

An hourglass-shaped graphic with a globe of the Earth inside. The top bulb is dark blue, and the bottom bulb is light blue. The globe is centered in the narrow neck of the hourglass. The top bulb has a dark blue cap, and the bottom bulb has a light blue cap.

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February 2, 2009

Congressional Research Service

Report RS22525

Electronic Banking: The Post-Check 21 Payments System

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November 1, 2006

Abstract. This report is a brief assessment of the role of Check 21 in a payments system that is increasingly dominated by electronic payments. This assessment indicates that if banks continue to adopt Check 21, the payments system will capture significant cost savings and efficiencies in the near future, despite the declining use of paper checks. Paper checks remain the most popular single noncash payment method, and the largest noncash payment type in terms of value. Most large payments are still being made with paper checks. Some banks may never adopt Check 21, preferring to forgo its implementation in favor of waiting for fully electronic processes that may be more rapidly approaching than earlier expected.

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CRS Report for Congress

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Electronic Banking: The Post-Check 21 Payments System

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Summary

The Check Clearing for the 21st Century Act (Check 21) was enacted in 2003 to encourage replacing paper check clearing with electronic check clearing because of the cost savings and efficiencies electronic clearing offers. Coincidentally, in the 2001-2003 period, consumers' increased use of electronic payment methods — such as credit, debit cards, and automated clearinghouse (ACH) payments — exceeded the number of paper check payments for the first time in U.S. history.¹ Consumers' growing use of cards and other fully electronic payment methods appears to be diminishing growth of Check 21 use and is leapfrogging the systems past the paper/electronic way station Check 21 was to provide.

This report is a brief assessment of the role of Check 21 in a payments system that is increasingly dominated by electronic payments. This assessment indicates that if banks continue to adopt Check 21, the payments system will capture significant cost savings and efficiencies in the near future, despite the declining use of paper checks. Paper checks remain the most popular single noncash payment method, and the largest noncash payment type in terms of value. Most large payments are still being made with paper checks. Some banks may never adopt Check 21, preferring to forgo its implementation in favor of waiting for fully electronic processes that may be more rapidly approaching than earlier expected.

The Payments System and Check 21

The payments system consists of the various means buyers and sellers use to transfer monetary value among themselves. Cash and paper checks have been the most popular instruments in the retail payments system. Electronic banking has played a critical role on the wholesale side of the payments system for decades. Trillions of dollars per day have been transferred routinely and securely through the wholesale payments system

¹ Surveys data were for 2000 and 2003. See Geoffrey R. Gerdes and al., "Trends in the Use of Payment Instruments in the United States," *Federal Reserve Bulletin*, Spring, 2005, p. 1. [http://www.federalreserve.gov/pubs/bulletin/2005/spring05_payment.pdf].

between parties, such as the Federal Reserve, the Department of the Treasury, other government agencies, financial institutions, and corporations. For the last two decades, these technologies have migrated to the retail side of the system to households and individuals, where the most popular methods of payment remain paper-based cash and checks. Check 21 took effect in late 2004, and the most recent payments system estimates are for 2004. The lack of more recent data means that we do not yet have a sense of the law's impact. Moreover, the next Federal Reserve Board study of the payments system is not scheduled until 2007. However, the following tables present key data on the competing methods of payments prior to year's end 2004.

Even though there are no reliable estimates of the number of cash transactions, **Table 1** shows that the value of notes and coins in circulation at year's end for 2000-2004 was still growing, despite the growth in electronic payments.

Table 1. Banknotes and Coins in Circulation at Year's End 2000-2004

(in \$ billions)

	2000	2001	2002	2003	2004
Total banknotes and coins in circulation	\$593.87	\$643.33	\$687.53	\$724.17	\$754.86
Total banknotes in circulation	563.95	612.25	654.76	690.24	719.92
Total coins in circulation	29.93	31.07	32.77	33.93	34.93
Bank-held coins and banknotes	58.17	58.13	57.23	57.47	52.46
Publicly held coins and banknotes	535.70	585.20	630.30	666.70	702.40

Source: Bank for International Settlements, [<http://www.bis.org/cpss/paysys/UnitedStates>], March 2006, p. 142. Data from the Federal Reserve and the U.S. Treasury.

Table 2. Total Volume of Noncash Transactions, 2000-2004

(in millions)

Type of Payment Instrument	2000	2001	2002	2003	2004
Checks	41,900.0	40,130.0	38,370.0	36,000.0	34,830.0
Automated Clearing House (ACH)	6,142.7	7,161.9	7,920.7	8,955.3	10,892.3
Debit	8,313.0	10,524.0	13,390.4	16,197.8	19,680.0
Credit	15,853.7	16,748.7	17,530.8	18,019.3	19,125.8
ATM transactions	12,840.0	13,584.0	10,598.4	10,827.6	11,030.4
Bank credit transfers	3,755.2	4,232.0	4,458.5	4,746.7	5,096.2

Source: Bank for International Settlements, [<http://www.bis.org/cpss/paysys/UnitedStates>], March 2006, p. 145. Data from the Federal Reserve, EFT Data Book (Thomson Media), The Nilson Report, and NACHA.

At year's end 2004, there was \$755 billion in coins and notes in circulation in the United States — \$161 billion more than in 2000. **Table 2** shows the estimated number of electronic and paper check transactions for the same period. For example, in 2004, it was estimated that 34.8 billion checks were used — 7 billion fewer than in 2000.

The Check Clearing for the 21st Century Act (P.L. 108-100) became effective on October 28, 2004. The act's purpose was to make the payments system more efficient and less costly by facilitating wider use of electronic check processing without demanding that any bank change its current check collecting practices. It accomplishes this by authorizing the use of a substitute check, which is a negotiable paper reproduction of an original check that contains an image of the front and the back of the original check, and is suitable for automated processing. It contains a magnetic ink character recognition line (MICR-encoded) in the same manner as the original check. Any bank that transfers, presents, or returns a substitute check warrants (or confirms) that (1) the substitute check contains an accurate image of the front and the back of the original check and a legend stating that it is the legal equivalent of the original check, and (2) that no depository bank, drawee, drawer, or indorser² will be asked to pay a check that is already paid. A substitute check for which a bank has made these warranties is the legal equivalent of the original check for all purposes and all persons.

Most of the savings from clearing checks electronically come from eliminating some or all of the handling, sorting, and physical transporting of checks to the paying bank. Under the law before Check 21, a bank that presented a check for payment had to present the original check. The paying banks could get around this law, according to the Uniform Commercial Code (U.C.C.) sections 3-501(b)(2) and 4-100, by negotiating processing agreements that made it unnecessary to physically present the paper check. But, since the benefits of electronic check clearing are not uniformly dispersed among the participants, banks have found it difficult to obtain these agreements, thus constraining the widespread adoption of various forms of electronic check clearing.³ The most efficient form of electronic check clearing is one in which there is no paperwork in the process. This is called straight-through processing (STP). The recipient of a check is paid electronically by debiting the payer's bank account as soon as the check is presented. The Check 21 provisions fall short of STP. Consequently, the cost savings are not as great as some other alternative electronic clearing processes, such as automated clearinghouse, or debit and credit card payments.

One of the few accounts of the Fed's experience with Check 21 was given by the Federal Reserve Board's Vice Chairman Donald L. Kohn at the *Western Payments Alliance 2006 Payment Symposium*. He said the following:

Not only are more payments being made electronically, but more check payments are also being processed electronically, in part because of the Check Clearing for the 21st Century Act, or Check 21. Clearly, Check 21 has begun to diminish the importance of geography and physical transportation in check processing, and banks have started

² The Fed uses the word "indorse" as a variant of endorse throughout its regulations.

³ See CRS Report RL31591, *Electronic Banking: The Check Truncation Issue*, by Walter W. Eubanks, and Joanna Stavins, "A Comparison of Social Costs and Benefits of Paper Check Presentment and ECP with Truncation," *New England Economic Review*, July/Aug. 1997, p. 33.

to reengineer their backroom processes to accommodate end-to-end electronic check clearing.

Vice Chairman Kohn went on to recognize the rapid widespread growth of electronic payments since Check 21 took effect, and noted that private-sector service providers offering Check 21 services are also experiencing rapid growth in volume. However, he confirmed that in July 2006 only about 4% of the Reserve Banks' daily volume, or about 1.5 million checks, was presented to paying banks in electronic Check 21 files.⁴

The Already Declining Use of Checks

The decline in consumer check writing and the growing use of check image replacement documents (IRDs) has led to the closing of paper-check-clearing offices including those at the Fed. The Fed closed 13 of its 45 check-clearing centers in 2003⁵ and announced plans to shut down nine more in 2005 and 2006.⁶ The Fed projects that in 2008 it will have only eighteen check-processing centers nationwide.⁷ As a consequence of the expected decline in the use of checks, the Fed has increased its fees for processing checks by almost 8% to cover the increased cost per check cleared.⁸ The decline in the number of checks being processed is not entirely due to the implemented Check 21, but is due more to the growing popularity of alternative payment methods, including ACH payments. In addition, because of the rapid consolidation taking place in the banking industry, more checks are being cleared inside the mega-banks as internal settlements.

Automatic clearinghouse payments are electronic systems that are run by the Fed and private banking organizations. They are mainly large volume electronic payments systems that enable corporations and consumers to make electronic payments. Payroll, recurring bill payments, and Social Security benefits are examples of typical ACH payments. Normally, ACHs send or receive payments from payment centers.⁹ Today, purchases from stores, over the telephone, and on the Internet can be completed with ACH due to recent regulatory changes. The wider use of ACH payments is the single

⁴ Donald L. Kohn, Vice Chairman of the Federal Reserve Board of Governors of the Federal Reserve System, "Evolution of the Retail Payments and the Role of the Federal Reserve," *The Western Alliance 2006 Payments Symposium*, Sept., 11, 2006, p. 6, [<http://www.federalreserve.gov/boarddocs/speeches/2006/20060911/default.htm>].

⁵ Bert Ely and Kimberly Hover, "Check 21 Spells the End of the Fed Check Processing" *American Banker Online*, May 21, 2004, p. 2.

⁶ Steve Bills, "ACH, Not Check 21, Cited in Fed's Check Decline," *American Banker Online*, Oct. 14, 2004, p.13.

⁷ *Ibid.*, Donald L. Kohn, Sept. 11, 2006, p. 3.

⁸ Will Wade and Danian Platta, "New Fed Fees May Hasten the Inevitable," *American Banker Online*, Nov. 5, 2004, p. 1, [<http://www.americanbanker.com/article.html?id=20041104482GTL4O&from=washregu>].

⁹ For more details, see CRS Report RL31476, *Electronic Payments and the U.S. Payments System*, by Walter W. Eubanks and Pauline H. Smale.

most important reason for the decline in paper check processing.¹⁰ **Table 2** shows a 77% growth in ACH payments between 2000 and 2004. But, other electronically based payments have grown as well. Debit card transactions grew 137% and credit card payments grew 21% in the same period.

Banks' Adaptation to Check 21

In 2006, the Fed's experiences suggest that Check 21 is not being adopted rapidly enough to significantly accelerate the decline in the number of checks being processed in back offices. The major banks — such as Citibank, Bank of America, and Wells Fargo — have increased their use of electronic check clearing among themselves. Their rapid adoption of the technology to make image replacement documents has led to patent infringement cases that are being settled by many big banks.¹¹ Large banks are better able to afford and reap the benefits from the initial cost of the devices used in producing the substitute checks, image replacement documents. Experts expected that most smaller banks would not have the necessary technology installed to generate substitute checks, and the cost of acquiring the technology would stop them from participating in the Check 21 process at first. In 2003, an IRD cost about 5-10 cents per item, making the substitute check more costly to clear than a paper check.¹² Without more recent cost data available, one expects the costs have been declining because of growing competition among the vendors of the hardware and software for check conversion and outsourcing.

Electronic check-processing technology is being developed that excludes the Check 21 process. The Electronic Payments Association (NACHA) has changed its rule to allow banks and retailers to convert checks to ACH debits in their back offices. While this process is consistent with Check 21 in terms of clearing checks electronically, it does not use the substitute checks. Instead, with this process banks can create an ACH debit from a paper check at the retailer or in the back office.¹³ Another alternative to the substitute check is “envelope-free ATMs.” Customers are now able to deposit checks into their bank accounts by scanning them at these ATMs. The deposited checks are then cleared electronically. This technology is being introduced by large banks, such as Wells Fargo, and Bank of America, but smaller banks' checks are also being cleared through this process.¹⁴

¹⁰ Steve Bills, “ACH, Not Check 21, Cited in Fed's Check Decline,” *American Banker Online*, Oct. 14, 2004, p.13.

¹¹ See “Small Company Sues Big Banks, Wins Big in Check 21 Technology Cases,” *Digital Transactions*, July 6, 2005, p.1. — [<http://www.digitaltransactions.net/newsstory.cfm?newsid=633>].

¹² Michael P. Voelker, “Getting Ready for Check 21” *Check 21 from Paper to Imaging: A Supplement to American Banker*, Nov. 2003, p. 17.

¹³ Karen Werner, “NACHA Approves Operating Rule Change To Increase Efficiency in Check Transactions,” *BNA Banking Report*, May 15, 2006, p. 1. [<http://ippubs.bna.com/NWSSTND/IP/BNA/bar.nsf/SearchAllView/17FC7410825221F88525716D0007A3FE?Open&highlight=NACHA,APPROVES,OPERATING,RULE>].

¹⁴ Jeremy Quittner, “Check-Scanning ATMs Gaining Ground,” *American Bankers*, March 14, 2006, p. 3.

Many depository institutions have been slow in agreeing to accept check presentments electronically because of the complexity of integrating the various forms of presentments — paper, electronic, and IRD — in back-office processing.¹⁵ For banks receiving the substitute checks, back-office paperwork operations, including the sorting and handling, are not eliminated. Banks will still need their back-office operations, and they may have to make additional investments to accommodate efficient management of the substitute checks along with the original checks. Some bankers believe that they should wait until straight-through processing (STP) becomes more popular. STP is an entirely electronic clearing environment that combines checks into the same stream as debit and credit cards, as does the “envelope-free ATM” mentioned above.

On the other hand, specific benefits under Check 21 include offering customers new and better services. For example, some banks may offer their business customers the ability to truncate¹⁶ checks and deposit them electronically. Banks are now able to set a later-in-the-day cutoff hour for check deposits because they can transmit checks electronically from their branches to their central processing facilities for collection. These efficiencies, if banks are willing, could be passed on to customers as improved funds availability.

Conclusion

The payments system is rapidly becoming more efficient because of the growing popularity of methods which clear and settle payments electronically. Automatic clearinghouse and debit and credit card methods of payment have grown on average over 40% per year since 2000. The Check 21 Act establishes an electronic check-clearing mechanism in which banks may voluntarily generate image replacement documents in place of checks. However, banks faced with expensive technology adoption costs — especially smaller banks — have been reluctant to embrace Check 21. Moreover, customers’ declining use of checks could make the investment even less attractive to banks.

Large banks with millions of checking accounts are expected to be the greatest beneficiaries of Check 21. Fewer small banks are expected to adopt it because they would have to increase their technology spending far beyond their expenditures now, even with the expectation of capturing fewer benefits as the use of checks declines. In sum, Check 21 places the check-clearing process in what might be called a way station between paper check clearing and the adoption of fully electronic processing. Fully electronic clearing is favored by banks and recipients of funds because it is faster and less prone to error. However, because paper checks remain the most popular noncash method of payment in transactions volume and value, banks and customers could still find Check 21 beneficial in the interim.

¹⁵ See Bank Administration Institute, (BAI), *Check 21 Industry Readiness: October Survey Results*, Oct. 20, 2004. p. 6. at [http://www.bai.org/check21/survey_results/index.asp].

¹⁶ Check truncation occurs when the check is stopped before it reaches the paying bank and the check-clearing process is completed electronically. In some check truncation processes the paperwork is not eliminated. Following the electronic payment, the check is sent to the paying bank. If paperwork is required to complete the process, there will be less cost savings.