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THE CHECK CLEARING FOR THE 21ST CENTURY ACT - A WRONG TURN IN THE ROAD TO IMPROVEMENT OF THE U.S. PAYMENTS SYSTEM

Carl Felsenfeld
Fordham, cfelsenfeld@law.fordham.edu

Genci Bilali
Attorney at Law, New York. Member, Banking Law Committee (The Association of the Bar of the City of New York), gbilali@ad.com

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The Check Clearing for the 21st Century Act - A Wrong Turn in the Road to Improvement of the U.S. Payments System

By

Carl Felsenfeld* and Genci Bilali**

Abstract

The Check Clearing for the 21st Century Act (the “Check 21 Act”) was introduced to Congress by the Federal Reserve System, enacted by Congress, signed by the President, and became effective on October 28, 2004.

The Check 21 Act reinforces the traditional checking system, while making some modest changes to the methods of check clearing. Mainly, the Check 21 Act introduces the concept of the “substitute check,” which could make the check clearing process somewhat faster and cheaper, assuming the Act is widely adopted by the U.S. banking system. A substitute check is a digitized image of an original paper check with a similar size and an image of the front and back of the original check. The front of a substitute check states: “This is a legal copy of your check. You can use it the same way you would use the original check.” The substitute check can be used as proof of payment just like the original check.

If a bank elects to operate under the procedures of the Check 21 Act, a customer must accept the new check clearing system; there is no element of customer choice involved. The substitute check will, however, diminish, and in some cases, entirely eliminate, security features, which banks and law enforcement have developed in order to detect fraudulent check activities such as variations in paper quality, original signatures and fingerprints.

The Check 21 Act leaves essentially intact the other basic laws governing payment by check - Articles 3 and 4 of the Uniform Commercial Code (UCC) as well as Federal Reserve Regulations J and CC (with the exception of some appropriate modifications to Regulation CC). The Act does not have an effect upon the many electronic payment devices in wide use, including credit and debit cards, Automated Clearing House payments and more.

* Professor of Law, Fordham Law School.
** Attorney at law, New York. Member of the Banking Law Committee (The Association of the Bar of the City of New York).
Prior to enactment of the Check 21 Act, the legal system allowed banks to agree among themselves and with their customers to vary the check clearing system almost as they wished. Banks did not, however, adopt an electronic approach to the handling of paper checks because of the virtual impossibility of getting sufficient agreement.

Around 2000, for the first time since their use in commerce, the number and volume of check transactions had begun to decline in favor of electronic payment instruments. The Federal Reserve might have used its great prestige and authority to anoint the ongoing process of electronic payments and thereby speed modernization of the payment systems. On the contrary, the Federal Reserve did not take this direction but rather blessed the cumbersome, slow, expensive checking system.

The Check 21 Act could have some effect on U.S. payment systems only if it is actually put into broad use by the banks. Although the Act and its substitute check system became effective on October 28, 2004, there is little sign of the system being widely implemented. Little investment has been made in the expensive check image exchange and truncation equipment that will be required to implement the Act. Almost no education has been given by banks to their customer base to apprise them of what may be in store. As result, most bank customers have never heard of the Act or of its substitute checks.

Some bankers are not even convinced that the substitute check system will be an improvement on the existing check clearing system and point out the ambiguities and unanswered questions embedded in the Check 21 Act.

Ultimately, the Check 21 Act is a step in the wrong direction in the evolution of the U.S. payments system. The Federal Reserve should have allowed the antiquated checking system to continue to phase out of use. Additionally, the Fed should concentrate on developing an innovative electronic payments system and facilitate its use by consumers and businesses.
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I. **INTRODUCTION**

The Check Clearing for the 21\textsuperscript{st} Century Act\textsuperscript{1} (the “Check 21 Act” or sometimes the “Act”) was given to Congress by the Federal Reserve System, enacted by Congress, signed by the President and became effective on October 28, 2004. It makes a modest change in the check clearing system designed to speed the movement of checks from the depositary to the paying bank. It is anticipated that it will eventually lead to what is called “electronic presentment” a process that may make the clearing of checks virtually as swift as today’s electronic payment systems.

In this way, the Federal Reserve has given a kind of imprimatur to the checking system and added to its life. The checking system is – even with the Check 21 Act modification – the oldest, the slowest, the most expensive and easily the most complex of the payment devices in use. Checking has its roots in the Middle Ages where, along with such devices as the bill of exchange and early forms of promissory notes, it was traded in the 14th Century merchant fairs held on the Continent and litigated in the merchant “pied-poudre”\textsuperscript{2} courts. The device moved indoors in the 18\textsuperscript{th} Century largely through a series of cases in King’s Bench and decided by such stellar judges as Lord John Mansfield. The law was codified in the English Bills of Exchange Act of 1882 and received in the United States in the first Uniform Law, the Uniform Negotiable

\textsuperscript{1} P.L. 108-100, 117 Stat, 1177.

\textsuperscript{2} Dusty feet, referring to the trek to these outdoor and frequently dirty courts.
Instruments Law of 1895. Checks are now governed by four different laws: Article 3 of the Uniform Commercial Code (the “UCC), Negotiable Instruments; UCC Article 4, Bank Deposits and Collections; Federal Reserve Regulation J and Federal Reserve Regulation CC. The interrelationship of these laws almost defies understanding.3

Starting about ten years ago, both the number and the volume of checks started to decline.4 Simpler, cheaper and faster payment devices like credit and debit cards, electronic payments including internet payments and the Automated Clearing House system were gradually replacing checks as the payment systems of choice. It was widely anticipated that checks would simply phase out of use and become an ugly memory. The Federal Reserve through its Check 21 Act has stalled this evolution and given new life to the checking system.

This article gives the authors’ views of what is going on. Chapter II explains why, with our dazzling array of technological innovations, we have not been able to clear checks instantaneously as we do electronic funds transfers and why checks must still be physically loaded on trucks, planes and ships and moved to payor banks. In a word, the burdensome legal system does not allow for a change that has been technologically feasible for years.

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3 UCC§3-401 provides that no person is liable on an instrument (including a check) unless the person signed it; §4-302 describes how a payor bank will be liable on an unsigned instrument. The relationship between Reg. CC and the UCC on when a bank may revoke a check settlement may never have been fully worked out. See Commentary to 12 CFR 229.36(d) on when settlement may not be “considered” to be final.

4 One can’t be precise about this since an accurate computation of checks in use is
Section III describes the role that emerging electronic payment methods are playing in the US payments system. Relying on multiple data and statistics, this section provides a summary of the evolution of these electronic payments, including credit and debit cards, wire transfers, automatic clearing house payments, "e-money"/"e-cash," electronic benefit transfers, stored value cards, mobile payments, automated teller machines, consumer to consumer online payments etc. In contrast, this section shows that the use of checks in the US payments system is in gradual but steady decline. The societal trend is shifting from “paper-based” (cash and checks) to "checkless" or electronic based payment methods.

Section IV provides a background of the enactment of the Check 21 Act as well as a detailed analysis of it. This section discusses the provisions of the Act including the definition of a substitute check, the way that the substitute check operates, expedited recredit rights for consumers, warranties and their breach by banks which deal with substitute check transactions, consumers' liability and damage claims against the banks etc. The section also discusses the legal aspects of the Act on the Uniform Commercial Code in check transactions and the effects of the Act on the Federal Reserve's Regulations CC and J.

Section V discusses the impact that the Check 21 Act will have on check payment transactions. Through testimony from bankers and leading scholars in the field and from official statistics, this section concludes that the Act may not generate positive results consistent with the purpose of its enactment. Banks and bankers, individuals and businesses and consumer
advocates express concern about the implementation of the Act, and more importantly on the likelihood that it will facilitate check payment system efficiency. Many banks are unprepared to handle new procedures associated with the substitute check or simply find it too costly. Vast numbers of consumers are unaware of the Act and its purpose. The Act’s enactment has caused tremendous headaches to banks that will now have to undertake new measures to curb check fraud, invest in "unknown" and "uncertain" areas of check image equipment, check image exchange devices, or simply outsource such services. In short, comparing the positive effects expected from the Act (for example, reducing the time a check takes to clear), and the difficulties in its implementation, this section concludes that the Act may actually represent a step back in development of the US payments system.

Chapter VI gives our views on what the Federal Reserve should have done rather than engineer enactment of the Check 21 Act. It acknowledges that the Act may result in simplification of the check clearing system but concludes that meaningful simplification will come not through modifications of check clearing but through selection of one of the electronic payment systems that are now taking over the market. A multitude of electronic systems, limited only by the imagination of bank marketing executives, has come into existence. They will replace checks, which will die; the Check 21 Act only prolongs the agony. The Federal Reserve is, of course, not the only regulatory body that could make the selection we propose. It is, however, dominant in the eyes of the public and of Congress as our senior financial spokesperson and its position as regulator or statutory draftsman could be crucial. The authors do not in this article select a payment device for official anointment. Directed study of the
system, including the systems in use abroad where the use of fast economical electronic payments is not infrequently superior to our own, is required for this selection to be made.

The article concludes by asserting that the Check 21 Act should not have been enacted. The blame for its enactment should fall squarely on the Federal Reserve Board. The Fed may never admit this, but it rushed its judgment and used the favor in which it is held by Congress when it proposed the Act to Congress. Instead, the Fed should have proposed legislation which would improve the innovative and current electronic payment transactions which are increasingly in use. Issuing the Act to improve the check clearance process while checks use is in decline, will probably be marked as a mistake in the history of the US payments system.

II. THE CURRENT PATTERN OF CHECK CLEARING/PRESENTMENT

The rules of UCC Articles 3 and 4 provide the legal source of the transfer of money through the checking system.\(^5\) This, of course, means the physical movement of paper ("instruments" in Article 3, "items" in Article 4). The transfer of paper from hand to hand among the parties to the checking process from the writing (or drawing) of a check through its collection harkens back to a medieval payment system which in today's electronic atmosphere seems much

\(^5\) This "source" is modified by later variations, principally Regulation J (for checks handled by the Federal Reserve System) and Regulation CC (for checks collected through the banking system).
more cumbersome and expensive than it need be. In their current versions, therefore, Articles 3 and 4 contain various thrusts into the more modern world where paper does not move physically and where funds are transferred through some form of electronic processing.

A. Electronic Presentment of Checks under Current Statute

1. Electronic Presentment in Articles 3 and 4.

Presentment to the drawee/payor of a check is required for a check to be paid. Current law under the UCC provides for presentment by any reasonable means, including electronic. Electronic check presentment allows a bank in the collection system to capture the information from a MICR line on a check and forward that information electronically to a drawee/payor bank for payment. However, “no bank will participate in an electronic presentment program without an agreement.”

6 “The reason for this emphasis on truncation of item collection, particularly checks, is that as you will see, transferring pieces of paper around is expensive and time consuming.” Rusch, Payment Systems, Problems, Materials and Cases, Second Edition (2003), p. 204.

7 UCC §3-501(b)(1).

8 Information on the MICR line includes the identification numbers of the drawee bank and the drawer's account at that bank, the number of the check and the amount of the check.

9 UCC §4-410, Official Comment 2.
There is comparatively little electronic presentment, despite its obvious savings. This has occasionally been ascribed to the agreement requirement. Given the number of parties that participate in the handling of a check, it is said to be difficult to situate an agreement that will cover all of them. This argument needs closer scrutiny. Private companies working with a discrete number of banks and an identifiable number of parties can establish those who must be covered by an electronic presentment agreement and arrange its coverage. A financial institution can achieve critical mass by exchanging with multiple partners without negotiating bilateral agreements with each one.

Banks exchange checks payment information before physically presenting the checks for payment. The depository bank captures payment information on incoming checks from the checks themselves and types it on the magnetic ink character recognition (MICR) line. With appropriate legal underpinnings - the agreement - this information may be immediately transmitted electronically to the paying bank. The paying bank then posts transactions from the electronic information, identifies checks to be returned, and immediately notifies the depository bank. The depository bank then sends the actual physical checks according to its normal paper deadlines.

10 To cover all checks “would require agreements between about 19,000 institutions and tens of millions of bank customers. The likelihood of accomplishing this with the same agreement is virtually zero.” Walker, David, Transitioning the Check: More than Just Check 21, " Electronic Banking Law and Commerce Report, July/August 2004.

11 Electronic Check Presentment is the core service offered by Electronic Clearing Services, a private company, which describes itself as the “leading bank-owned, private sector, standardized, nationwide, multilateral Electronic Check Presentment provider.” www.electronicclearingservices.com
Normally after payment of a check by the drawee/payor bank, the instrument/check/item is delivered back to the drawer. Under the UCC, a bank that sends a statement of account to its customer shall either return or make available to the customer the items paid; or provides information “sufficient to allow the customer reasonably to identify the items paid.” If the items are not returned, the bank must either retain the items or, if they are destroyed, “maintain the capacity to furnish legible copies of the items until the expiration of seven years after receipt of the items.” A customer may request an actual item from a bank and the bank must either supply it or, if the item has been destroyed or is not otherwise obtainable, a legible copy.

Current law, in its basic statutory form with a special agreement to vary its terms, allows the electronic return of items paid that is less expensive and more efficient than the methods currently in use - basically the physical transportation of checks from bank to bank - for check presentment.

2. Electronic Presentment within the Banking System.

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12 A negotiable instrument, including a check, is called an instrument under UCC Art. 3; it is also called a check if it is a check and not one of the other forms of instrument; under Art. 4 it is called an item.

13 UCC §4-406(a).

14 UCC §4-406(b).

15 Id.
The collection of checks within the banking system, including presentments and returns, is governed by Regulation CC of the Federal Reserve which supplants much of UCC Articles 3 and 4 for this purpose. Regulation CC provides in some detail for methods of check presentment upon payor banks. It applies to Federal Reserve banks in their check collection functions as well as to the typical commercial bank. As with analogous provisions of the UCC, it also provides that its effects on check presentment “may be modified by agreement.” Federal Reserve Operating Circular No. 3, Appendix E is, by its own terms, such an agreement.

3. Electronic Presentment by the Federal Reserve System.

The Federal Reserve System is involved in much of the check collections in the United States. As the commercial bank is at bottom governed by UCC Articles 3 and 4 in its check collection activities, the Federal Reserve System, is governed by Regulation J. Regulation J authorizes a Federal Reserve Bank to present a check “[U]nder a special collection agreement consistent with this part.” Federal Reserve Operating Circular No.3, Appendix E is an agreement that authorizes electronic presentment and excuses the Federal Reserve from the basic presentment requirements of both Regulation J and Regulation CC.

B. Electronic Presentment under Private Modification of Law.

16 Regulation CC is promulgated under the Expedited Funds Availability Act

17 12 CFR §229.36(b).
The electronic presentment discussed in the prior subsection is specifically conducted under the rules of Articles 3 and 4 of the UCC and under Regulations J and CC. Another approach to electronic presentment is the offer contained in those laws for parties to modify the formal prescriptions more or less as they choose by agreement. UCC Par.1-102 governs special agreements for the UCC generally and §4-103(1) applies particularly to Article 4.¹⁸

Federal Reserve regulations and operating circulars, clearing-house rules, and the like have the effect of agreements ... whether or not specifically assented to by all parties interested in items handled.¹⁹

We can conceive an imaginative mind devising methods for the handling of checks that might, under agreements varying the rules of Articles 3 and 4, particularly with the injection of electronic methods, save time and money for banks, retailers, clearing houses, check processors and their customers. Actually, little if anything has been achieved with this statutory indulgence. One reason frequently given for this is that checks often pass through many hands. The typical check requires a drawer, a payee, a depository bank and a drawee/payor bank. Checks may

¹⁸ “The UCC is formalistic and far removed from actual banking operation; Reg. CC is much more operationally-oriented, but even its highly specific provisions are often too general to govern ordinary bank procedures. Federal Reserve Operating Circulars, clearing house rules and internal bank operations manuals often provide the additional rules that are needed for the smooth functioning of the check collection system, as the UCC explicitly acknowledges.” Rubin and Cooter, “The Payment System, Cases, Materials and Issues, Second Edition,” (West 1984), p.356.

¹⁹ UCC §4-103(b),
follow routes through intermediary parties including clearing houses that cannot be predicted in advance. It is highly unlikely that all parties to a check can be drawn into a single agreement varying UCC requirements. The device of agreeing out of the UCC into another, perhaps more modern, procedure, while part of the UCC architecture since the UCC’s promulgation by the National Conference of Commissioners on Uniform State Laws and the American Law Institute in 1954 has, however, not been fertile ground for modernization.

The too-many-parties justification needs analysis. Consider the following when evaluating the scope of an interbank agreement:

Interbank agreements are, with rare exception, binding on the customers of the respective banks. As long as the agreement is with respect to the item being handled, the bank's customer (usually the owner of the item) is bound by any agreement that is made by the bank in the process of collecting the item for him even though he is not a party to the agreement. By asking that the bank collect the item, the customer impliedly authorizes the bank to do anything that is reasonably necessary to collect the item. This would include making collection arrangements and agreements with other banks.

One special type of interbank agreement is a “clearing-house rule.” ... Clearing houses may be citywide or extend to banks throughout an entire county or region.
Clearing-house rules, and the like, have the effect of agreements under §4-103(a), whether or not specifically assented to by all parties interested in the items handled.\textsuperscript{20}

While an agreement will go farther than the agreeing parties, it will probably not cover everyone involved in a check's transfer. To exemplify one likely problem, imagine a small local clearing house that inserts into its basic interbank agreement provisions designed to blanket the country. Can it do this under the general authority given to clearing house rules? The drafters of the UCC thought of this possibility and dealt with it in this manner:

There is, of course, no intention of authorizing a local clearing house or a group of clearing houses to rewrite the basic law generally. The term “clearing house rules” should be understood in the light of functions the clearing houses have exercised in the past.\textsuperscript{21}

A good sensible approach this; but one must clearly deal with reservations in applying the concept of contract to the checking system. Doubts similarly cling to the Federal Reserve

\textsuperscript{20} Lawrence, “An Introduction to Payment Systems,” (Aspen 1997), p. 313. Professor Lawrence adds by way of footnote two extracts whose thrust is in opposite directions from the Official Comments to the UCC. From Official Comment 2 to UCC §4-103: “[O]wners of items and other interested parties are not affected by agreements under this subsection unless they are parties to the agreement or are bound by adaption, ratification, estoppel or the like.” And from Official Comment 3 to the same section: “... they may become bound to agreements on the principle that collecting banks acting as agents have authority to make binding agreements with respect to items being handled.”

\textsuperscript{21} UCC §4-103, Official Comment 3.
Operating Letters referred to above in §4-103 of the UCC. The case of Sinclair Oil Corp. v. Sylvan State Bank\textsuperscript{22} held that on a motion for summary judgment it could not decide whether a party was subject to Federal Reserve operating letter because this turned on the particular facts. On the other hand, there seems to be no question but that Federal Reserve Regulations will govern all parties.\textsuperscript{23} Presumably this is based upon the general power accorded to regulations as contrasted with operating letters.

There are, of course, many agreements among banks and their customers. Many of them do vary the rules of Article 3 and 4. For example, Article 4 requires a stop payment order given by a customer to a bank to describe the item whose stop is requested “with reasonable certainty.”\textsuperscript{24} A bank agreed with its customer that a stop request would not be honored unless it gave the amount of the item to the penny.\textsuperscript{25} In another case, the New York State Court of Appeals approved a bank-payee agreement that extended the time Article 4 gave a payor bank to hold an item before it decided whether or not to pay.\textsuperscript{26} Also approved by the 8th Circuit court of

\textsuperscript{22} 894 F.Supp. 1470 (D.C.Kans. 1995).


\textsuperscript{24} §4-403(a).


Appeals was an agreement by a payor bank with a payee to pay whenever it received sufficient funds.\textsuperscript{27} Other areas dealt with by private agreements include charges that may be imposed and various forms of time constraints.

Generally, bank adaptation to the Check 21 Act will require modification of these interbank agreements.\textsuperscript{28} As we will explain in greater detail ahead in this article, the Check 21 Act introduces a device called the “substitute check.”\textsuperscript{29} While the Act requires banks to accept substitute checks created under the new statutory directions, old agreements establishing alternate forms of clearing will probably need change to take advantage of the new system. It is, of course, not required to use the Check 21 Act substitute check approach. Clearing banks that have already modernized their systems to accept check images from other banks and wish to continue in that mode may do so. They will continue subject to their interbank agreements as supplemented by UCC. Chapters 3 and 4 as well as Regulation CC where appropriate and, if federally chartered institutions, Regulation J. If they wish to enter the substitute check regime of Check 21, prior agreements may need modification; UCC. Chapters 3 and 4 and Regulation CC and Regulation J (all as applicable) continue, now, however, subject to the Check 21 Act. Simplification may take some doing.

\textsuperscript{27} W.B. Farms v. Fremont National Bank & Trust Co., (Fed), 40 U.C.C. Rep.Serv. 973 (8\textsuperscript{th} Cir. 1985).


\textsuperscript{29} Check 21 Act, §3.
What is largely missing from the contractual adaptations among banks are creative ways to simplify the check collection process through agreements that explore change - most significantly to electrify - the methods used to move checks through the system. Inter-bank agreements, including clearing-house rules, are largely restricted to matters of traditional interest to those involved in the check clearing process. Advances made through private agreements have been generally modest.\textsuperscript{30}

Another explanation for the absence of creative lawyering under the exception agreement rubric is the diminished knowledge in the current bar of negotiable instrument law. Since law school curricula have after the first year become largely a series of electives, students tend not to take the courses with labels like bills and notes, negotiable instruments, commercial paper or payment systems. Having little idea what most of those titles mean, they have no reason to elect the courses and their ignorance has pervaded the bar. We no longer see the creative lawyering in this area that freed checks some thirty years ago from the rule that demand accounts may not pay interest.\textsuperscript{31}

\textsuperscript{30} This is not to say that advances are unknown. The New York Clearing House, for example, created a wholesale payment system titled Universal Payment Identification Code which modified the Automated Clearing House. The Clearing House received the support of the Federal Reserve which operates a national ACH payments system. See www.epaynetwork.com/files/CH_Study_Final.pdf.

III. ELECTRONIC INNOVATIONS

Since the early 20th Century, the U.S. payments system has gone through a continuous improvement process. Even before the creation of the Federal Reserve, banks in the U.S. found a way to clear payments among each other. The creation of electronic payment can usefully be traced back to the year 1918 when the Federal Reserve, in cooperation with major national chartered banks, started moving monies by means of telegraph. Later on, during the mid-1960s and early 1970s, as a result of the introduction of credit and debit cards and automated clearinghouses, bankers predicted a “checkless society,” forecasting the future of an electronic payments system. The U.S. News and World Report of August 5, 1974 announced that: “After years of being carefully planned, tended and nurtured in the back rooms of the nation's financial community, electronic banking finally seems ready to blossom into reality.” 32

Today, at the beginning of the 21st Century, the fact that cash and checks have not disappeared does not mean that real changes in the U.S. payments system have not taken place. The rapid development of technology and the Internet has left its mark in the banking sector, as well as other areas of the economy. Part of this transformation and improvement reflects the reshaping and modernization of the U.S. payments system, which is catching up with modernizations in other areas of banking services and products as well as with technological

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advances abroad. 33 Although the U.S. payments system continues to run on paper-based methods (such as cash and checks), electronic payments are steadily gaining greater presence. The payments system is slowly but surely going "electronic."

The use of checks and cash in retail and wholesale payments is gradually being replaced by the use of electronic payments, including credit cards, debit cards, wire transfers and automated clearing houses (“ACH”), 34 "e-money," electronic benefits transfer (“EBT”), and other emerging electronic payments. 35 Surveys conducted by the Bank for International Settlements 36 reveal that while new electronic payment instruments are starting to emerge, the traditional e-payment methods, such as credit cards, debit cards and ACH transactions, are driving the U.S. payments system forward.

33 President Santomero, President of the Federal Reserve Bank of Philadelphia said on October 16, 2004 in speech in Madrid, Spain: "America's paper-based payments system is giving way to a new realm of electronic payments vehicles - a transaction that has already occurred in Europe." Internet: www.philadelphiafed.org/publicaffairs/speeches/santomero45.html.

34 The ACH is an electronic payments network that enables the processing of credit and debit payments, such as payroll and prearranged bill payments, between depository institutions.

35 In this Section of the Article, we discuss all these electronic payments in further detail. The emerging payments category includes electronic bill payment and presentment, C2C payments, stored-value cards, e-cash, e-checks, etc.

Electronic innovations of the 1960s and 1970s in retail payments, such as credit cards, debit cards, as well as automated clearinghouses, have actually themselves become a distant memory. In the wholesale financial markets, checks and other negotiable instruments are seldom used. Securities payment transactions are typically transferred in book-entry form.37

Regardless of the rapid innovations of the electronic payments in the U.S. banking system, many believe, including the Chairman of the Federal Reserve, Alan Greenspan, that such payments still presents a “paradox.”38 While the records and systems for handling large value payments (for example, banking records, including those for loans, deposits, and securities markets) are all electronic, the payment transactions predominantly selected by consumers are still carried out in paper currency and checks. The current disparity between consumers and banks in the adoption of electronic innovated payments undoubtedly occurred as result of many factors such as the perception of risk, their relative sophistication in embracing new technologies etc.39 Banks went electronic by computerizing their banking records (such as deposits, loans etc) in the 1960s. Later on, following the "paperwork" crisis between 1967 and 197040, securities markets commenced to adopt a highly automated recording and operating system.

39 Id.  
40 The "paperwork crisis" occurred as the NYSE experienced a dramatic increase in trading volumes. Securities firms were caught unprepared, lacking the technology and staff to
By the 1990s, consumers were introduced to various electronic payment products and systems, such as VisaCash, Digicash, CyberCash, Millicent, Proton, PayPal, eMoneyMail, BillPoint, Payme.com, PayTrust, and Propay. Although such products seem more efficient and easier than previous (and current) forms of payment, they generally have limited applicability outside the specific areas for which they were designed. However, the evolution of electronic payment instruments and systems shows that there are significant and traditional reasons to believe that consumers and businesses both could adopt any new technological product as it comes along.

Some of the analysis of the long term effects of automation on banking and finance were both insightful and with hindsight, too conservative. The combination of computerized banking systems and telecommunications could fundamentally change both the business practices and banking regulations currently in place. Successive generations of technology, now including the handle the increased workload. Back offices were thrown into confusion trying to process trades and maintain client records. Errors multiplied, causing losses. The “paperwork crisis” was so severe that the NYSE reduced its trading hours and even closed one day a week. In 1969, the stock market fell just as firms were investing heavily in back office technology and staff. Trading volumes dropped, and the combined effects of high expenses, decreasing revenues and losses on securities inventories proved too much for many firms. Twelve firms failed, and another 70 were forced to merge with other firms.

41 A consumer still can’t buy a newspaper or a car with a credit card. Nor can a business use this widely popular device to pay its accounts payable.

Internet, have helped to accelerate the process of change and are inexorably creating a dynamic financial system.43

Early analysis of electronic payments undoubtedly underestimated the transition costs of rapid automation and was most likely overly optimistic that computing and communications costs would decline. Changing and integrating the infrastructure within businesses and banking organizations and convincing enough players to adopt a new technology have posed many challenges.44

Banks and other financial institutions saw the electronic payments processing as a lucrative business. The number of retail electronic payment transactions carried out in 1979 accounted for approximately 15 percent of all retail non-cash payments. From 1990 to 2000, electronic payments saw an annual growth of more than 10 percent and almost doubled between 1995 and 2000. By 2000 banks were processing more than 30 billion electronic payments annually consisting of systems of credit cards, debit cards and ACH. In 2000, electronic payments reached close to 40 percent of all retail non-cash payments and by 2004, amounted to about half of all non-cash payments. The continuing growth in the use of debit cards was a not insignificant reason for this electronic increase. It is consistent that the proportion of payments


by check decreased over this period from roughly 80 percent in 1990 to almost 70 percent in 1999\textsuperscript{45} down to about half in 2004.

New electronic innovations in the U.S. payments system such as stored valued cards, mobile payments and the customized electronic programs of various banks could be even faster and more efficient than the more popular current payment products and methods. When electronic innovations occur, they might be most likely to succeed at the margins of commercial relationships, be pioneered by non-traditional firms, not banks, and gain acceptance in the free market by pushing the current generation of technology ahead into the future. The developing commercial environment's needs should be seen as the stimulus it has always been for the evolution of products. As the megaphone morphed into the cell phone, so might the check be transformed into the new electronic payment.

Implementation of some electronic payments did not reach commercial fruition. However, they were experimental during the time when consumer Internet adoption was in an early stage and when it was reasonable presuming that information providers wanted to sell access to content using micro-payments.\textsuperscript{46} In contrast, many consumer payment innovations have succeeded and filled emerging commercial needs in the online environment. Even when


Electronic payment products do not reach the targeted commercial result, they still could be absolutely critical in building the case for new electronic innovations. These products may have contributed to technology in its early stages that raised broader consumer awareness.  

Based on studies, wealthier, younger and more educated individuals are the people most likely to use innovative electronic forms of payment rather than checks or other drafts. However, as more individuals become familiar with electronic payment innovations, the more the gap diminishes between users and non-users. For instance, in the early 1970s, credit cards were used primarily by individuals with higher incomes. Throughout the 1980s and 1990s, as more consumers gained access to credit cards, the latter became the payment choice for a significant part of society.

Electronic payments can be mainly divided into wholesale electronic payment transactions (non-consumer and high value transactions), which are made principally by banks, businesses, and government, and retail electronic payment transactions, which are made by


consumers. Wholesale electronic payments move through the Fedwire Funds Service\textsuperscript{50}, the Fedwire Securities Service\textsuperscript{51} and the National Settlement Service ("NSS")\textsuperscript{52} electronic funds transfer system, which is operated by the Federal Reserve. The Federal Reserve also operates the

\textsuperscript{50} Fedwire is a real time payments system operated by the Federal Reserve of the USA for financial institutions that have either reserve or clearing accounts at a Federal Reserve Bank.

Participants use Fedwire to handle large-value, time-critical payments, such as payments for the settlement of interbank purchases and sales of federal funds; the purchase, sale, and financing of securities transactions; the disbursement or repayment of loans; and the settlement of real estate transactions.

\textsuperscript{51} Transfers of Fedwire book-entry securities are initiated in the same manner as Fedwire funds transfers. More than 9,100 participants maintain a reserve account with a Federal Reserve Bank and use the Fedwire Securities Service to hold and transfer U.S. Treasury and U.S. government agency securities (including mortgage-backed securities), as well as securities issued by certain international organizations such as the World Bank. These securities are held and transferred in electronic (book-entry) form; the U.S. Treasury and international organizations no longer issue physical securities, nor do most federal agencies. Securities transfers can be made free of payment or against a designated payment. Nonetheless, most securities transfers involve the delivery of securities and the simultaneous exchange of payment for the securities, a transaction called delivery-versus-payment. The transfer of securities ownership and related funds (if any) is final at the time of transfer. Access to the Fedwire Securities Service is limited to depository institutions and a few other organizations, such as federal agencies, state government treasurer’s offices (which are designated by the Department of the Treasury to hold securities accounts), and limited-purpose trust companies that are members of the Federal Reserve System. Nonbank brokers and dealers typically hold and transfer their securities through depository institutions that are Fedwire participants and that provide specialized government securities clearing services.

\textsuperscript{52} NSS is available to arrangements that settle across Federal Reserve Districts as well as to arrangements that settle entirely within a single Federal Reserve District. There are approximately seventy NSS participants including check clearinghouse associations, automated clearinghouse (ACH) networks, and credit card processors. NSS provides an automated mechanism for submitting settlement files to the Reserve Banks, improves operational efficiency, and reduces settlement risk to participants by granting settlement finality on settlement day. NSS also enables Reserve Banks to manage and limit risk by incorporating risk controls that are as robust as those used in the Fedwire Funds Service. Participants can submit NSS files for processing between 8:30 a.m. and 5:30 p.m. ET; files submitted earlier than 8:30 a.m. are queued for processing beginning at 8:30 a.m.
FEDWIRE book-entry securities service, which is used to transfer U.S. Treasury, Federal agency and mortgage-backed securities. The National Settlement Service allows participants in private-sector clearing arrangements to exchange and settle transactions on a net basis through reserve or clearing account balances. The payments resulting from these wholesale systems flow through the three major interbank funds transfer systems: CHIPS, SWIFT and Fedwire.

The Fedwire Funds Service is used by more than 9,500 participating banks. They obtain a reserve or clearing account with a Federal Reserve Bank and may use Fedwire to send payments to, or receive payments from, other account holders directly. The Fedwire Securities Service consists of a safekeeping function and a transfer and settlement function. The safekeeping function involves the electronic storage of securities records in custody accounts. The transfer and settlement function involves the transfer of securities between parties.

In 1996, FEDWIRE's average total daily transaction value for the electronic transfer of funds was approximately $989 billion. In 2000, FEDWIRE processed an average of 430,000 electronic payments daily, amounting to about $1.5 trillion each day.

53 See Alice M. Rivlin, Testimony before the Subcommittee on Domestic and International Monetary Policy of the Committee on Banking and Financial Services, U.S. House of Representatives, September 16, 1997

54 The Society for Worldwide Interbank Financial Telecommunications (SWIFT) is a not-for-profit cooperative with headquarters in Brussels, Belgium. SWIFT is actually a financial messaging system rather than a payments system. The system facilitates interbank transfer of information but presupposes a separate system for effecting the payment.

Wholesale electronic payments move over the Clearing House Interbank Payments System ("CHIPS"),\(^{57}\) which is operated by the New York Clearing House. CHIPS is primarily used for clearing large value payments in international interbank electronic payment systems. In the last 34 years of its history, CHIPS' role in electronic payment transactions has increased steadily. For instance, in 2000, CHIPS processed an average transaction volume of approximately 237,200 payments per day. In 2004, CHIPS has processed about 257,000 payments per day. Thus payments processed by CHIPS with a gross value of approximately $1.1 trillion in the year 2000 grew to approximately $1.3 trillion in the year 2004. To date CHIPS processes over 95 percent of the US dollar cross-border large value payments.\(^{58}\)

Retail (i.e., consumer) electronic payment transactions have developed rapidly in the last decades. The main payment mechanisms used for such transactions are credit and debit cards,


\(^{57}\) The Clearing House Interbank Payment Systems (CHIPS) is a private sector system owned and operated by the New York Clearing House Association, which is an online, real-time electronic payment system that transfers and settles transactions.

CHIPS is a real-time, final payments system for U.S. dollars that uses bi-lateral and multi-lateral netting for maximum liquidity efficiency. CHIPS is the only large value system in the world that has the capability of carrying extensive remittance information for commercial payments.

automated teller machines (ATMs), point-of-sale (POS) terminals, telephone bill-paying services, as well as home banking. Payments by these mechanisms are generally but not always conducted online and flow through some system approximating check truncation\textsuperscript{59} and the ACH.\textsuperscript{60} A number of innovations are taking place in the area of retail electronic payments such as stored-value cards, electronic money or electronic cash ("e-money" or "e-cash") etc. These new electronic payments have the capacity to challenge the leading role of cash for making small value payments. They could also make retail payment transactions more convenient and cheaper for consumers and merchants.

Credit cards and debits cards continue to play significant roles in electronic payment transactions. In 2002, U.S. credit and debit cards purchases per household averaged $17,238, an increase of 73 percent from $9,968 in 1997. By 2007, it is estimated that the volume of credit and debit cards purchases for each U.S. household could reach approximately $27,978.\textsuperscript{61}

For consumers, credit cards are a particularly desirable means for carrying out electronic payment transactions. As a result of tough competition for more customers, the two major players in the industry, VISA and MasterCard, increased their cards' circulation in 2002 by

\textsuperscript{59} See Sections II and IV of this Article.

\textsuperscript{60} The ACH payment mechanism was established as an electronic alternative to the traditional paper based check collection system. Today it is used to conduct high volume repetitive transactions such as those involved in direct deposits, social security payments, and automatic bill-paying services.

approximately 7 percent compared to 2001, totaling 525.3 million cards. The total number of credit cards per each cardholder also rose, increasing almost 4 percent, which equals almost 4.7 credit cards for individual.

Credit cards offer an interesting example of electronic payment development in the U.S. Almost 75 years ago, credit cards started as store charge cards. In the 1960s, credit cards received a boost with the creation of branded bank cards, which have since become popular. Consumers and merchants have now widely adopted credit cards for electronic payments. There have also been efforts to make the use of credit cards more secure over open networks and to increase protections to cardholders.

Credit cards have evolved into cards for general purposes such as store and gasoline company cards as well as those for particular types of purchases. Credit cards also provide convenience in usage to consumers regardless of the hidden fees and other costs attached to their use. As the result of the high cost of credit card transactions, merchants not infrequently tend to discourage their customers from using them. For instance, food retailers consider credit card transactions to be the most expensive form of payment. They find a credit card transaction to cost almost five times the cost of a cash transaction.

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Among electronic payment devices, credit cards represent the principal category both in number and in volume. However, starting in 2000 debit cards began a growth at a significantly higher rate and are now the fastest growing payment vehicle. In 2002, the number and volume of debit card transactions were approximately 13.41 billion and $480.55 billion, respectively, representing an increase of 24.2 percent and 23.8 percent over the prior year. One estimate is that by 2007 debit cards could account for 58.9 percent of consumer purchase transactions, or a volume of 31.87 billion and about $1 trillion respectively.

Credit card issuers (banks and other financial institutions) constantly seek to grow their online businesses. They encourage their customers to choose particular credit cards for online purchases. Some of the credit card issuers look at the Internet as a marketing mechanism by using online advertising to attract customers applying for new cards. Issuers are also using new methods to brand their cards with Internet companies which themselves are gradually increasing in number.


Debit cards are widely used in point-of-sale transactions. Debit card transactions do not involve credit; they are connected to a customer's bank account. Debit card transactions made online typically require the customer to enter a PIN number to access his bank account, and the transaction amount is immediately debited from the account.\(^{68}\) Young consumers, not as wedded to the checking system as older groups, particularly value the convenience of not having to write a check.

In order to increase the use of debit cards, banks and other financial institutions are also offering more consumer protection for debit cards holders as well as higher incentives for using the cards. For this reason too, debit cards are becoming more attractive to consumers, particularly younger ones.\(^{69}\)

Debit card transactions are made possible through interlinked communication networks among participants (consumers, merchants, card issuing banks, merchant banks, etc). Online and offline debit card transactions operate in the same networks as ATM transactions.\(^{70}\)

\(^{68}\) Unlike online debit card transactions, offline debit transactions require a signature, and, while settlement is not immediate, authorization is required.


Debit cards are increasingly used to obtain cash in retail purchase transactions. Credit card and ATM transactions, alternative methods of obtaining cash, typically involve greater cost to the consumer. ATM surcharges and other fees have risen. Unlike credit card transactions, a debit card allows the user to avoid fees for obtaining cash during a point-of-sale transaction.

Electronic innovations such as the ATM\textsuperscript{71}, which are not payment instruments but delivery mechanisms for cash, may well have supported the use of newer forms of electronic payments. ATMs initially offered a key banking service, cash withdrawals, around the clock. With the latest surge in deployments, ATMs are expanding into broad “point-of-sale” networks, which may ultimately improve the convenience of and increase the demand for on-line debit cards.

ATM cards are used in electronic terminals by consumers in order to access their bank accounts. The main purpose of introducing these cards in the 1960s was to allow consumers to withdraw cash from their deposit accounts. Since then, ATM cards usage has increased substantially. For instance, in 2003, the banking industry processed approximately nine hundred million ATM transactions on monthly average. Consumers' use of their ATM cards off premises of their local bank is in rise. By the way of an example, during 2003, about 64 percent of the ATMs used by the consumers were located outside their local banks' premises.\textsuperscript{72} This was, of

\textsuperscript{71} ATM (Automated Teller Machine) is an electronic terminal that principally allows consumers to withdraw cash from their bank accounts, make deposits, check balances, and transfer funds.

\textsuperscript{72} EFT Data Book: The Complete Guide to the ATM and POS Debit Markets,
course, supported by judicial determinations and legislative acts that made the use of cards off bank-issuer premises less likely to raise branch banking questions.\textsuperscript{73}

Debit card and ATM networks are used for Electronic Benefits Transfer (EBT) programs, used by government agencies to provide cash entitlement and food assistance benefits to recipients without bank accounts. Government agencies issue cards to recipients that allow them to withdraw cash from ATM machines or to buy food at the debit card terminals of designated stores. According to a recent study, the US government estimated that all states and territories will have electronic food stamp programs through smart cards or magnetic strip cards by the end of the year 2004.\textsuperscript{74} Experts in the field of electronic payments believe that this estimate appears most unlikely to be met.\textsuperscript{75}

One category of innovative electronic payment instruments is "e-money," which includes prepaid stored-value products. Funds in the prepaid stored-value products are kept in electronic form on stored-value cards (the magnetic-stripe card) or on computer "e-cash" cards. Stored-

\textsuperscript{73} See 534 F.2d 940 (Cir. 1979), which held that a bank may provide for the use of a card off bank premises so long as those premises are not owned or rented by a bank; and the Omnibus Appropriations Act, 1997, Title II, Sec. 2205 which provided that a branch does not include an automatic teller machine or remote service unit.


\textsuperscript{75} Id.
value cards\textsuperscript{76} are multipurpose cards (used to make various payments) or single purpose cards (used more narrowly, for example, cards available for use in subways or buses or on particular highways). A multipurpose card can be used at a several service providers. The stored-value card may carry the logo of MasterCard, Visa, or another interbank network.\textsuperscript{77} Multipurpose stored-value cards employ “smart card” technology by placing a computer chip in the card. These cards have not gained much acceptance in the U.S. because the telecommunications infrastructure works efficiently for online use of magnetic-strip credit and debit cards and not yet for the new cards.\textsuperscript{78}

Single purpose stored-value cards are used in local transportation systems, with the telephone, photocopying cards, electronic gift certificates, and as payroll cards. The use of these cards appears to be growing. In 2001, young consumers spent almost $165 billion on clothes, music, and entertainment by using the stored-value cards.\textsuperscript{79} An accurate and current count of the use of stored-value cards is difficult to obtain due to lack of comprehensive data. In order to expand the usage of the stored-value cards, merchants will be required to invest more in adopting

\textsuperscript{76} Store-value card is a card on which monetary value is stored, through either prepayment by a consumer or deposit by an employer or other entity.


\textsuperscript{79} See Frank D'Angelo, "Payroll Cards and Visa Buxx: Reloadable Stored Value Cards Offer New Relationship and Revenue Opportunities," Western Independent Bankers - Western Banking Magazine, October/November 2002.
hi-technology in their payment processing business. This has particularly relevance to small merchants like neighborhood stores and street kiosks. Meanwhile, merchants would advance the case of the stored-value cards by joining in the marketing of the cards to consumers.

Stored-value cards require consumers to carry "one more card" with only a small benefit due to present limited retailer acceptance. Stored-value cards are expected, however, to be used extensively in situations where telecommunications and electronic authorization networks are costly due to the dollar amount of transactions, for instance, in mass transit, street kiosks and vending systems. In pilot tests, consumers have been able to use stored-value cards only at a very limited number of locations. Locations that have accepted the cards often find them more cumbersome than cash. There have been no real market tests yet of cards that can be reloaded by home computers or telephones. In theory, this capability has great potential and could be equivalent to placing an ATM in every household. Alternatively, because consumers have not perceived the characteristics of stored-value cards to yet equal or improve on those of cash, the cards have not done well in the early tests. However, providers of stored-value products have an incentive to make their use more attractive than cash in terms of convenience, confidence and complexity. Although studies prove otherwise, it is quite possible that future tests will reflect an increased adoption of stored-value cards by consumers.

Smart cards also are emerging in the electronic payments system. Generally speaking, a smart card is a type of stored-value card with one or more chips (or microprocessors) embedded into the card. This makes the smart card capable of storing data beyond its cash value,
performing calculations etc. Smart cards' memory is typically updated every time the card is used. Smart cards are used in both "closed" systems (for instance, a mass transportation system) and "open" systems (for instance, MasterCard or Visa networks).  

Smart cards have been used since the early 1990s by, for example, participants in federal welfare and food stamp programs to access the eligible individuals' benefits at ATM and at point-of-sale terminals in grocery stores. Smart cards are also in transportation systems, on military bases and in universities. One of the largest issuer of smart cards is the U.S. Treasury which uses smart cards to make payments and reimbursements to U.S. military personnel worldwide.  

Smart cards are in the experimental stage. Consumers tend to hesitate to use smart cards because they do not seem to offer benefits over other electronic payment instruments. Consumers have also expressed concern about loss and other risks related to the smart cards. It is expected that smart cards could continue to be adopted in other niche markets.  

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80 See "Smart Card" section in the "Glossary of Terms Used in Payments and Settlement Systems" issued by the Bank for International Settlements (www.bis.org/publ/cpss00b.htm) (Last visited October 2004).  


83 See Brian Mantel, "Why Don't Consumers Use Electronic Banking Products?"
Another electronic innovation in the U.S. payment systems is the "digital wallet." The digital wallet is software that allows the consumer to store credit card information on his/her personal computer or on a server operated by the company issuing the digital wallet. By making an online purchase, the consumer transmits his/her credit card information to the merchant with a single mouse click. Consumers are slowly using digital wallets for their online payments. A survey taken by BizRate (an online shopping search engine) of 14,000 online purchasers in the year 2000, found that 38 percent of the purchasers were familiar with the digital wallet. Although far short of an indication of actual use, this does represent a 3 percent increase in awareness compared to the prior year. The same survey showed also that 25 percent of those surveyed were not aware of digital wallets, and 37 percent of them were completely unfamiliar with the device.


According to definition provided by Webopedia, an online computer dictionary for computer and internet terms and definitions, a digital wallet is an "encryption software that works like a physical wallet during electronic commerce transactions. A wallet can hold a user's payment information, a digital certificate to identify the user, and shipping information to speed transactions. The consumer benefits because his or her information is encrypted against piracy and because some wallets will automatically input shipping information at the merchant's site and will give the consumer the option of paying by digital cash or check. Merchants benefit by receiving protection against fraud. Most wallets reside on the user's PC, but recent versions, called "thin" wallets, are placed on the credit card issuer's server."


See Jayson Matthews, "Digital Wallets Usage Lagging," ClickZ (online magazine, Retailing Section), January 25, 2001. For a complete view of the article, please visit
E-money is a device that will let consumers shop and send money to merchants online, or perhaps pay for a movie over an interactive TV network. E-money at some point in the future may gradually replace cash and checks for daily purchases in stores, restaurants, taxis, etc. Businesses could also use e-money to buy office supplies or to transact directly with each other instead of going through banks and electronic fund transfers. 

"E-money" seems to be leading to a new concept of pocket money and may be giving birth to a new commercial payment system for online payments, changing the way governments pay out benefits and revolutionizing the movement of value over telephone lines and airwaves. Yet, while adoption of an e-money system in small and high volume payment transactions is causing changes and opening up a wide variety of new services it is nevertheless true that e-money products have not yet gained wide consumers acceptance. The concept of e-money and what can be made available is ahead of consumer demand. Perhaps consumers are still unclear how e-money works, its effectiveness and convenience in facilitating payments, the costs to carry out such transactions, security and privacy issues, etc.

Development of e-money systems along with other electronic innovations deserve legal and regulatory attention. In particular need of more consideration are such issues such as finding


acceptable methods for authentication and protection of data and consumer information, accommodating the special needs of law enforcement and creating the requisite means of settling disputes between/among parties (consumers, merchants, retailers etc).

Some of the companies which have developed the e-money payment systems are unknown. But others such as DigiCash, CyberCash, Microsoft, Xerox, and Visa.Citicorp have steadily contributed to the development of e-money systems. For example, in 1991 Citigroup (now Citigroup), which is a leading institution in the electronic payments systems, created a payment system called the Electronic Monetary System. This is an entire electronic infrastructure using e-money to be issued by Citigroup and other banks.\(^88\) Citigroup and other companies are part of an experiment which could turn the U.S. payments system wholly electronic.

"E-cash" is a payment system based on smart card technology, offering an alternative to paying cash for goods and services. E-cash cards can store and dispense cash electronically, transferring funds over phone lines or the Internet, making it easier to reload the e-cash cards. So far, e-cash has had little impact in payment systems. It has not yet found the right way to crack the wallets of consumers and merchants.\(^89\)


The e-cash system can be used to make payments on the Internet in small amounts, too small for using credit and debit cards. E-cash might also be used for billing through Internet service providers. In this case, participating merchants send purchase information to a customer's Internet service provider who then adds the purchase information to the customer's monthly bill for Internet service. Other projects applying the use of e-cash system include billing through a customer's telephone company. Small payment approaches like these could represent new variants on e-cash.90

Another type of electronic innovation payment is the "e-check," which is a payment instrument developed by the Financial Services Technology Consortium, a group of leading North American-based financial institutions, technology vendors, independent research organizations, and government agencies.91 The e-check imitates the paper check, except that the e-check is entirely electronic and thus not a "check" as defined by the Uniform Commercial Code.92 All steps of the e-check transaction (drafting, delivering, depositing, clearing and settling), are carried out electronically. The "e-check" is currently being tested on a limited basis

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91 See www.fstc.org/about/ for more information about Financial Services Technology Consortium

92 UCC §3-104.
by the U.S. Treasury Department. By the end of 2000, the U.S. Treasury's trial usage had registered over $10,000,000 in payments securely disbursed over the Internet.

An emerging innovation in electronic payments is the electronic consumer-to-consumer ("C2C") payment. Online C2C payments have found some initial success in the online auction environment. However, only a small portion of online C2C payments are actually carried out between consumers. In the near future, it is expected that technology will develop, making electronic C2C payments more accessible, convenient, and inexpensive. Nevertheless, payment providers are likely to continue to struggle to find the right combination of fees and incentives that will drive both consumer adoption and profitability.

ACH transactions play a significant role in the electronic payments; they are generally accepted and in wide use. The ACH network was created in early 1970s. It is an electronic

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94 See www.echeck.org/, which is part of the official website of Financial Services Technology Consortium ("FSTC Past Projects" - www.fstc.org/projects/).


96 This is because of fraud issues that have crept into C2C payments, the presence of people without computers who cannot carry out the transactions, a lack of incentive/promotion/marketing/advertisement from the C2C providers and regulatory concerns with purported C2C providers located outside the country.

payments system in which payment instructions are exchanged among participating banks and other financial institutions, which act on behalf of their beneficiaries (consumers, businesses, and governments). In general, the ACH system is available for businesses and government which pay to or accept payments from masses of consumers. The individual consumer has little use for the ACH, although there is some continued growth in that area. The ACH network facilitates various transactions such as automatic payroll deposits, automatic [utility] bill payments and corporate tax payments. The ACH network is also used as a settlement payment mechanism for ATM, credit and debit card transactions. According to industry, the volume of ACH payments processed by the Federal Reserve more than quadrupled from about 915 million in 1990 to 3.8 billion in 2000, representing a 14.2 percent annual rate of increase.\(^98\) The private sector has also shown an increase in the volume of ACH payments processed. For instance, Electronic Payments Network (“EPN”)\(^99\) processed 167 million transactions in 2002, a jump of 110 percent from 2001.\(^100\)

There are a number of parties which participate in an ACH transaction. The “originator,” who can be an individual, business, or government, electronically transfers funds to the bank


\(^{99}\) EPN is the only private operator in processing and settling billions of ACH transactions valued at trillions of dollars each year. EPN offers related services to help financial institutions (more than 1,600 of them) manage ACH operations effectively. For more information, please visit the website http://www.epaynetwork.com/.

\(^{100}\) See Electronic Payments Network, Press Release, June 20, 2002. For a complete view of the press release, see http://www.epaynetwork.com/wells.htm/
account of the "receiver." The originator and receiver obtain access to the ACH network through banks or other financial institutions. The banks and other financial institutions use an ACH "operator" (central clearing facility) in order to process, distribute and settle electronic payment transactions.

There are presently four ACH operators in the U.S.: the Federal Reserve (the New York Automated Clearing House); the EPN\textsuperscript{101}; American Clearing House Association (ACHA)\textsuperscript{102}; and VisaNET ACH.\textsuperscript{103} There were an estimated 64 billion retail ACH transactions paid in the U.S. in the year 1995, approximately 4.5 billion in 1997 and almost 73 billion in 2000.\textsuperscript{104} During 2000, the average in value of ACH payments made by consumers and businesses in mortgages, credit cards bills, payrolls, etc was somewhat higher than the average in value of check payments.\textsuperscript{105} Since the late 1970s, Government payments processed through the ACH network

\textsuperscript{101} See supra 51.

\textsuperscript{102} The ACHA represents more than 12,000 financial institutions through direct memberships and a network of regional payments associations, and 650 organizations through its industry councils. It develops operating rules and business practices for the ACH Network and for electronic payments in the areas of Internet commerce, electronic bill and invoice presentment and payment, e-checks, financial electronic data interchange, international payments, and electronic benefits transfer. For more information, please visit the website http://www.nacha.org/default.htm.


\textsuperscript{105} Average value (dollars) of check was $925, and the average of value of retail an
has increased steadily. This increase came particularly as the result of the federal Electronic Funds Transfer Act,\textsuperscript{106} requiring federal payments be carried out by electronic fund transfers instead of check. For instance, in 1997 in the U.S., 70 percent of Social Security recipients, and 95 percent of government employees used direct deposit.\textsuperscript{107}

The ACT has been very successful in automating many types of recurring payments. However, early use of the ACH did not provide the expected result to either consumers or businesses. To make an electronic payment over the ACH would once have required a special trip to a full-service banking office during regular business hours. As the ACH system has matured, it has become more available on a 24/7 basis to all parties. It is still, however, not generally available to the individual consumer who must make payments by cash, check or one of the other evolving electronic devices.

Federal, state and local government authorities have gradually increased their use of electronic payments. Most ACH related transactions are originated by the government for payments to households and vendors. The Department of Treasury now handles most of its payments by using the ACH system. However, the volume of the federal government's

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\textsuperscript{106} 15 USC 1693 et seq.
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payments represents a small percentage of the entire system of electronic payment transactions.\textsuperscript{108}

Electronic payment instruments are used widely to make retail payments. According to a 2002 survey conducted by the Federal Reserve, the use of debit and credit cards and automatic deposits and withdrawals (through the ACH) grew fivefold from 1979 to 2000.\textsuperscript{109}

There are still other wire payment mechanisms which are emerging, for example, electronic bill presentment and payment (EBPP) and POS check conversion. The latter is receiving increasing interest from businesses and consumers and has frequently been reported in the financial press.

Consumers use EBPP in order to receive and pay bills on the Internet. EBPP is composed of electronic bill payment and electronic bill presentment. Banks and other financial institutions use the electronic bill payment mechanism to provide customers bill payment services. Customers, who have received bills in the mail from these services companies, can

\begin{itemize}
\item \textsuperscript{108} The volume of payments from the U.S. Department of Treasury in the year 2000 represented approximately 1.5 percent of all retail electronic payments. For more information, see Paula V. Hillery and Stephen E. Thompson, “Federal Reserve Banks as Fiscal Agents and Depositories of the United States,” Federal Reserve Board, Federal Reserve Bulletin, Volume 86, April 2000.
\item \textsuperscript{109} See The Future of Retail Electronic Payments Systems: Industry Interviews and Analysis Federal Reserve Board Staff for the Payments System Development Committee December 2002
\end{itemize}
order (by telephone or online) their banks to make payment on their behalf. The use of 
electronic bill payment by consumers is on the rise, reportedly reaching over 40 percent of U.S. 
households in 2004, indicating an annual growth of almost 20 percent.\textsuperscript{110}

In recent years, three main models have developed to facilitate the EBPP network; the 
Biller Direct model, the Consolidator model, and lockbox.\textsuperscript{111} Under the Biller Direct model, the 
billing firm (for instance, a utility company) makes its bill available to the consumer on the 
utility company's website. In order to pay the bill, the consumer visits the utility company's 
website, accessing the bill and paying it by means of the ACH network or credit card. Due to the 
expansion of Internet networking, the use of the Biller Direct model by customers is increasing 
steadily.

As for the Consolidator model, a third-party “presenter” collects bills from a number of 
billers and makes them available to the consumer at a central site. Another alternative is for the 
presenter to send the bills to the consumer by email. In this case, the customer visits and pays 
the bill on the "presenter's" website.

\textsuperscript{110} See Aaron McPherson, "U.S. Electronic Bill Presentment and Payment Forecast, 

\textsuperscript{111} See Stuart Weiner and Terri Bradford, "Is Electronic Bill Presentment and 
Payment Poised for Growth?". Federal Reserve Bank of Kansas City, "The E-Files" 
Column, Summer 2002. For a complete view of the column, please visit 
The third EBPP method, consumer lockbox, provides a means for consumers to receive their bills electronically by enrolling with and rerouting their bills to a lockbox provider, for example PayTrust\textsuperscript{112}. Upon receipt of the paper bills at the lockbox, they are scanned and converted to electronic statements, which are then presented to consumers to review. Payment to billers and fees to customers are quite similar to those associated with the Consolidator method.

Based on a survey in 2000, banks understand the importance of providing electronic payment services to their customers. In 2004, over 40 percent of U.S. banks and other financial institutions provided some form of website through which they can communicate with customers, and nearly 15 percent of banks and other financial institutions have built websites that can be used to conduct online banking transactions. The numbers are growing rapidly. In 2004, of the banks and other financial institutions with more than $500 million in assets, nearly 50 percent provide websites that can be used to conduct electronic payment transactions.\textsuperscript{113}

The U.S. Census Bureau estimated that almost $20 billion worth of retail payment transactions flowed over the Internet during the year ending September 2000. This estimate did

\textsuperscript{112} PayTrust is an Internet solution for bill delivery, payment and management. It works with any bank and any payee that consumer may have. While many banks offer the ability to issue payments online, consumer is still required to track and manage all of the paper bills that come to his/her house. For more information about PayTrust, visit http://www.paytrust.com.

not include large-dollar business-to-business transactions, which recently have started to be carried out online for retail purchases.

We have referred to a substantial number of electronic innovations in electronic payment systems. Given the intense competition among service providers and the almost bewildering choices open to consumers and businesses, only a small number of these electronic innovations have enjoyed commercial success. However, the innovators' inclination to expand the range of options and techniques for making new electronic payments has been consistent with the long-term trend of the developing the U.S. payment system.

The Payments System Development Committee, the committee formed by the Federal Reserve to develop and implement the work commenced by the Committee on the Federal Reserve in the Payments Mechanism, is advising the Federal Reserve on the regulatory and

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114 The Payments System Development Committee was formed with the initiative of the FRB on July 20, 1999. The Committee advises the Board and System officials on medium- and long-term public policy issues surrounding developments in the retail payments system.

The Committee focuses on key issues involving the future development of payment systems that facilitate consumer, government and low-value corporate transactions. It serves as a forum for the analysis of technological and market trends, provide a mechanism for consulting with payments system providers and users, and advise the Board and System officials on the need for action by the Federal Reserve System on payment system topics. The Committee plays an active role, working collaboratively with the private sector, to identify strategies to enhance the long-term efficiency of check and automated clearinghouse services and to move to the next generation of payment systems.

115 The Committee on the Federal Reserve in the Payments Mechanism was created by the Federal Reserve in October 1996. Its purpose was examination of how the payments system is evolving and what part the Federal Reserve might play in the future.
operational barriers related to electronic innovation which inhibit the medium and the long term
development of an electronic payments system. The Payments System Development Committee
has encouraged the Federal Reserve to revisit regulations related to electronic payments such as
Regulation E, mentioned immediately below, in order to reduce residual barriers.

Most of the funds transfers effected by the electronic systems described in this chapter
are governed by the terms of the Electronic Funds Transfer Act (“EFTA”) of 1978.\footnote{See 15 U.S.C. 1693.} It provides
a basic framework for establishing the rights, liabilities and responsibilities of participants in
electronic fund transfer (“EFT”) systems. The EFTA was implemented by the Federal Reserve
Board's Regulation E.\footnote{See 12 CFR part 205.} Credit card transactions, however, are not governed by EFTA; debit
card transactions are. Another limitation upon EFTA is that it governs only "consumer"
transactions, those made for personal, family or household purposes. Commercial EFTs are
usually governed by Article 4A of the Uniform Commercial Code.

In many areas of electronic financial services, the application of EFTA and Regulation E
remain unresolved or open to dispute. For example, no final action has yet been taken to
determine the impact of Regulation E on the Federal Reserve's proposal of 1996 regarding the
treatment of various types of stored value systems. Similarly, it is unclear how Regulation E
may apply to various types of Internet-based payment services. At the same time, the Federal
Reserve is currently considering how Regulation E may apply to data aggregation services that permit consumers to execute transactions in their financial institution accounts.

Categories of electronic payments covered by the EFTA and Regulation E include transfers initiated through an ATM, POS terminal, ACH, telephone bill payment plans, and other banking programs. The Federal Reserve is actively involved in discussions on the interaction of new technology and business needs and its effect on the design and function of clearing and settlement systems in the future. New technology along with the needs of e-business appear to be leading to important changes in clearing and settlement systems. Due to the rapid pace of new electronic and hi-technology developments, the Federal Reserve continues to encourage electronic innovation in payments and their use by consumers, businesses and government. The Federal Reserve is paying particular attention to banks, financial institutions and other companies which integrate electronic innovations into their payment system network. No new payment mechanism is likely to achieve centrality among the multitude of devices available without the imprimatur of the Federal Reserve.

In 2000, approximately 29.5 billion electronic payments originated in the U.S. with a value of approximately $7.3 trillion. Almost 51 percent of such electronic payment transactions were carried out using credit cards, and 78 percent were handled by means of the ACH. The

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119 See “Retail Payments Research Project - A Snapshot of the U.S. Payments
volume of electronic bill payments, person to person payments, stored-value, Internet currencies and other emerging technologies is relatively small compared to other major electronic payments. Several categories within emerging payment groups (for instance, person to person payments) are expected to be important to watch in the coming years. Innovation in technology is moving so quickly that investments made now in the electronic payments system may well be obsolete in the next couple of years.  

Surprising to many, the U.S. stands behind most developed countries (for example, Germany, Switzerland, France.) in its pace towards the use of electronic retail payments. The Federal Reserve is aware of this and is gradually undertaking measures to make electronic retail payments more attractive to consumers. The Federal Reserve has reduced the price for some ACH items, while still improving payment quality. Since 1995, the Federal Reserve has reduced prices for electronic payment transactions in order to promote this method of payment. The Federal Reserve estimated that ACH and FEDWIRE customers saved approximately $41.8 million in fees by the end of 1998.

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120 See testimony of Ms. Alice M. Rivlin, the Vice Chairman of the Board of Governors of the US Federal Reserve System, before the Committee on Banking and Financial Services of the US House of Representatives on 29/7/97.

Consumers find the use of electronic payments more attractive and convenient than the check. Electronic payments are cheaper to process than paper instruments. As a result, credit and debit cards, ACH transactions, and wire transfers in the U.S. system of payments are experiencing growth while the use of checks is in decline. The total market share of electronic payment transactions increased from 21 percent in 1993 to 28 percent in 1997.

According to a survey conducted by the Federal Deposit Insurance Corporation, the number of checks used in retail transactions has declined from 49.5 billion in the year 1995 to 42.5 billion in the year 2000. On the other hand, the number of retail electronic payments during the same period of time increased from 14.7 billion to 28.9 billion.

At this stage, it is difficult to predict the level of growth in electronic payment instruments. By simply leaving payment system development to the market, it seems fairly secure that electronic payment devices will continue to outstrip checks. The entry of government into the system with the enactment of such legislation as the Check 21 Act will undoubtedly have a dislocating effect. Whether for good or bad remains to be seen.


IV. THE CHECK CLEARING FOR THE 21ST CENTURY ACT

In 2000, the Federal Reserve started to investigate a concept for improvement of the check clearing process. The Fed worked with industry and other stakeholders through numerous versions of a draft proposal. On December 21, 2001, Chairman Greenspan sent to the Chairs and Ranking Members of the U.S. Senate and House Banking Committees the legislative proposal of the Federal Reserve. Thereafter, both the House and Senate introduced bills concerning this proposal in the 107th Congress (2002). In the 108th Congress (2003), bills were introduced to the House\textsuperscript{125} and the Senate\textsuperscript{126}. Many banking organizations (such as Wells Fargo, Bank of America, etc) monitored the legislative process and supported their passage.\textsuperscript{127}

In October 2003, both houses of Congress enacted what was now named the "Check Clearing for the 21st Century Act" (so-called "Check 21 Act"), with October 28, 2004 as its

\textsuperscript{125} See “Check Clearing for the 21st Century Act,” 108\textsuperscript{th} Congress, 1\textsuperscript{st} Session, H.R. 1474, June 5, 2003. The U.S. House of Representatives passed Check 21 Act, HR.1474, by a voice vote of 405 to 0.

\textsuperscript{126} See “Check Truncation Act of 2003 ,” 108\textsuperscript{th} Congress, 1\textsuperscript{st} Session, S. 1334, June 27, 2003. The Check Truncation Act passed the U. S. Senate by a unanimous vote with no amendments.

In response to the Check 21 Act, the Federal Reserve took regulatory initiatives by issuing Sub-Part D and a Commentary ("Availability of Funds and Collection of Checks"), to Regulation CC revisions of federal Regulation J and the Federal Reserve's Operating Circular No. 3. Other bank supervisor authorities are expected to follow suit.

Among the reasons that Congress decided to pass the 21 Check Act was the effects of the tragic events of 9/11 when the physical transportation and clearing process of original checks virtually came to a standstill. The Federal Reserve once again appreciated the physical transportation of paper checks as slow, costly and inefficient. When the check payment system was abruptly stalled, the Federal Reserve was forced to take emergency action to


129 See 12 CFR § 229, Federal Reserve System (Federal Register / Vol. 69, No. 5 / Thursday, January 8, 2004 / Proposed Rules) (Regulation CC; Docket No. R-1176). The proposed changes to Regulation CC included model forms for giving required disclosures to consumers were published by the FRB on January 8, 2004, and the final Regulation was published on July 26, 2004 (See http://www.federalreserve.gov/BoardDocs/Press/bcreg/2004/20040726/attachment.pdf).

130 See 12 CFR § 210. Regulation J provides a uniform federal law, upon which the Reserve Banks conduct their check business by specifying warranties and indemnities that banks other depository institutions make when they send checks to a Reserve Bank for collection, specifying warranties and indemnities that the Reserve Banks make when they transfer, present or return an check to a bank or other depository bank.

131 See Federal Reserve's Operating Circular No. 3, January 2004. For a complete text, please visit http://www.frbservices.org/OperatingCirculars/pdf/Oc3.pdf The Circular includes the Fed's instructions to paying, collecting, returning and depository banks for handling and paying return checks (and cash) received from the Federal Reserve Banks.

continue the movement of checks. Congress also intended to support the check processing method in order to maintain its competitive level related to current and innovative electronic payment methods.

In this sense, the Check 21 Act is reminiscent of the USA Patriot Act which was also introduced with great haste after 9/11, and passed with little debate. As a result, both of these acts lack the legislative history that often provides the basis for necessary statutory interpretation. Even some high level officials at the Federal Reserve admit that the Check 21 Act was proposed and passed in a rush and without the more usual careful consideration.

The Check 21 Act and related regulations add a new layer to other Federal and State laws and rules, preempt some, replace some provisions and leave others in place.

The major contribution of the Check 21 Act is its invention of a substitute check into which the traditional check may be converted upon its deposit in a bank and which will, in this relatively uniform form, travel through the check collection system in place of the original paper check. The substitute check must be a paper reproduction of the original check that contains an image of the front and the back of the original paper check. The substitute check must also


bear a MICR line, which contains information appearing on the MICR line of the original paper check or, to the extent generally applicable industry standards for substitute checks allow, only some of the information appearing on the MICR line. Furthermore, it must conform, in paper stock, dimension, and otherwise, with generally applicable industry standards for substitute checks, as well as be suitable for automated processing in the same manner as the original check.136

The bank must ensure that the substitute check states that “This is a legal copy of your check. You can use it the same way you would use the check,”137 complying with generally applicable industry standards.138 The bank which transfers the instrument must also provide the substitute check warranties that the substitute check is the equivalent of the original check in accordance with the Check 21 Act.139

While the substitute check must look similar to the original paper check, and be processed in the same way as the original check it does not have to look identical; for instance, its size can differ from that of the original check as long as its dimensions conform to banking


138 The American National Standards Institute provides the location of the legend on the check. For more information, see http://www.ansi.org/.

139 The Check 21 Act does not directly require that the bank make the warranties in order for the instrument to qualify as a substitute check. The FRB, however, reads Section 4(a) of the Check 21 Act to intend this result. See 69 Fed. Reg. 1475 (2004).
industry standards. In addition, it does not have to have the same color or background
design/configuration as the original paper check. As result, fraud detection features, such as
signature ink, watermarks, etc suddenly lose their role. The Check 21 Act also allows banks
to use substitute checks even when consumers or the other banks request the original paper
check.

The substitute check is a new negotiable instrument in the U.S. payments system. It is a
paper reproduction of the original check which can be processed like the original check. Banks
can truncate a check, image it, use the imaged check to create a substitute check, and then
process the substitute check as if it were the original check.

Upon demand, the bank can produce a substitute check. To be effective, the substitute
check must conform to certain standards and be properly processed. The standard format
allows banks to transmit check information electronically, instead of producing the actual
physical check. A bank can send another bank in the check collection process only the electronic

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142 Under Section 3 (18) (“Definitions”) of the Check 21 Act, “truncate” means “to
remove an original paper check from the check collection or return process and send to a
recipient, in lieu of such original paper check, a substitute check or, by agreement, information
relating to the original check . . . whether with or without subsequent delivery of the original
paper check.”

information of the original paper check unless the latter bank refuses to accept the check electronically.

An important point with respect to consumer protection is that the consumer may use a substitute check as legal proof of payment, if a third party to whom the consumer owes money denies receiving the check payment from the consumer. Banks or other financial institutions which truncate checks are not required to keep the original paper checks or destroy them upon imaging. Consumers should not assume their original paper checks are destroyed at any stage of the check processing. The bank which truncates the check may, however, very well be a party to an image exchange agreement, which requires that original paper checks not be destroyed for a specific period of time.\textsuperscript{144}

If the original paper check is needed for a particular purpose,\textsuperscript{145} the consumer is encouraged to inquire from his bank whether the original paper check still exists.\textsuperscript{146} A bank is not obligated to provide the original paper check to the consumer but only the substitute check

\textsuperscript{144} See Check 21 - Frequently Asked Questions (FAQ) 7 (Nov. 1, 2003), at www.eccho.org. The UCC also provides that if, pursuant to the customer agreement, the bank truncates checks, the bank must have the capacity to furnish the original or, if it has been destroyed, a legible copy for seven years. U.C.C. §§ 4-406(b).

\textsuperscript{145} For instance, permitting a handwriting expert to evaluate pressure points on the original paper check, clarifying a blurred number(s) on the substitute check, etc.

Normally, the consumer and the bank enter into an agreement, either explicitly or – more customarily - implicitly to regulate the consumer's periodic receipt of checks. Unlike the U.C.C., which authorizes the bank to provide the consumer with the original paper check or a legible copy, the Check 21 Act instead provides that the bank must send the consumer only a substitute check or a legible copy of the original check. The substantial difference between the U.C.C. and the Check 21 Act in this respect is that the Check 21 Act authorizes the bank to send the consumer the substitute check instead of the original paper check, provided that there is an agreement between the bank and consumer.

The bank shall notify each consumer who requests a copy of an original paper check and who instead receives a substitute check.\footnote{See Check 21 Act §§ 12(b)(4) (2003). See also 69 Fed. Reg. 1500 (2004).} It appears that if there is a joint-account, the bank would send notice to each of the joint account holders.\footnote{See 69 Fed. Reg. 1500 (2004).} Commercial customers are not entitled to the same notice under the Check 21 Act. However, as a practical matter, banks are expected to inform their commercial customers of changes in check processing because the act affects their activities, too.

Banks provide warranties to customers. The bank which transfers, presents, or returns a substitute check and receives consideration for the check warrants that the substitute check meets the requirements for legal equivalence.\footnote{See Check 21 Act §§ 5 (2003).} The warranty is made to banks from which the
substitute check is transferred, the drawer, the payee, the depositor, and any other endorser. The warranties are made any time a bank transfers, presents or returns the substitute check.\textsuperscript{150} However, the bank which truncates the original paper check and then transfers the check by using electronic image exchange does not make warranties because the bank does not transfer a substitute check (or an electronic or paper representation of a substitute check).\textsuperscript{151} The customer receives a bank's warranties notwithstanding that he receives the substitute check or another paper or electronic form of the substitute check or, for that matter, an original check.\textsuperscript{152} The bank can not disclaim these warranties or demand the customer waive the right to enforce them.\textsuperscript{153} In case the legal equivalence defect is the fault of a subsequent bank handling the substitute check, the subsequent bank is liable for the breach of warranty.\textsuperscript{154}

The Check 21 Act establishes a warranty under which no party will be asked to pay a check, which a bank, drawee, drawer, or endorser has already paid.\textsuperscript{155} This warranty is not

\begin{itemize}
  \item \textsuperscript{150} See Id.
  \item \textsuperscript{151} See Id.
  \item \textsuperscript{152} See Check 21 Act §§ 5 (2003). A person who handled only the original check does not receive the warranties. “The warranties flow only forward to persons that receive a substitute check or something derived from [it]; they do not flow backward . . . however, a person that initially handled only the original check could become a warranty recipient if that person later received a returned substitute check or a paper or electronic representation of a substitute check that was derived from that original check.” 69 Fed. Reg. 1497 (2004).
  \item \textsuperscript{154} Id.
  \item \textsuperscript{155} See Check 21 Act § 5 (2003). The Check 21 Act uses the term “endorser.” The UCC spells it “indorser.” E.g., U.C.C. §§ 3-204. It is clear from the Check 21 Act that the terms are
\end{itemize}
attached to a particular check. Reconverting banks, transferring banks and returning banks therefore provide the warranty notwithstanding that the ultimate demand for double payment is based on the original check, the substitute check, or some other electronic or paper representation of the substitute or original check. The warranty is granted by banks, which transfer, present or return a substitute check, even though the demand for duplicative payment results from a fraudulent substitute check of which the warranting bank does not have knowledge.\textsuperscript{156} If the original paper check is not destroyed immediately, the original check (along with the substitute check) might be processed and presented for payment. This could result in double payment (debit).\textsuperscript{157} (This imposes a particular caution upon banks when they hold original paper checks.)

The Check 21 Act protects consumers from losses derived from the creation of substitute checks. In this regard, the Check 21 Act establishes the consumer's right to claim an “expedited recredit.”\textsuperscript{158} The right exists if the consumer shows in good faith that the bank charged the consumer's account for a substitute check provided to the consumer and, either the check was not properly charged to the consumer's account or the consumer claims a warranty pertaining to the substitute check.


\textsuperscript{157} Id. at 1497.

\textsuperscript{158} See Check 21 Act §§ 7 (2003).
If the bank determined by error not to recredit the consumer's account, it may lead to the consumer's claim for damages, breach of warranty or incurred loss.\(^\text{159}\) For instance, if the consumer, upon receipt of the bank's documentation and information to support the bank's basis for refusal to recredit, responds to the bank by providing clear proof that the bank is committed error or wrongdoing in failing to recredit the consumer's account, he has recourse to seek damages against the bank. The bank that recredits the consumer's account is not protected from any liability or damage claim\(^\text{160}\) the consumer might make under other laws (for instance, claim for wrongful dishonor under the UCC)\(^\text{161}\) other than the Check 21 Act.\(^\text{162}\)

Most of the damage claims under the Check 21 Act are limited to the amount of the substitute check, except in some instances when the consumer might recover consequential damages from the bank. In addition, the consumer is entitled to recover costs and attorney fees. Under no circumstance shall the bank demand that the consumer waive his rights to claim damages/losses or even the right to bring a legal action against the bank based on breach of the Check 21 Act.\(^\text{163}\)

\(^{159}\) See Check 21 Act §§ 1.15.7.3 (2003).

\(^{160}\) Section 6 provides for an indemnity. Section 10 is the general provision on the measure of damages.


\(^{162}\) See Check 21 Act §§ 7(g)(2003).

Upon breach of warranty, the drawer, payee, endorser, depositor, other banks, and transferees can seek to recover damages from a reconverting bank (and any subsequent bank) for loss incurred. Damages include claims for costs and reasonable attorney fees, as well as other pertinent expenses.\textsuperscript{164} In the absence of breach of warranty, the drawer, payee, endorser, depositor, other banks, and transferees can recover from a reconverting bank (and any subsequent bank) any loss that resulted from receipt of the substitute check. The loss should equal the total sum of the substitute check along with interest, expenses, costs, attorney's fees, as well as other pertinent expenses.\textsuperscript{165} Under other warranties or other provisions of the Check 21 Act, the amount of liability cannot exceed the total sum of the substitute check, interest, and expenses, including costs and reasonable attorney's fees and other related expenses.\textsuperscript{166}

Under the theory of subrogation,\textsuperscript{167} a bank should indemnify a consumer (drawer) of a claim by crediting his account with the lost amount. Thereafter, the bank can claim indemnity from the bank that presented the substitute check.\textsuperscript{168} In this case, the indemnified consumer should assist his bank with reasonable information and documentation in order for the bank to pursue its indemnity claim against the subsequent bank(s).\textsuperscript{169}

\textsuperscript{164} See Check 21 Act §§ 6(b)(1)(2003).


\textsuperscript{166} See Check 21 Act §§ 12(a)(1)(2003).


\textsuperscript{168} Id.

Consumers can recover loss from reconverting (and subsequent) banks which resulted from a substitute check, regardless of whether these banks violated provisions of the Check 21 Act.\textsuperscript{170} On the other hand, consumers’ claims against the drawer, payee, endorser, depositor, various banks and transferees are limited to only interest and expenses, costs, reasonable attorney's fees, and other related expenses.\textsuperscript{171}

Those who breach a warranty related to a substitute check, or violate provisions provided by the Check 21 Act or other regulations, shall be liable to any person for the total sum of the substitute check or the amount of loss suffered due to the breach or failure, whichever is lesser.\textsuperscript{172} The person liable will also be responsible for interest, expenses, costs, reasonable attorney's fees, as well as other expenses. This amount is then reduced by the sum the consumer receives as a recredit.\textsuperscript{173}

Generally speaking, a consumer might recover damages due to breach of warranty or other provisions of the Check 21 Act. Recovery can be the amount of the substitute check and the accumulated interest.\textsuperscript{174} However, if the consumer suffers a loss higher than that sum, he

\begin{flushright}
\textsuperscript{170} See Check 21 Act §§ 6(b)(2) (2003).
\textsuperscript{171} See Check 21 Act §§ 1.15.7.2. (2003).
\textsuperscript{172} See Check 21 Act §§ 10(a)(1) (2003).
\end{flushright}
might recover the remaining balance. The consumer can bring claims for breach of warranty, indemnity, or other claims in order to recover the balance. He can base his claims not only on the provisions of the Check 21 Act but also on other laws and regulations.  

Liability under the Check 21 Act is based upon comparative negligence. Any recovery is reduced by the proportion thereof attributable to the negligence or bad faith attributable to the recovering party.  

The rule of comparative negligence does not reduce the consumer’s rights under the UCC or other applicable State or Federal law so long as such other law or regulation is consistent with and does not contradict provisions of the Check 21 Act. In particular, the Check 21 Act emphasizes the continued applicability of consumer protection law. For example, with enactment of the Check 21 Act, the consumer can hold the bank liable both by claiming recredit of his account and also by claiming wrongful dishonor under the UCC. Additionally, the Electronic Fund Transfer Act and Regulation E of the Federal Reserve will continue to apply to checks converted in an electronic fund transfer, such as when a check is presented and then

175 Id.

176 See Check 21 Act §§ 10(b) (2003).


179 See UCC. §§ 4-402.
converted to electronic format at the point-of-sale. Finally, check clearing house rules and agreements with banks and other financial institutions are largely left intact.

Bank customers’ deposited funds are expected to be available in shorter time under the Check 21 Act regime than before its enactment. Bank customers will also get their checks cleared in less time than before the Check 21 Act because it is anticipated that the lag time associated with the physical transportation of checks will be reduced.

The Check 21 Act does not provide legal equivalence for image exchange, nor does it mandate image acceptance. The Check 21 Act only requires banks to accept a new negotiable paper instrument called a substitute check. It is the substitute check, not any check image which might be used in a particular system, which serves as the legal equivalent to the original paper check.

Electronic check presentment and image exchange will continue to be used only through agreement between and among banks. The Check 21 Act does not provide for check

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180 The speed of electronic payment transfers decreases the “float” that permits consumer to keep his monies in his bank account for a certain period of time until the checks he writes clear. The Check 21 Act does not provide consumer remedies whenever the use of a substitute check, instead of an original check, causes a monetary loss to an individual. See Jim Davis, “Squeezing the Float,” The Business Journal of Kansas City, April 9, 2004


182 See Official Comment 2 to UCC §3-414.
truncation. It is structured to facilitate check truncations by removing legal impediments. Banks and other depository institutions may decide to truncate original paper checks, process and deliver checks electronically, as well as print "substitute checks" at a location near the paying bank for presentment to the bank. This approach allows each bank to decide whether to make use of the new authority judging the costs and benefits of doing so.

The Federal Reserve is taking steps to help meet the changing needs of banks in order to implement the Check 21 Act. In this regard, the Federal Reserve is working on completion of a check modernization system that provides nationwide standards for check processing and adjustments. The Federal Reserve has also built a national FedImage℠ Services archive, and online check services via FedLine® Web, which further enhance and accommodate the proper processing of check image transactions. The Federal Reserve has also developed services for completing the existing paper and electronic check collection systems and for delivering flexible solutions to support implementation of the Check 21 Act. As result, it has created the

183 FedImage℠ Services is a standard check-imaging platform with a national image archive and enhanced research and retrieval capabilities. Any Reserve Bank office is able to retrieve any check image regardless of where the check is processed. Bank customers can be able to perform quick look-ups of images over the Internet and can receive physical media, i.e., magnetic tapes and CDs. For more information, please visit the website http://www.frbservices.org/Retail/fedimage.html

184 FedLine® Web is a computer program using off-the-shelf browser software to access a secure Federal Reserve website. For more information, please visit the website http://www.frbservices.org/Electronic Access/app/Fedline_web.jsp.

FedForwardSM, FedReturnSM, and FedReceiptSM product services, which support the electronic clearing enabled by the Check 21 Act. These product services create value for business through favorable forward and return "image cash letters," large dollar transaction services designed to benefit forward paper depositors, and financial incentives for electronic receipt.189

The Federal Reserve's role is felt also in providing standards within the banking and financial industry, and in designing products and services which allow banks and other depository institutions to take advantage of the opportunities that have arisen due to the Check 21 Act. The Federal Reserve continues to introduce new products designed to allow banks to capitalize on the Check 21 Act. The most noticeable new products under the Check 21 Act include forward and return image cash letters and image cash letter delivery.190 Regardless of

186 The FedForward help banks transform their operations to clear dollars quicker, reduce cost of transportation, streamline backroom operations, as well as extend deadlines. Such service include image cash letter deposit, electronic endpoint group sort, as well as paper deposit services.

187 The FedReturn assist banks in transforming their inbound and outbound returns processing operations to reduce return item risk, improve quality, and speed the returns process, while creating opportunities for substantial operating savings. Such services assist banks achieve a streamlined, high quality, as well as low-cost returns operation.

188 The FedReceipt provides faster and more efficient clearing deliveries to image cash letters, which supports earlier posting to customer accounts, more efficient check processing operations, and elimination of delays in transportation.


190 See Fedfocus - Special Report - Understanding Check 21, "How to prepare for
their fancy names, both these products aim at improvement of the image checks processing system.

The Check 21 Act enables banks with image-enabled operations to send image cash letters directly to their Federal Reserve Banks. Upon receipt, the latter send to the appropriate local Federal Reserve Bank or the paying bank the image cash letters which become substitute checks.

It is not the Check 21 Act that permits merchants to receive a check and then convert it to an ACH item. Although the Check 21 Act encourages banks to truncate checks, the Check 21 Act does not regulate or deal with the matter of converting checks to ACH. At first sight the substitute check seems similar to electronic check conversion. However, there are notable differences. Electronic check conversion is an electronic fund transfer; the substitute check represents a continuation of the traditional check system. The electronic check conversion transaction is routed through the ACH network operation; the substitute check through the check clearing system. For instance, upon receipt of the customer's check in a conversion transaction, the retailer scans the check for the financial information and converts the check into electronic mode. The retailer stamps “void” on the original paper check returns it to the customer and moves the payment along through the ACH system.

The electronic check conversion transaction is also normally provided in the customer's monthly bank statement along with other electronic or ACH related electronic payment transactions. A substitute check replaces the original paper check, is the legal equivalent of the original check. is created from an image of the original and appears on the customer's monthly bank statement as an original check.

The Check 21 Act seems to offer more choices to banks than to consumers. Banks can continue processing paper substitute checks rather than electronic images. These banks will receive a paper substitute check rather than the original check from the prior bank in the collection chain. Consumers, however, may no longer choose to receive their original paper checks back.

The Check 21 Act contains a series of new risks whose significance has yet to be measured. One new risk is that the first bank which adopts a substitute check receives fundamental liability for providing a good image to other banks which handle the check. Further, the Check 21 Act implicitly makes it the responsibility of the paying bank to define the quality that meets the definition of "accurately represent all of the information on the front and back of the original check."191 If this definition is interpreted literally, it would be almost impossible for banks to implement it considering the current diverse and largely untested technology available.

191 See Check 21 Act §§ 4(b)(1).
In order to mitigate such risk, banks of first deposit which adopt check imaging solutions should pay particular attention to negotiating contractual terms with other banks to avoid liability.  

In his remarks concerning the enactment of the Check 21 Act, Congressman Michael G. Oxley (Chairman of the House Committee on Financial Services), said:

“Check 21 [Act] grants banks useful tools to improve the delivery of services to their customers and expedite the flow of funds through the system. We must ensure that the efficiencies achieved are not reversed by excessive regulatory intervention. Consumers are well-protected through existing check law in the UCC and other regulations. This bill [the Check 21 Act] does nothing to reduce these protections, and actually provides enhanced provisions for consumers.”

The Federal Reserve and other banking supervisory authorities face challenges not only in supervising the implementation of provisions of the Check 21 Act from banks and other financial institutions, but also in adapting the current regulations which are affected by the enactment of the Check 21 Act. The Federal Reserve's Sub-Part D to Regulation CC, newly

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194 See Ronald J. Mann and Thomas C. Baxter, Jr., "Impact of Proposed “Check Clearing
promulgated to support the Check 21 Act,\textsuperscript{195} should probably be expanded to include the American National Standards Institute (ANSI) industry standard, ANSI X9.90 (Generally Applicable Industry Standards)\textsuperscript{196} as the exclusive standard for substitute checks. Revisions are also needed on the Federal Reserve's Regulation J concerning acknowledgment of substitute check warranties, as well as insertion of new warranties associated with electronic check images.\textsuperscript{197}

The Federal Reserve's Operating Circular No. 3 also requires revisions in order to support the Check 21 Act's products, including electronic check deposit options and substitute check creation. The Circular should define procedures for warranty and indemnity claims or bank-to-bank recredit requests etc.\textsuperscript{198}

We cannot be dogmatic about the way the Check 21 Act will ultimately meld into the financial landscape. There has been comparatively little commentary about it from the banking community and one widely held belief is that the system of substitute checks will take its place alongside other processes that it resembles. The distinctions between Check 21 Act procedures

\textsuperscript{195} 12 CFR Sec. 229.51 (2004).
\textsuperscript{196} See ANSI standards at www.ansi.org.
\textsuperscript{197} See Id.
\textsuperscript{198} See Id.
and other, related procedures for the payment of obligations may well be subtle at best. Two examples will illustrate: First, take the April 2002 Treasury Rule that authorizes federal agencies to convert signed checks into Automatic Clearing House ("ACH) transfers, destroy the checks and complete the transfer through the ACH system. This is close to the Check 21 Act procedure, but the check is never presented and paid. It is converted into an entirely different legal device subject to laws quite different from those applicable to the original checks.\(^{199}\) The Check 21 Act, however, is never applicable.

Second, consider those few banks that have agreed among themselves to engage in electronic check presentment through images made from original paper checks.\(^{200}\) This is not the technique envisaged by the Check 21 Act, but rather use of agreements among banks as previously authorized by law.\(^{201}\) The device is similar to the substitute check established by the Check 21 Act but different.

V. Visions for the Future or Adherence to the Past

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\(^{199}\) See 67 FR 17896, April 11, 2002. The original checks were subject to UCC Article 3; the ACH process is subject to the Electronic Fund Transfer Act and Federal Reserve Regulation E. Upon conversion, the transaction presumably departs from the former legal coverage and enters into the latter.

The creation of a new system to process forty billion checks a year valued at approximately $39.3 trillion bears risks and uncertainties.²⁰² Does the Check 21 Act represent a clear-eyed vision for the future or a stubborn adherence to the past concerning a payments system already in its death throes? We fear that the Check 21 Act represents the latter. That the Act received insufficient consideration through the legislative process that led to its enactment is suggested by the definition section of the Act where “State” and “substitute check” were originally inserted in the bill in the wrong alphabetical order. The gaffe was never corrected.²⁰³

Banks have not rushed to spend their money check image exchange or the truncation process. Greater investment might have advanced the opportunities for electronic exchange and for a faster, cheaper payment system. The reluctance exists for a variety of reasons. Among them, the banks look forward to the operation of the Check 21 Act with uncertainty. Before they make a major investment in new equipment, they must at the least be convinced that the equipment will not become obsolete too soon after October 28, 2004, the effective date of the Check 21 Act. They know now, however, that the Act does not require check image exchange. Instead, the Check 21 Act requires that banks accept a particular formatted print-out of a check image, the substitute check. According to a survey conducted by an independent financial and

²⁰¹ See Chapter IIB.


²⁰³ See Check 21 §§ 3 (16) & (17).
technology services company,\textsuperscript{204} only two out of seventeen banks interviewed had planned to utilize check image exchange when the Check 21 Act became effective. The remainder of the banks planned to accept substitute checks, something that they will be required by law to do.\textsuperscript{205} They do not, however, generally plan to invest the capital that will be required if they are to image checks themselves.

Contrary to the Y2K spending forecast preceding the year 2000, the lead-up to the enactment of the Check 21 Act was met with virtual silence from the banking community. Wall Street analysts were told little about either the time frame of major technological upgrades or the costs involved in the implementation of the Act. Analysts complained that they had not heard even one bank chief financial officer discuss what changes the Check 21 Act would bring to his/her company. Check 21 has fallen under the radar screen of investors. Banks just don't talk about it. "I am very curious about why," said Gerard Cassidy of Royal Bank of Canada's RBC Capital Markets.\textsuperscript{206}

\textsuperscript{204} Financial Insights is company providing independent research services, custom consulting and detailed multi client studies on technology issues and challenges facing the financial services industry. For more information, see www.financial-insights.com.


\textsuperscript{206} See Matthias Rieker, "Check 21: Plenty of Talk, Except From CFOs," The American Banker, June 1, 2004.
By all accounts, the costs involved in the transformation to check image exchange seem to be substantial. It is worth mentioning that while the U.S. Securities and Exchange Commission instructed companies to break out spending and planning details for Y2K, the costs related to implementation of the Check 21 Act were carried in the general technology budgets.

Bankers are not able to come up with a figure for the costs required to implement the Act. They see it as a difficult problem. Some numbers which circled around the U.S. banking industry, but have yet to be proven put the total cost at approximately $10 billion. Celent Communications estimates that annual information technology spending related to check imaging in the U.S. banking industry would increase from approximately $550 million in the year 2004 to approximately $1.9 billion in the year 2005.

Banks also see uncertainty in the model for check image exchange. Banks can either provide direct exchange of images between themselves (currently the direct image exchange is offered by SVPCo and Endpoint Exchange) or they can exchange images between

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208 Celent Communications LLC is a research and consulting company focused on the application of information technology in the global financial services industry. For more information about Celent Communications LLC, visit the website www.celent.com.

209 See Anuradha Raghunathan, “Cutting The Paper Chase; Banks May Soon Trade Images Instead of Traditional Checks,” The Dallas Morning News, Business Section, Pg. 1D, August 5, 2003.

210 SVPCo provides electronic payment and e-check services to banks and financial institutions through Automated Clearing House, Electronic Check Presentment, and Check
themselves and a central archive, such as Viewpointe Archive Services. The centralized archive system has worked well for banks and other depository institutions. In the end, images need to be exchanged only when necessary and then such images can be stored in one location. Various questions, for example how frequent images will be retrieved from a central archive, could be answered only after the Check 21 Act's implementation; another reason that banks have put off any commitment to invest money in changing their check processing technology.

Yet another factor in the slow pace of banks' investment in check image exchange is their ongoing merger activity. Noteworthy are activities of JPMorgan Chase, Bank One, Bank of America and FleetBoston Financial. Because these banks are highly influential in the banking community, uncertainty about their ultimate check image exchange policies affects other (smaller) banks' decision making process. Banks are additionally cautious of investing in new Verification and Conversion services. To learn more about the SVPCo, visit the website www.svpc.com.

211 Endpoint Exchange provides services to US financial institutions and banks which clear their check based transactions by exchanging images between member banks, S&L's, credit unions, servicers, clearinghouses, and the Federal Reserve. It is building the first and only electronic clearing network, which capitalizes on existing imaging infrastructure and settlement relationships. To learn more about the Endpoint Exchange, visit the website www.endpointexchange.com.

212 Viewpointe Archive Services, LLC provides check and document image archive and retrieval services for banks and other financial institutions. Viewpointe was founded by major banks in order to stimulate industry adaption of image technology, check truncation, and image exchange. To learn more about the Viewpointe Archive Services, LLC, visit the website www.viewpointearchive.com.
check image exchange technologies because bank consolidation reduces the number of checks that need to be exchanged.\textsuperscript{213}

A serious concern among banks has to do with the quality of the check image. Unlike the world of the paper check where a bank sends a check for payment without worrying about the check's readability, under the Check 21 Act's provisions this will not be the same with check image quality. Image quality standards remain ambiguous and unresolved. Therefore, truncating banks face the risk that their check images will be accepted by some banks and not by others. Thus, banks are moving slowly and cautiously by undertaking small pilot projects, working out the kinks in their internal processes, as well as experimenting with different image quality standards.

Banks are increasingly concerned with vendor immaturity, specifically that the vendors’ vision exceeds their capabilities to provide safe and secure products and services in check image technology. Vendors frequently claim to have full control of check imaging, truncation and exchange. However, many of the core components have been introduced within a short time prior to the Check 21 Act's implementation, and have been integrated by only a few banks. Banks have even had difficulty getting proposals from their suppliers for products related to check images.

\textsuperscript{213} Banks and other depository institutions are reluctant to give up control of their images to a third party. As result, they plan to maintain their own internal archives. See Anne Gonzales, “Banking Industry Embraces Digital Imaging Checks,” Sacramento Business Journal,
One of the most disconcerting effects resulting from the Check 21 Act is the expected disappearance of various features for detecting fraud. Check alterations and forgeries will become more difficult to spot as parties lose access to the original paper and ink that display pressure points and other important features. Check images make common security standards such as micro-type and watermarks useless without providing suitable substitutes. Some physical security features, like the word “Void” appearing when the check is copied, can be triggered by the imaging process itself. Under the check image and truncation process, many banks are concerned about counterfeit check stock making its way into the check stream.

Fraud could evolve as criminals regroup and exploit the weaknesses and vulnerabilities of the new check imaging process. Although it is anticipated that the Check 21 Act will reduce clearing time, those who commit check fraud could exploit the extended float associated with checks drawn on non-image or partial-image enabled banks. They can also take advantage of the delays that result from the continued use of courier transportation for physical items, the lack of image capture at the point-of-deposit, and the need to reconvert images to substitute checks for settlement and returns, etc.


Another concern among banks is that the time frame for them to place holds on deposited items is significantly reduced. This could make fraud more difficult to prevent.216

Skeptics of the Check 21 Act think that check imaging may open the door to new kinds of fraud. As the result of digital printing technology, creating a fake check image might be easier than creating a fake paper check. In this respect, banks would need to upgrade their check processing system in order to spot counterfeit check images. New technological and systems applications need to be developed and used to scan images and detect counterfeit images. Banks will invest time, money, as well as resources to upgrade new technology.217 Maintaining the physical security features of check stock will be crucial considering that many of the features will not survive the electronic imaging process.

Like depository institutions, consumers need to be in alert in order to prevent check image fraud. They will need to review carefully their bank statements. Preferably, they should look daily at their online transactions statement.218


Imagine if a bank has just been inundated with a new type of counterfeit checks. Although check fraud is not new, substitute checks are different from the ones prior to the Check 21 Act. They are high quality and with a perfect signature. The carefully selected sum of the check could simply preempt the bank's fraud detection systems. The volume of fraudulent checks generated could also indicate a coordinated, large-scale fraud attack in the near future. Such schemes underscore the risk management challenge which banks might face as they move to image-enabled check processing. Fraud is already damaging to a bank's reputation. It might become significantly more potent in the Check 21 Act's world as more banks place check images and statements online. This would effectively link the paper-check-based and electronic channels.

Banks are bracing to face particular scams relating to check images. They start with a massive phony e-mail campaign known as “phishing.” Check fraud through "phishing" is one of the scams made possible by electronic channels and permitted by isolated fraud detection systems. The move to check image exchange might complicate the matter of check fraud transactions.219

Under "phishing," the bank customer receives e-mails urging him to click on a conveniently provided link. Upon clicking, fraudulent window pop-ups appears with a legitimate website for the customer's bank. To the unsuspecting, such a pop-up window seems

an integrated part of the customer's bank website. Normally, a pop-up window asks the individual to insert information with respect to his bank account. Through these schemes, criminals gain access to the bank customer's important data and information, such as his password and personal bank data information, potentially leading to identify theft. This costs banks millions of dollars, and by losing the customer's trust damages the bank's reputation.

Operations under the Check 21 Act have not yet been observed and evaluated in practice. There is, however, a concern that they might leave the payment system open to the perpetration of fraud. Vulnerability to the Check 21 Act's related “phishing” method is just an example of challenges faced by banks. Criminals could view check images online to access more details, such as the customer's signature. They could also download and study bank statements, analyze recent check numbers and review checks’ amounts, all without raising any suspicion. As a result, online bank statements and check images would provide criminals with all the information they need to issue almost undetectable counterfeit checks.

Banks, in addition, should look out for suspicious internet activities, making sure that their security measures are robust enough to withstand any new and unexpected wave of check image fraud. In this respect, banks should explore new technologies for evaluating suspicious

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activities, which examine both the connection mechanics and the user's interaction with the site. This could alert the bank at the first indication of foul play.  

Banks might wisely introduce image analysis tests selectively and intelligently. For instance, looking at components such as "signature verification" or "payee analysis" can help banks answer questions such as “Was this group of checks written by the same person?,” “Is the signature appearing on this group of checks a scanned copy?,” etc.

Depository institutions will face immense changes when they migrate to imaging under the Check 21 Act. They have been dealing for over hundred years with paper checks and have developed some of the most sophisticated counter fraud techniques imaginable.

We have previously noted how electronic checks lack the sensory qualities to determine a check’s authenticity, such as special coloring, raised printing, fingerprints and even smell, which banks often rely upon. Law enforcement officials are showing their discontent with the move to digital imaging and the sacrifice of crucial forensic evidence on the paper check. They

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223 Some banks request that their customers stamp their fingerprints on a check, which is used as a security feature when these customers cash the items.
assert that imaging does not assist law enforcement obtain the proof required to prosecute check fraud cases. 224

The Federal Reserve openly admitted that law enforcement officials were not included in discussions before the Check 21 Act was passed by Congress. Fred Herr, Vice President in the Federal Reserve Bank of Atlanta, said: “Law enforcement and financial institution fraud investigators have been completely left out of the loop.” 225

Bankers are concerned with the speed that checks are processed. For law enforcement experts this is largely irrelevant as long as crucial evidence for tracking check criminals is not lost as result of check clearing and imaging.

According to an online consumer poll carried out by Harris Interactive 226 in May 2004, most consumers were completely unaware of the Check 21 Act, as well as its potential impact on their current banking practices. 227 The poll further showed that almost 95 percent of checking

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226 Harris Interactive is a worldwide market research and consulting firm, which is known for applying Internet method to conduct scientifically accurate market research. It also combines proprietary methodologies and technology with expertise in predictive, custom and strategic research. For more information about Harris Interactive, visit the website at www.harrisinteractive.com.

227 See AccountingWeb.com, “Consumers Don't Have a Clear Image of Check 21
account holders were unaware of this legislative action.228 This suggests that the U.S. bank regulators and banks have either underestimated the need to educate consumers about the Check 21 Act or simply have failed to do enough in this regard. Whatever the case may be, failure for industry to act on time might bring unexpected consequences. This could diminish consumer confidence at the inception in check images and truncation when selecting a means of payment.

The Check 21 Act might create a mixed and challenging processing environment. Big banks which are capable of exchange images might profit by a reduction in "float" for those checks received on an earlier business day than when they would exchange paper checks. Until all banks are image enabled, the forward collection of the resulting mix of image, substitute, and traditional paper checks might expand the processing cycle by one or more business days for those items affected.229

According to a 2004 report prepared by Capco230, a consulting firm, implementation of the Check 21 Act will cost banks as much as $10 billion during the period of 2005 - 2010.

Law and Its Impact," June 28, 2004. For a complete article, please visit www.accountingweb.com/cgi-bin/item.cgi?id=99378.

228 Id.


230 Capco is a provider of services and technology solutions, which is focused on forming the future of the financial services industry. It is also specializes in operational efficiency and technology, market infrastructure, and business innovation solutions for retail,
Capco's report stated that the Check 21 Act poses “significant” revenue risks by migrating check processing to the ACH, offering digital checks at lower fees, as well as reducing check "float" fees. Adam Dener, a partner at Capco, said that, “Our hypothesis is that the issue is being looked at in a way that's disconnected from business issues." Some banks might turn to outsourcing their check processing to circumvent the headaches of the Check 21 Act. “What's going to happen with the costs associated with that check? What's going to happen to the float? Is spending money on 100 different changes a worthwhile endeavor?” adds Mr. Dener.231

Big banks, which are wholly image enabled and operate within the same geographic market, might continue to find the physical exchange of local checks more cost effective. With the exception of the largest banks, most depository institutions are expected to expand the check image processing cycle by one or more business days for those items affected. The image capture for these banks will likely take place in a centralized location. These banks could also find themselves partially image enabled and still reliant on the existing courier system in order to transport physical checks. In addition, banks might opt to outsource or use an intermediary company to exchange images, perform image conversion, and create "substitute checks".232

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The Check 21 Act might have an effect on posting and return of checks. Different processing capabilities among paying banks would subject banks and other depository institutions to a wide range of posting times and subsequent return notifications.

Banks hope that with the enactment of the Check 21 Act, they will be able to send, receive, post, settle, and return items on the same day. Although the purpose of the Check 21 Act is to eliminate, or at least reduce the physical transportation of checks, the only thing required of banks is that they be able to receive an image replaced document, notify customers, and process expedited recredits. Banks can still convert images to paper print-outs, as well as continue using paper checks. Approaches to check processing might potentially set the stage for some interesting free-market payments system developments in not a too distant future.233

Banks face an unpredictable outcome with implementation of the Check 21 Act. If banks get on board up front and the Check 21 Act does not take off as the Federal Reserve expects, any return on investment in check image technology would be a long time coming. On the other hand, if some banks wait and the Check 21 Act does take off in the way expected by legislators and some bank regulators, these banks would be playing catch-up for too long a time.

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Banks are figuring in the cost-benefits of using companies like Viewpointe Archive Services, LLC which is a clearing house for electronic check imaging owned by a consortium of large banks. Banks use such services to outsource image check processing services. Concentrating the business of outsourcing with a few companies might create problems for small banks who could find it costly and difficult to compete with these companies in the business of check imaging. Worse yet, these companies now offer differing technologies in check imaging. This makes it very hard for a bank to switch from one service into another. Companies like IBM, Unisys, BISYS Document Solutions, NCR, etc, whose broad technology and consulting portfolios fit the multifaceted nature of the Check 21 Act's challenges, are expected to make a fortune in the check imaging business.

As we become covered by the Check 21 Act, there are many impediments to its taking over as a new form of check clearance. One is ignorance. A survey of small businesses revealed that nearly three-quarters of them had never even heard of the Check 21 Act, even though they will be affected by it. According to a survey taken by Harris Interactive in May 2004, out of

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234 Viewpoint Archive Services, LLC is the main clearinghouse for storing check images and exchanging them among participating banks. Viewpointe is the largest provider of digital check and document imaging, archiving, and retrieval services in the United States. With a combined customer list representing over 40% of the annual U.S. check processing volume. Viewpointe's goal is to provide image exchange, the ultimate benefit of imaging, on a national scale.

the 93 percent of individuals who had checking accounts (total of 2,010 people), 95 percent were unaware of the Check 21 Act.\textsuperscript{236}

Another impediment is the need for new bank investment in equipment. Banks are cautious in investing just enough to move customers toward electronic transactions without getting ahead of the curve. It will take an industry-wide adoption in order to make the evolution process to a paperless society worthwhile. Banks are taking a very judicious view of how and when they invest, considering that other banks are moving at various speeds.\textsuperscript{237}

The absence of experience leads to uncertainties about who will be hurt by the new Check 21 Act processes. It is expected that one of the worst to be hit will be pilots and companies who have been making their livings from flying checks overnight. For example, some 25 percent of the Mitsubishi MU-2 fleet is involved in overnight check-flying under contracts with the Federal Reserve. If that market disappears overnight upon implementation of the Check 21 Act, pilots would be unemployed and the company's profits would plummet.\textsuperscript{238}


\textsuperscript{238} See Mark Phelps, “Check 21 Law Not Likely to Affect Check Haulers,” Aviation International News Online (AINonline), January 2004. For more information, see www.ainonline.com/issues/01_04/01_04_check21p41.html.
Like overnight check-flying companies, companies in the check-sorting business will suffer similar consequences. They are struggling to find ways to enter into the business of printing check image replacement documents. In addition, companies involved in printing checks and shuttling them around the country in armored cars are struggling to survive. For example, Deluxe Corporation\textsuperscript{239}, a leading company in the check printing industry, closed three of its thirteen printing plants in the year 2004. It is also fighting for its profits by pushing higher-priced check designs and fraud-prevention services.\textsuperscript{240}

Definitive numbers on the actual cost of clearing checks do not exist. However, the banking industry agrees that the cost of a check-based transaction is substantially higher than an electronic transaction.\textsuperscript{241} While it is anticipated that the Check 21 Act will save money for banks over the long term, technology and staff training will cost banks dearly in the short term. Gary Cawthorne, managing partner at Unisys, said that “as this [check processing technology] evolves, there are going to be benefits, but there are also reengineering costs and training costs.” According to Unisys, there are more than one hundred areas in which banks are not prepared for full implementation of the Check 21 Act beyond basic compliance. Mr. Cawthorne added, “all

\textsuperscript{239} For more information about Deluxe Corporation, visit the website www.deluxe.com.


\textsuperscript{241} See Bank Notes (Monthly Newsletter), “Ready or Not, Here Comes Check 21!,” RSM McGladrey, Inc., May 2004,
the legislation says is that you have to receive replacement documents in place of paper. It's a simple requirement. If that's all you do, you don't get the full benefits of truncation.\textsuperscript{242}

Much of the attention generated by the Check 21 Act is on purchasing new technology in order to capture check images. However, there are other downstream technologies which need to be upgraded or replaced altogether, so banks can reap benefits provided by check imaging. Banks now need to create archives in which to store images. Many banks have not appreciated that their clearing processes are dependent on touching physical checks and must be re-engineered to accommodate imaging. In 2004, only approximately 60 percent of banks were equipped to handle electronic imaging. The rest, mostly small banks, did not have the cash required to purchase machinery to handle electronic data transfers. These banks were - and still are - taking a wait-and-see attitude.\textsuperscript{243} The Check 21 Act has not made a significant impact on banks' plans, according to a survey in 2004 conducted by Capco.\textsuperscript{244}

With or without the Check 21 Act, larger banks such as Bank of America, J.P. Morgan Chase were already planning to enhance their check processing efficiency by presenting image


\textsuperscript{244} See Ivan Schneider, “Check 21 or Bust?,” Bank Systems & Technology Online (www.banktech.com), November 3, 2003.
replacement documents instead of original checks. They were doing so for reasons related to business and not regulation.\footnote{245}

Some banks have, without the Check 21 Act have taken advantage of image check placement in customers’ monthly bank statement (sent by mail or online). If a bank wants to get images only for the purpose of statements, the bank does not have to do it on prime-pass, when the bank first receives and processes a check. The bank can do it later.\footnote{246} Capturing images on prime-pass seems to have more wide-reaching implications because it enables banks to “reject” and “repair” items using image, without the proof encoders need. Electronic item processing could be moved anywhere.

According to Capco, under half of the large U.S. banks and one-third of the small banks surveyed considered prime-pass imaging. Overall, about 25 percent of banks considered the use of image for day two processing of returned checks and exception items.\footnote{247}

Jobs within banks, particularly those of bank tellers and encoders, might be affected as a result of the Check 21 Act. A significant portion of the bank tellers’ workday is spent in

\footnote{245}{See Mark Bruno, “Chase, BofA Join Forces in Imaging,” American Banker, February 2001. For a complete view of the article, visit www.us-banker.com/article.html?id=20040415X5L1SJ6R.}

\footnote{246}{See Tim Mazzucca, "Clearing the Way For Digital Checking," Washington Business Journal, August 2, 2004.}

\footnote{247}{See Ivan Schneider, “Check 21 or Bust?,” Bank Systems & Technology Online (www.banktech.com), November 3, 2003.}
balancing and controlling transactions. If imaging enabled bank tellers to skip many of these tasks, they become what could be described as a concierge for super-ATMs. Some banks, such as Washington Mutual, Liberty Bank (Middletown, Connecticut), have already started to implement this approach. Liberty Bank plans to experiment with a check-imaging machine at the teller line. The implications of the new technology for the entire item processing operation are enormous. They can affect a bank both at a strategic and an operational level. There is little real understanding of this process. The Check 21 Act seems to look to the future while still embracing the checking system of the past.

A seamless integration of paper, image and data may make banks’ evolutionary adaptation to the Check 21 Act possible at some time in the future. Whether the investment in money and time will be made to achieve this is questionable. They are not being made now. This requires more efficient and cost effective processing of the declining or stagnating check volumes in tandem with a gradual introduction of electronic payment transactions. Imaging alone will not resolve the deposit processing issues that the Check 21 Act raises. Nor will the Check 21 Act provide the benefits of truncation it promises. Image technology and ultimate truncation are just parts of the equation. Cohesive integration of voluminous data at the instant of capture, with the business systems relying on new forms of transaction information is equally significant. An integrated image and data technology make paper, electronic data, and image can theoretically work together for optimum efficiency and profitability in deposit processing

\textsuperscript{248} Id.
operations. If consumers are to receive the benefits they expect from check image technology it now seems unlikely that they will derive it from the Check 21 Act..\footnote{249}

The Check 21 Act does not require banks to convert to electronic imaging for capture and deposit of those checks. It was suggested in 2003 that the Federal Reserve would speed the movement away from checks in favor of electronic imaging, if it attached a surcharge to paper copies of checks.\footnote{250} In fact, the Federal Reserve did just that in November 2004 by increasing its fees “a steep 7.9%.”\footnote{251} Whether this was a Machiavellian move to encourage electronic processing or simply a revenue enhancing device is open to question.

The implications of the Check 21 Act are, however, both unknown and immense. According to the Federal Reserve, there are an average of forty-one billion to forty-five billion paper checks processed every year.\footnote{252} Almost 70 percent of these checks move between banks and other financial institutions for payment processing. While retaining much of the traditional checking system, the Check 21 Act also introduces new concepts that will have to be harmonized with the U.C.C. Article 3 structure if the Check 21 Act becomes generally accepted.


\footnote{252} See Federal Reserve Board. Proposed Check Truncation Act §§ 6 (July 2001).
Although there are still approximately forty billion checks written annually in the US, the number converted to "substitute checks" under the Check 21 Act is likely to be a fraction of that number.\textsuperscript{253} Widely accepted practices may have to be revised;\textsuperscript{254} consumer and business customers will need education. And yet, all of this change is at best speculative.

Consumer representatives have expressed their concern with the Check 21 Act. They note that the Act changes the widely accepted practice of millions of people who prefer to receive their original checks back. They point out that although the Check 21 Act allows checks to be processed more like electronic payments, consumers are not provided with the same dispute resolution and liability protections as with electronic payments.\textsuperscript{255} They believe that consumer protections are the most challenging policy issue in the Check 21 Act's provisions.\textsuperscript{256}

Thus it appears that although the Check 21 Act hews to the old check processing systems, its actual effect upon those systems and the businesses, banks and consumers and consumers who use them is uncertain in the extreme. Bankers complain that there is sheer confusion about


\textsuperscript{255} See Electronic Activities, 67 Fed. Reg. 34,992 (May 17, 2002) (to be codified at 12 C.F.R. pt. 7) and also id. at 34,992-93.

\textsuperscript{256} See Electronic Activities, 67 Fed. Reg. at 34,994.
the Check 21 Act and what it does and does not do. Most bankers in the State of Connecticut expect the Check 21 Act to have very little impact on their own state's banking industry.257 “It's not going to change the way we collect and process checks at all,” stated Robin Fujio, Vice President of Liberty Bank in Middletown, Connecticut. “It's really not going to make as many changes as some people think,” said Roy Balkus, Vice President of Naugatuck Savings Bank, Connecticut.258

They add that the Check 21 Act's publicity makes it sound like the Check 21 Act is about sending electronic images and lead to truncation. But it is not. The Check 21 Act only requires banks to accept a paper substitute check.259 It is almost inconceivable that on one hand, check writing and clearance are in continuous decline,260 while on the other hand, the Federal Reserve is trying to find a way to save checks by introducing and supporting the Check 21 Act.


258 Id.

259 See Thomas Hartley, “Banks Check Out New Image,” Business First of Buffalo, July 19, 2004. The Expedited Funds Availability Act, See Title VI of Pub. L, 100-86, which provides for two business days to clear a local check and five business days to clear a non-local check, will not shorten under the Check 21 Act. These provisions concerning check clearance time will not change, at least for the time being.

260 According to a 2001 study report by the Federal Reserve System, paper check writing has been declining by about three percent a year in the last years. For more information, see Federal Reserve Staff for the Payments System Development Committee, “The Future of Retail Electronic Payments Systems: Industry Interviews and Analysis,” Staff Study 175, December 2002.
Even where it appears to cover the ground, the Check 21 Act raises problems. Part of the reluctance to invest in the new systems is quite simply an inability to understand them. Bankers voice confusion over a provision in the Check 21 Act that covers expedited recredit, requiring banks to act more quickly to resolve disputed checks than required under current banking regulations. But there seem to be discrepancies between the Check 21 Act and other laws related to the business of checks. Under the UCC, banks typically have two to three weeks to investigate a disputed check before crediting the funds back to a customer’s account. On the other hand, provisions of the Check 21 Act give banks ten days to complete the investigation of a disputed item before recrediting the account.

Bankers also express confusion about the fact that the recredit provision under the Check 21 Act gives customers only forty days to make a claim, while Federal Regulation E\textsuperscript{261} gives customers sixty days to make a claim.\textsuperscript{262}

Another odd element about the Check 21 Act is that the introduction of electronic check image transactions to the check clearing process will negatively affect the price banks will pay to clear their paper checks. In other words, clearing paper checks, which prior to the implementation of the Check 21 Act was not expensive on a per-check basis, becomes more costly under the Check 21 Act, as the volume of paper clearing declines. In the end, banks are

\textsuperscript{261} 12 C.F.R. Part 205.

expected to pass such cost onto their customers, who will then find writing checks in the course of their business more expensive and less attractive than other electronic payment mechanisms.\textsuperscript{263} As noted, this may have the indirect effect of pushing transactions from the paper to the electronic; but it also seems an unplanned process.

Where issues of damages are concerned, the Check 21 Act makes a bad scene worse. The Check 21 Act provides for damages in the amount of the actual loss or the amount of the check, whichever is less.\textsuperscript{264} Revised Regulation CC eliminates the former option;\textsuperscript{265} to the extent that actual loss plus consequential damages (plus interest and expenses) is not more than the amount of the check, they would be covered. To review some analogous situations briefly, UCC Article 4, §§ 4-103(e) and 4-402(b) provide for consequential damages in certain situations; the Electronic Fund Transfer Act doesn’t mention them but seems to authorize them;\textsuperscript{266} but Funds Transfers under Article 4A of the UCC does allow them only in very minor respects.\textsuperscript{267} In retaining an already antiquated system, the Check 21 Act hardly needs to make its more complex provisions even more difficult to understand and to apply.


\textsuperscript{264} §10.

\textsuperscript{265} 12 CFR §229.56 (2004).

\textsuperscript{266} §1693(h).

\textsuperscript{267} Art. 4A-§305.
Under the Check 21 Act, check processing transactions might be settled by using only the image, or the paying bank could turn the image back into paper, therefore creating an image replacement document, which is a physical printout of the electronic file. Each time the paper is converted to bytes or changed back to paper, the burden of liability shifts. When banks sell check scanners to their corporate clients or let them convert paper into images, they trust these corporate customers to create valid files. Most of the banks expect to pass this liability onto their corporate customer. However, banks are concerned that not all customers will be capable of handling this burden. In principle, a bank which converts a check into an image would bear liability. In other words, whoever creates a file should be responsible for it. In this respect, letting a corporate customer do the conversion should not change the liable party. Banks are struggling to find a way to transfer the liability back to those parties who are actually creating the image.

Image exchange systems will likely take off slowly. Banks will initially convert the image files, which they receive from corporate customers, back into paper by creating image replacement documents. Turning an image replacement document into a paper check would normally add a wrinkle to the issue of liability, considering that the provisions of the Check 21 Act promulgate that a bank which turns an image back into paper shall assume responsibility for

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the newly created document. Banks will need to use imaging software to “force” their corporate customers to inspect, as well as to verify, every image they make. This approach by banks might solve or at least minimize the liability issue by preventing bad images from entering the check payment (clearance) system.²⁷¹

One effect of the Check 21 Act is that it reduces the number of paper checks going through the system, thereby creating surplus capacity in the check processing industry. In this regard, the Federal Reserve could contribute to reducing that excess by shutting down its check processing system.²⁷² The Federal Reserve handles over one-third of the checks circulated within the US banking system.²⁷³ However, the Federal Reserve is slowly but gradually falling short of a requirement under the Monetary Control Act of 1980.²⁷⁴ That Act states that the Federal Reserve can recover costs incurred in providing services to the check clearing business, and can earn what the Federal Reserve would as a private entity.²⁷⁵

²⁷⁰ Id.


²⁷³ Id.


After bringing in $69 million less in projected earnings in the year 2002, and $51 million in the year 2001, the Federal Reserve missed its profit target by $155 million in 2003. As a result, the Federal Reserve reduced the amount it turned back to the U.S. Treasury, which added to the budget deficit.\(^{276}\) The Federal Reserve would have had to increase charges for check processing services by 29 percent in order to have met the profit target for the year 2003.\(^{277}\) This increase in price would have brought a reduction in the volume of check transactions, which would have required the Federal Reserve to set even higher check processing prices, leading to a yet lower volume of check transactions.

Many bankers believe that Check 21 Act might have a negative impact on the efficiency and profitability of the Federal Reserve's check processing business. For the year 2004 and the following years, the Federal Reserve is expected to suffer more losses as the volume of check processing declines. Obviously the Federal Reserve's incurred losses in the processing business will be subsidized by taxpayers. This will continue to enable the Federal Reserve to compete unfairly against other check processors. Some bankers go as far as to suggest that the Federal Reserve should simply get out of the check processing and transportation business. They add that if the Federal Reserve shuts down its check business, the US banking industry would be able to rationalize its processing capacity as the volume of check payments continues to decline.\(^{278}\)


\(^{277}\) Id.

Although the Federal Reserve does not publicly admit that it could get out of check processing, it has responded to the losses suffered as a result of check decline.\textsuperscript{279} For example, the Federal Reserve has closed thirteen of its forty-five processing centers,\textsuperscript{280} resulting in job losses on top of the reduced capacity.\textsuperscript{281} In 2003, the Federal Reserve Bank of New York laid off about thirty people in its East Rutherford (New Jersey) operations center as a result of decreasing check volumes and introduction of check images.\textsuperscript{282}

Banks still have significant revenue streams that depend on check processing technology. Because of the Check 21 Act, some lucrative sources of revenue, such as paper check processing and check transportation, are going to disappear. The Check 21 Act cuts in two directions: it sustains the checking system and reduces checks. Banks will look to alternative mechanisms, including the new electronic systems, to compensate for their losses.\textsuperscript{283}

\textsuperscript{279} See supra note 251 for Federal Reserve fee increase.


Almost nothing definitive has been established about the way the Check 21 Act will operate or, for that matter, the changes coming to the world of imaging and processing. Bankers are unsure when, how, or even if they need to upgrade their current systems, and move entirely to imaging. Moreover, bankers do not receive much help from vendors and consultants, who bankers complain are overloading them with a lot of information and data, much of which they say is incorrect.\textsuperscript{284} Even check sorters face new challenges under the Check 21 Act. They need to be able to handle "substitute checks. The cost to produce an image replacement document is estimated to be 5 to 12 cents; the cost to process a paper check prior to implementation of the Check 21 Act is 4 cents.\textsuperscript{285}

Another issue to be resolved is the type of ink and paper that need to be used for printing the check images. This is the within the scope of the American National Standards Institute\textsuperscript{286} which has yet to determine this matter.\textsuperscript{287} Like check imaging processing companies, vendors who sell products related to check image services use software with different algorithms to

\begin{footnotesize}
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  \item \textsuperscript{284} See Alan Kline, “Editor's Note,” The American Banker, May 5, 2004.
  \item \textsuperscript{286} The American National Standards Institute serves as administrator and coordinator of the U.S. private sector voluntary standardization system. The Institute is a private and nonprofit membership organization, which supported by a diverse constituency of private and public sector organizations. The Institute promotes and facilitates voluntary consensus standards and conformity assessment systems, as well as promotes their integrity. For more information about the American National Standards Institute, visit the website www.ansi.org.
  \item \textsuperscript{287} This is according to the last electronic search carried out in “Search for [Approved] Standards” (www.nssn.org/new.html) of the American National Standards Institute website on August 2004.
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perform the checks’ evaluations, without having a unique set of standards. Many vendors refuse to share their technology with their competitors. As a result, banks and other financial institutions that purchase these products end up having limited choices if they decide to terminate their relationship with one vendor and purchase from others.

Privately operated check exchange services also expect their revenues to decline in check processing. Banks and other financial institutions are not immune. They are ultimately going to downsize. J.P. Morgan Chase Bank employs about 500 people in Carlstadt (New Jersey) who process checks. Their jobs are far from certain.

According to SVPCo, banks need to tone up their back offices substantially before they can participate effectively in the check image process. SVPCo estimates that in the year 2004, only six to eight of the twenty-three banks that co-own SVPCo will be ready to provide image exchange services.

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290 See Anuradha Raghunathan, “Cutting The Paper Chase; Banks May Soon Trade Images Instead of Traditional Checks,” The Dallas Morning News, Business Section, Pg. 1D, August 5, 2003.
The Check 21 Act and revised Regulation CC leave unanswered and ambiguous questions. Banks ask whether one bank can trust another bank’s image capability or practice without a third party certifying the image; whether a check image should be black and white or in color, and what its measurements and formatting should be; and what happens if the image quality deteriorates as the imaged check moves around. The image exchange business might not make any financial sense at all to banks which deal with a large percentage of local checks and have efficient trucking services in place. Banks, other than a customer’s bank, who image checks will hold or destroy original checks. The banking industry lacks information to estimate the cost of holding or shredding checks.

Seemingly, the Check 21 Act does not affect how quickly the bank’s customers can access funds they have deposited into their checking accounts. The Check 21 Act is not expected to provide quicker access to the funds because the law does not shorten check hold times. However, quicker clearance of checks might cause serious problems for those bank customers (normally small businesses or individuals) who depend on checks taking three days or more to clear, giving them time to make deposits to cover the checks. The increase of “insufficient fund checks” might lead towards customers receiving higher fee penalties and possibly having their credit ratings negatively impacted.


293 See Joe Gillen, “Check 21: New Federal Legislation Will Change Check
Consumers groups are concerned that, while the Check 21 Act sustains the checking system, at the same time it reduces traditional protections available to checking account holders. They say that too many consumers rely on a physical cancelled check as a tool. Consumers Union (New York), an advocacy group, opposed the Check 21 Act because, among other reasons, consumers were not provided with the option to receive their original paper checks back automatically from the bank.294

Converting checks to ACH transactions under the Accounts Receivable Entry (ARC) program was supposed to lead to big savings. This wish never materialized. The ARC program is in a status equivalent to checks under the Check 21 Act. One sees the potential in written documents but there is no reality. As with the Check 21 Act the jury is out to see whether banks and consumers realize any cost savings, while they divide their transactions among various payment systems.295


CC and with its participation in electronic payment systems under the Electronic Funds Transfer Act, the Federal Reserve clearly sees itself as a mover and a shaker. Indeed, one cannot be sure that a consensus can develop around any system without the Federal Reserve’s leadership. The Federal Reserve at least acknowledges its participation.

Its Chairman, Alan Greenspan, has said that,

“The Federal Reserve also clearly recognizes the need to foster innovation in the private sector and to help remove barriers to the development and adoption of new payment services for electronic and traditional commerce… As financial systems have become more complex, detailed rules and standards have become both more burdensome and less effective. If we wish to foster financial innovation, we must first be careful not to impose rules that inhibit it, and we must be especially watchful that we not unduly impede our increasingly broad electronic payments system… In the case of electronic payment innovations, only consumers and merchants will ultimately determine what new products are successful in the marketplace.”\(^{296}\)

Electronic payment innovations are expected to possess three fundamental characteristics under the US payments system.

First, the electronic payment innovations must possess integrity, meaning that transactions must be safe and reliable, as well as secure.

Second, they must be accessible, meaning they should be available to all, individuals and businesses.

Finally, electronic payment innovations must be competitive and efficient, meaning the cost of making payments should be as low as possible.\textsuperscript{297}

VI. THE TURN THAT SHOULD HAVE BEEN TAKEN

Check 21 Act undoubtedly contains ingredients that will simplify the checking system. The banking system generally anticipates greater convenience, greater speed and cost savings as Check 21 Act comes into widespread use. The problem with Check 21 Act is that it continues, even reinforces, the check as a dominant means of payment. We know the check; it has been around for hundreds of years. It continues to carry the weight of its history. It requires that at least three roles be played: drawer, drawee and payee. The drawer writes (draws) a check on the drawee ordering it to pay the payee. Any two of these roles may be played by the same party. A

bank check is, for example, a check drawn by a bank upon itself. (For the three roles to collapse into one is nonsense; nothing happens.) Check 21 Act will not enable the check to escape the burdens of its lineage.\textsuperscript{298} Under Check 21 Act, the traditional checking process will probably morph into something different and almost certainly something more electronic in nature. How this will happen is speculative but the intricate refinements of the checking system as controlled by UCC Articles 3 and 4 and by Federal Reserve Regulations J and CC will have their effects.

The following quotation from the American Banker gives an idea of the process ahead:

"Exactly how many banks will go ahead and participate in processing and clearing checks as electronic images is another question observers are asking. At first probably only a handful, Mr. Buchanan (a bank officer) said. Eventually, however, the paper check will disappear, at least as a document that travels through the processing chain. Clearing paper checks, which is now inexpensive on a per check basis, will become more costly as the volume of paper clearing falls, and that will drive more and more banks to electronic methods."\textsuperscript{299}

\textsuperscript{298} When the (Check 21 Act) takes effect in October, many banks plan to start settling transactions by converting paper checks into images and zapping them around the country. Sometimes the transactions will be settled using only the image, and sometimes the paying bank will turn the image back into paper ..." Early Debate on Remote-Capture Risk, American Banker, May 25, 2004, p. 1. The same article points out how warranties will shift depending upon the settlement method used: “[A] bank that converts a check to an image also warrants that the image is readable and contains all the information necessary to settle a transaction. But when banks sell check scanners to their corporate customers and let them convert paper into images, the banks are also trusting their customers to create valid files.”

\textsuperscript{299} See Matthias Rieker, “Check 21: Plenty of Talk, Except From CFOs; US Check Clearing Act for the 21\textsuperscript{st} Century,” American Banker, Pg. 1, June 1, 2004.
Thus, it is conceivable that the traditional checking system will remain but evolve into something new and relatively unrecognizable. Key may be electronic processing companies that need not be banks at all. In signing up banks, such companies can expand networking capabilities that, while leaving banks separate and independent, will perform functions for depository, paying and intermediary banks in essence creating a new system. Aggressive outsourcing institutions have begun competitive efforts to be the leaders in this process.\textsuperscript{300}

That the check is so generally accepted and widely used is not an accident. Nor is it the result of planning. The real reason is Article 3 of the Uniform Commercial Code as supplemented by Article 4. The UCC is the law of all states and provides a core legal procedure which is essentially the same for all banks and all of their customers. The result is the single payment instrument that results from this core structure - the check. One needs little sophistication in the financial world to know how to handle a check. It is part of our heritage.

The variations upon the basic check are infinite and growing. They nevertheless cling to the traditional structure. We have described in Chapter II the permission incorporated into the UCC itself to vary its terms. Individual banks and clearing houses as groups of banks have invented variations that simplify the basic system or introduce handling modifications that suit the needs of the banks involved. At the end of the day we still have the check.

While it does appear that the traditional check system will be improved by Check 21 Act in terms of more advanced and more pervasive use of imaging it is not conclusive that all will be beneficial. Application of Check 21 Act to the problem of fraudulent checks has raised issues. There will be benefits: greater imaging (and the use of facsimiles of images) will enable questionable checks to be exposed earlier in the system than is possible with the paper document. On the other hand, elimination of the paper check will eliminate the use of sensory qualities “special coloring, raised printing, even smells - that processing personnel often rely on.”

There may also be a sacrifice in available forensic evidence like fingerprints for law enforcement purposes. It has, however, been observed that if Check 21 Act enables the detection of more fraud, there may be fewer cases to prosecute.

Alternative methods of payment outside the checking system abound as sources for new and advanced standards. These are generally based upon the opportunities offered by contemporary electronic devices and are discussed in Chapter III. From Automated Clearing Houses through debit cards through the massive and international electronic payment nets, A looking to pay B is offered a variety of choices that can freeze A in attempting to make a selection in much the same manner that a potential buyer of a cell phone or a TV set is now frozen by the available options that await him when he walks into a store. One sees, for example, the consumer faced with the choice of using a vendor's web site or using bank payment facilities. The former is advantageous to the vendor because it gives it a continuing link to the

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consumer; the latter may benefit the consumer because it enables him/her to pay any number of vendors from one source.\textsuperscript{302} There is too much and it is too confusing.

The free enterprise system does suggest that there may be something appropriate in the present system of limitless choice. And maybe there is. On the other hand, for a transaction as fundamentally simple as A paying B, there probably is little need for and little benefit from the endless options. They do enable Bank X to differentiate itself from Bank Y based upon specious benefits (Now, at last, there is a bank that offers you ...). But that really benefits only the advertising community and smacks of consumer fraud and certainly consumer expense.

If there is to be a payment system generally accepted throughout the country as checks are accepted today it must be based upon a new law applicable to all participants and serving the economy as a replacement for UCC Articles 3 and 4. There are probably several entities in the country that could supply such a core law. One thinks first of the Commissioners on Uniform State Laws, the Congress and the Federal Reserve. The Commissioners have supplied us with many laws of controlling effect. They are, however, a generalist body and probably do not have the financial acumen to analyze and create a central law of payment systems. Congress would rely upon a concealed technical support staff for the creative process. This staff would be young and inexperienced, would be insulated from the financial community and almost certainly would not have the widespread confidence that such an effort requires.

\textsuperscript{302} See Daniel Wolfe, “Environment for EBPP Seen Shifting in Bankers' Favor; Payments of Bills Online,” American Banker, Pg. 17, June 29, 2004.
The Federal Reserve is the obvious choice. It has a highly skilled staff. Through the twelve regional banks, it has creative minds throughout the country and can bring a special awareness to the process. It is proficient in legislative drafting and has a unique and productive relationship with Congress. It comes as no surprise, therefore, that the Fed has already been designated to assume this project. Unfortunately, the elephant toiled and came up with a mouse: Check 21 Act.

Curiously, Check 21 Act is now counter-cultural and turns out to be bucking a trend. Throughout its history, the use of checks was an expanding operation. The final quarter of the Twentieth Century, however, witnessed a dramatic alternative growth largely at the expense of checks. “The proportion of retail noncash payments made electronically grew from 15 percent in 1979 to 40 percent in 2000.” An example of electronic payments is the PayPal system, largely used in conjunction with consumer purchases over eBay. An article in the Economist on PayPal compares it with checking as follows:

It can take several weeks for checks to arrive in the post and for payments to clear, but online payments are made instantly, which means goods can be shipped straight away.

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As observers appreciated the growth in other payment methods, particularly those based upon new electronic adaptations, it was predicted year after year that check usage would drop.\textsuperscript{305} Recent evidence indicates that check usage did finally reach its peak and start to drop in the mid-1990s.\textsuperscript{306}

Check 21 Act is a curious attempt to revivify a dying industry. As checks finally start to succumb to more modern forms of payment, the Fed throws checks a lifeline. In its Staff Study of the payments system, even those in support of improving check collection viewed such an effort as essentially inconsequential: “Several organizations (in the study) expressed a desire to improve check collection, although they saw improved collection as only a temporary measure.”\textsuperscript{307} How much more productive it would have been for the Fed to use its unique position in the payment system to explore creation of a new level of payment based upon electronic innovations and whatever else is on the horizon (perhaps including such things as voice activation\textsuperscript{308}).

\textsuperscript{305} “The number of checks written in the United States ... will peak in 1992 and then begin a long anticipated decline.” American Banker, Feb. 22, 1989, p.2.


\textsuperscript{307} Staff Study, supra note X, at p. 3.

We stop short of recommending the device (or devices) that should have been sponsored by the Fed. It seems obvious that whatever path taken, electronic connections will be a dominant component. As was said in connection with movement towards increased use of electronic signatures, “the Web becomes one of the most important channels for reaching customers.”

At the same time, until we truly understand the form of communication that will both serve the needs of a modern payments system and achieve - in contrast to all other competitive systems - customer commitment, no system should be chosen by a central authority like the Fed. Assumptions have been made and found inadequate at costs in both dollars and reputation. One remembers the announced plan of Bank One in 1977 to blanket the countryside with an “eye-popping” 20,000 ATMs only to pull back, along with other disappointed major banks, in favor of a variety of nonbank financial deployers with the common sense to meet a new market. More work, more research and more understanding are called for now.

Indeed, foreign markets are a fertile and underutilized source of projections for the future. It is interesting to note, as the Fed and the Congress, seem stuck in the checking system as the world of tomorrow as well as of yesterday that “the U.S. payment system depends more on checks than is the case in all other industrialized nations.” Later in the same study: “[T]he key


to adopting a higher proportion of low cost transactions in the United States lies with reducing the number of checks written.\footnote{312} A study of payment systems around the world instituted at the Bank for International Settlements highlights the relevance of foreign systems to a greater understanding of our own.\footnote{313}

We are comfortable in assuming that, of all the sources available, it will be the Federal Reserve who will be pushing the envelope in new and innovative proposals. They have talent and resources; they work easily with contributors outside their own sector. As central bank, they are primarily responsible for the money supply; they thus have a natural concern for payment systems. They did propose the Check 21 Act. It should not be forgotten that federal regulations have a high level of acceptability themselves and a statute may be unnecessary.\footnote{314}

At the same time, the Fed is hardly indispensable. Informal\footnote{315} and formal\footnote{316} groups have gathered to consider the issues discussed in this article and can stand up to correct the Fed's misstep.

\footnote{312} Id., p. 32.

\footnote{313} Called the Red Book and produced by the Committee on Payment and Settlement Systems established by the so-called Group of Ten at the Bank for International Settlements, Basle, Switzerland.

\footnote{314} Federal regulations, of course, trump the UCC and thus provide a particularly fertile area for innovation.

\footnote{315} A group of local payment system teachers has been meeting regularly at the New York Federal Reserve Bank.

\footnote{316} Symposium on Electronic Payments, University of Michigan Law School
The National Conference of Commissioners on Uniform State Laws, daddy of the statutes governing checks, stands ready to undertake create innovation. The American Law Institute has informally expressed interest apart from its connection with the Uniform Commissioners. Individuals have written articles, books and legislative proposals.

VII. CONCLUSION

The Check 21 Act became effective on October 28, 2003. It makes some modest changes in the traditional system of check clearing. Basically, it provides for introduction of a “substitute check” which, because of its general uniformity (assuming wide implementation of the Check 21 Act) is designed to make check clearing faster and cheaper. The Check 21 Act leaves virtually intact basic checking laws like Articles 3 and 4 of the Uniform Commercial Code and Regulations J and CC of the Federal Reserve.

317 One of the best and least known is “Making Sense of Payments Policy in the Information Age,” by Ronald J. Mann, William Stamps Farish Professor of Law at the University of Texas Law School, a stimulating piece, as yet incomplete and, of course, unpublished.

318 One must not forget the New Payments Code largely written for the American Law Institute by Professor Hal Scott, Nomura Professor of International Financial Systems at the Harvard Law School. Among its innovations, it melded checks and debit and credit cards into one statute. It was publicly floated around 1980, was generally rejected by the banking community as revolutionary and was not introduced to any legislative body.
The checking system dates back to the Middle Ages and is the slowest and most cumbersome of the various payment systems in use. Although still a major payment device, it has been slowly fading away. The Federal Reserve, through introduction and approval of the Check 21 Act, has chosen to put its imprimatur on the checking system as a credible system and has undoubtedly extended its life into the future.

Numerous forms of electronic payment systems too numerous to list – including credit and debit cards, Automated Clearing House transactions, the Accounts Receivable Entry program, cash cards and adaptations of payments under the Electronic Funds Transfer Act and Article 4A of the Uniform Commercial Code - have been replacing check payments. They are generally attractive to consumers and to businesses because they are almost always faster and cheaper. The Federal Reserve has, however, looked backward through the Check 21 Act.319

Some form of electronic payment will almost undoubtedly acquire a critical mass of payors and will replace checks. Action by the Federal Reserve, as our senior financial regulator, will be crucial to this process. The rapid increase in e-commerce and e-business should provide the impetus and synergies for increased online transactions. The shift in demographics toward a young-adult group that came of age in the high-tech 1990s will make the average household more comfortable with electronic payments of any kinds.

Electronic banking technologies will continue to evolve. New products and services are appearing on the horizon. Electronic banking technologies hold the promise of helping consumers manage their monies, pay their bills and perform other related services. In order to take advantage of electronic developments in the payments system, consumers need to be aware of the innovations available to them and to understand how different technologies fit their financial management needs. Although the Check 21 Act is now effective there has been almost no public education in its potentials.

It is difficult to anticipate with certainty how quickly and in what forms electronic payments will evolve in the U.S. payments system. The digital economy goes through its own dynamics, which makes it unpredictable.

In conclusion, not long ago the authors of this article had lunch with two lawyers in the federal government involved with the evolution of payment systems. One of us asked what they thought would happen on October 28, the effective date of the Check 21 Act. One of the government lawyers replied: “Probably nothing.”

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320 The meeting with these two counsels was held back in September 2004. At their request we do not identify them.