and Treasury have played critical roles in the evolution of our national payments landscape, the challenge for us going forward is outlining what actions we take next to ensure the payments system adapts safely and effectively to what is surely the expanded use of mobile payments.

For a few years now, our Bank has been engaged in research related to mobile payments.

We have been particularly interested in comparing the United States with other countries where

mobile payments have been more broadly adopted. Although it might surprise some given our nation's attraction to technology, the United States has actually not been on the front line of electronic and mobile payments. Instead, our broad adoption of electronics has occurred more gradually, in part because the United States has developed an infrastructure around paper payments.

In countries that went straight to electronic payments methods, there is no resistance from either the industry or consumers, and clearly, the United States is headed in this direction. Like the debit card, mobile payments will inevitably become an important and transformational payment alternative.

In the United States, it has been suggested that more than half of consumers will use mobile financial services within five years; although some might make a case that it could happen more quickly because nearly everyone has at least one mobile device of some type if not more. At the Kansas City Fed, we believe that the mobile device will become the payment device of choice and that with the right operators engaged, security and global reach can be achieved.

As we see this taking place, it is critical that the Federal Reserve soon define its response to this transition. What responsibilities does it see for itself as the central bank? Should it be a service provider or will it expand its role further as a regulatory force? In this regard, I see the Federal Reserve's role in mobile payments as being similar to what it assumed for ACH and, before that, check processing. Historically, the Federal Reserve's involvement in retail payments has centered on overcoming coordination problems that have inhibited efficiency and the very closely related problem of security.

As new parties emerge in the payments system, it is imperative that they adopt the security standards of traditional payments participants, both for their own interest and for the security of the entire system. It remains a fact that new payments systems introduce new risks. As we see an increase in complexity, vulnerability also rises in terms of both technology and the potential for fraud. Thus, for mobile payments to reach scale and their full potential, consumers must be confident that the system is safe and efficient.

It is not clear to me that the private sector will make the necessary investments to maintain the overall safety and integrity of retail payments. They will understandably confine their focus to individual provider risks and exposure. Additionally, I think we all know that the private sector, by its very nature, will be concerned about accessibility issues only to the point they relate significantly to the bottom line. Therefore, there is once again a role for the Federal Reserve in assuring that the system is not only safe but also accessible for all users.

The Federal Reserve's experience with both checks and ACH suggests that a tested way to accomplish our policy goals of efficiency, safety and accessibility is by participating as an operator on a level playing field with the private sector. By participating in the system, instead of simply monitoring it or regulating it as an outsider, the Federal Reserve can encourage both efficiency and integrity from an "on the ground" position. In this role it can also serve as a systemic backup for the private sector, consistent with the role it has played in the payments system since its founding.

In payments, a significant incentive exists to capitalize on economies of scale, as we have seen in other areas including debit card networks where we have seen one player achieve a dominate position. This type of market influence and the elimination of competition have very important implications in areas such as pricing.

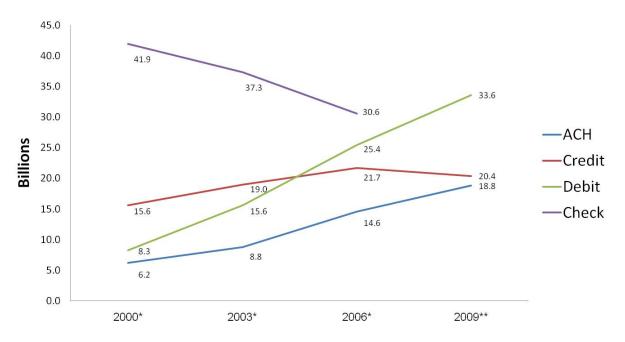
To those who disagree that the Fed has a continuing role in the payments system, I ask you to consider the emergence of noncompetitive pricing by payments services around the world. Such practices have led to significant government interventions in a number of countries related to both market pricing and practices. These types of reactive responses and mandates are in no one's long-run best interest and, unfortunately, their distortive effects do not appear until problems have emerged or loopholes have been exploited to the point of damage. It is my view that any attempts to regulate pricing in the United States will fall short of their intended goals. In other words, the option of the central bank as an operator shouldn't be dismissed lightly as we contemplate the future of mobile payments.

#### Conclusion

Similar to our past endeavors, the Federal Reserve and the Treasury have an opportunity to think through the challenges that confront us as we seek to ensure the reliability and safety of the future payments system. It is a partnership that can work well for businesses and consumers as we manage the evolution of the crucial payments framework for the largest and most innovative economy in the world.

## The Changing Payments Landscape

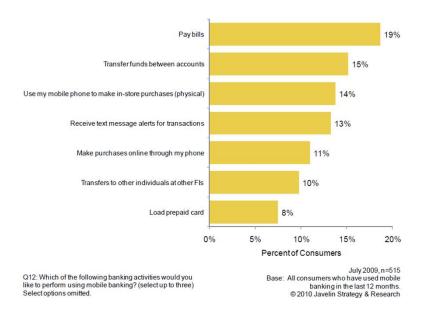
Annual Number of Noncash Payments



<sup>\*</sup>Source: 2001, 2004, and 2007 Federal Reserve Payments Studies
\*\*Source: NACHA Statistics (ACH), Nilson Report (general purpose cards only), No data available for checks

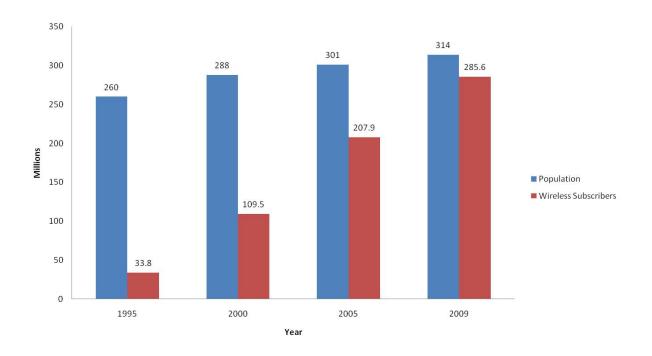
## Mobile Use By Consumers

Payments Functions Consumers Are Interested in Performing With a Mobile Device



Source: Javelin Strategy and Research

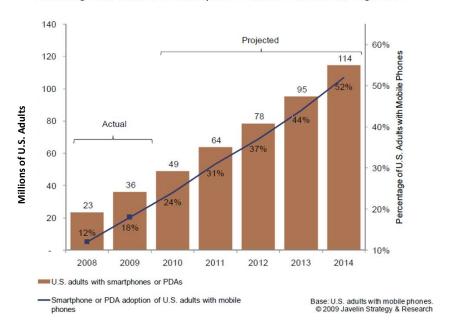
# U.S. Mobile Phone Adoption Trends



Source: CTIA, The Wireless Association

## Trends in U.S. Smartphone Adoption

### Percentage and Number of Smartphone Owners Forecast Through 2014



Source: Javelin Strategy & Research