

Check 21



A Blockbuster Story

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A serious story told with a bit of humor, self-deprecation, and some education on banking, payments, and congressional lobbying.

Check 21 was the fastest transformation in payments history from an archaic, paper-based system to an electronic check system.

**The real story of Check 21 according to
Phyllis Meyerson and David Walker.**



To Steer The Course, You Need a Tiller!

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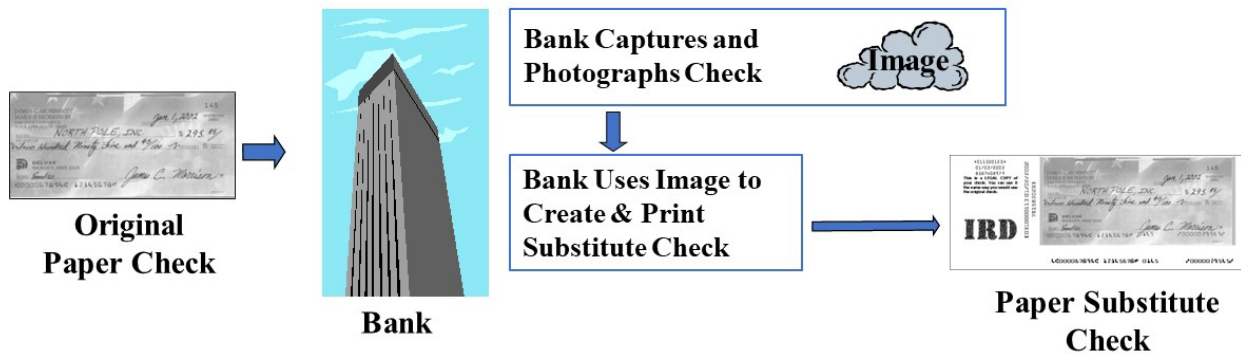
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Check 21 – A Blockbuster Story

Check 21, the dumbest payments concept ever! The Federal Reserve (Fed) has been in existence for more than 110 years. In all that time, it proposed new legislation to the U.S. Congress only once. That historic proposal, the Check Clearing for the 21st Century Act (Check 21), did one thing. It created the Substitute Check, a new version of a paper check, that is the legal equivalent of the original paper check and therefore could be used for all purposes as if it were the original check.

The concept involved transitioning from a paper check to an electronic record and then back into another paper check. This is accomplished by taking a picture or image of the original check and then using that digital record to create a Substitute Check that looks like the original check.

Concept – Replacing Original Check with Substitute Check



With full implementation of this concept, the banking industry would replace 40 billion original paper checks with another 40 billion paper Substitute Checks. Obviously, that was a dumb idea.

However, it worked amazingly well as a transition vehicle from paper to electronics.

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Dedications

This book is dedicated to Louise Roseman.¹ She led the effort within the Federal Reserve to support the concept and helped draft the historic proposal to Congress for Chairman Greenspan. Check 21 would not have become a reality without her. She always asked the hard questions until she fully understood all considerations. We are very proud to know her and to have worked with her. Phyllis says Louise is one of her most favorite people and has always hoped Louise felt the same about her.

The concept of writing this book is dedicated to Vivica Ware,² executive with Independent Community Bankers Association (ICBA).³ When we were retiring and leaving ECCHO we visited Vivica to say goodbye. She asked if we planned to write a book about Check 21. Before that, we had not seriously considered doing so. Thank you, Vivica, for providing the initial push to document the events that revolutionized the United States check payments system and for your part in and support of the passage of Check 21.

1 Lousie retired in 2016 as Director of the Division of Reserve Bank Operations and Payment Systems. Louise was Associate Director, Operations and Payment Systems Federal Reserve Board of Governors when the Fed's Check 21 efforts began.

2 Retired, Executive Vice President, Regulatory Policy.

3 The ICBA is the primary trade association for small U.S. banks. According to the ICBA's website, it represents approximately 5,000 small and mid-sized financial institutions that are commonly known as "community banks."

Acknowledgements

Many individuals contributed to the successful creation, passage, and implementation of the landmark legislation that changed the entire landscape of payments in the United States. Where possible, we attempted to include the names of the individuals involved but many more are unidentified, and all contributed to the success.

This book is not a detailed recitation of history but rather reflects our experiences and remembrances. Other individuals will have had other experiences not included or will remember some of the events differently or from a different perspective or in greater detail. We do not wish to slight the experiences of others which may be just as important and interesting as ours. For that, we ask your indulgence and understanding. For the benefit of history, please feel free to share your experiences and perspectives with us.

In addition to Louise and Viveca, a few other individuals must be recognized for their contributions to the passage of Check 21:

- We credit Alan Slater, retired, Vice President, Citibank, as the creator of the concept. To be fair, the late Ted Umhoefer, Senior Vice President, Federal Reserve Bank of Minneapolis, had a similar idea at approximately the same time. However, it was Alan's efforts that captured the support of the Fed through Louise Roseman and Vice-Chairman Roger Ferguson.
- Roger Ferguson, Vice-Chair of the Federal Reserve Board of Governors. His goal to truncate check payments, in part, provided motivation to support a new federal law.
- The late Fred Herr, Senior Vice President, Federal Reserve Bank of Atlanta led the effort within the Federal Reserve Retail Products Office to implement the dramatic changes to operations and transportation between the old and new systems. Fred left us way too soon and he is greatly missed.
- ECCHO's attorneys Bob Ballen and Tom Fox,⁴ Partners, Schwartz and Ballen, LLP, were instrumental in every aspect of the passage of the new law from the modifications to the Fed's initial draft to the Presidential signing (see [Chapter 6](#)) and the creation of the private sector's inter-bank image exchange rules. Their individual contributions are too numerous to mention, and the industry could not have done it without them.

Recognitions would be incomplete without mentioning the Board of Directors of the Electronic Check Clearing House Organization (ECCHO). Without the support of the Board, we and its attorneys could not have as aggressively pursued the passage of Check 21. The names of the directors from 1999 through 2005 are listed in [Appendix 1](#).

Any story about the success of Check 21 would be incomplete without also addressing the success of check image exchange. While the two are distinctly different, the success of Check 21 was dependent upon image technology and the success of image exchange was dependent upon Check 21. This book is primarily about the events that led to the creation and implementation of Check 21. However, as a matter of necessity, it also touches on the events that led to the transmission of check images between and among banks and the Fed. Together Check 21 and image exchange transformed the largest payments system in the world from paper-based to electronic-based and did so in record time; a little more than six years.

⁴ Bob Ballen is now retired. Tom Fox is currently working for the Federal Deposit Insurance Corporation (FDIC) as a Senior Policy Analyst, Information Technology Policy Section.

Our writing skills are mostly based on what we remember from high school English classes more than 50 years ago and any additional skills we acquired writing for business purposes.

We recognize the following individuals for laboriously reading, editing, commenting on, and improving our draft manuscript.

- Mike Crivello, retired English teacher
- Patti Murphy, ProScribes Ink
- Bill Saffici, retired, Managing Director, Saffici Payments Consulting LLC

We greatly appreciate their expertise, insights, and recommendations. Any errors in the book are entirely ours and no fault of theirs.

We have attempted to describe the check processes with the assumption that not everyone reading this book is a check expert. We know we may not have fully described some processes and simplified some descriptions to accommodate our readers. We also added a glossary of terms and graphics of processes. Check experts may find some of our descriptions incomplete.

Finally, we recognize Danielle (Elle) Reese of iNet Specialists for her technical support to publish this book in electronic form. Elle found and facilitated a way to download our book from the Tiller Endeavors website. This book is truly self-published from start to finish and could not have been accomplished without her technical problem solving. Neither of us have the skills to accomplish this.

Each of the first eight chapters is dedicated to a person or organization that was instrumental in the events recounted in that chapter.

In Memorial – A Necrology

With great sadness we have added this page to our book. When we started writing, we did not realize how many of our colleagues and friends we have lost over the years.

They were our colleagues, our friends and some we thought of as family, because we spent so much time together. In many cases we shared the good times (weddings, births) and bad times (lost jobs, family deaths). We truly hope when you read the name of a friend below, you remember a shared personal experience and it makes you smile.

Remembering:

Ron Ciechanowski
Barkley Clark
Harold Deal
Hank Farrar
Ron Freel
Fred Herr
Susan Holly
John Kimball
Steve Kopiec
Fred Laing
Elliott McEntee
Al Martin
Tom Rea
Ted Umhoefer

With regrets we may have missed others and if so please let us know.

The Timeline

The transition from paper to electronic checks evolved over 40 years, beginning in the late 1960s and early 1970s with the Special Committee on Paperless Entry (SCOPE) project. The SCOPE project was a precursor to the creation of the Automated Clearing House (ACH) as a replacement for paper checks with electronic payments. An alternative to check replacement was check truncation which is discussed in [Chapter 1](#).

Beginning in October 2004, Check 21 hurdled the barriers to check truncation and greatly accelerated the transition from paper to electronic checks, completing the transition in just over six years by mid-2011.



The timeline is used throughout to guide the reader through the stories and chapters that follow.

September 2001

There was a rapidly growing crowd gathering around a TV monitor in the hallway. Some people had just finished their first sessions of the day. Many more were arriving at the hotel for the conference. NACHA⁵ was holding its Electronic Check Conference in conjunction with its Electronic Check Council (ECC) meeting in Ft. Lauderdale, Florida. Phyllis Meyerson and David Walker were in attendance along with many others from all over the United States. Tuesday, September 11, 2001, was just getting started, and it was to be a long day.

As David's first session ended, he noticed the crowd around a TV monitor and stopped to see what was creating so much interest. Just minutes before, an airplane had struck the North Tower of the World Trade Center in New York, and everyone was trying to understand what was happening. About that time Phyllis joined him, just in time to see a second plane strike the South Tower. When Phyllis arrived, her first reaction to the gathering crowd was that there must be news of some weather event on TV, which is very common in Florida, especially during hurricane season. Unfortunately, this was not a weather event. The whole world was about to change.

Many conference attendees were going to sessions, and others were milling around the TV. NACHA announced it was canceling all sessions for the rest of the day and suggested everyone should meet at lunch for an update on the remainder of the conference schedule and for any update on events in New York, Washington, D.C., and Pennsylvania. Phyllis and David along with several others joined Nancy Grant in her room. Nancy was the NACHA employee responsible for the ECC meeting and the conference. She had a larger room than most, and she offered snacks and beverages. Together they watched the news coverage of the South and then the North Towers collapse over and over.

When the conference attendees met for lunch, it was a bit chaotic and everyone was talking about what to do next. Air traffic had been grounded, and NACHA announced it was canceling the rest of the conference and the ECC meeting. Bill Nelson, Executive Vice President of NACHA, attempted to bring some order to the chaos. He stood on a chair in the middle of the room and began coordinating carpools for attendees with common home destinations. Phyllis and David were seated across the lunch table from Jane Larimer,⁶ General Counsel of NACHA, who was on the phone having an adamant conversation with a car rental company. She had rented a car for use during the conference, and she was concerned there would be a one-way drop fee if she drove it back home to the D.C. area. In the hours immediately following the attacks, car rental companies had not yet determined to waive all one-way charges. She eventually decided to keep the car and drive home and worry about any additional charges later.

Phyllis and David delayed their decision about leaving, awaiting additional information as to when air traffic might resume. The next morning, they sat in the pool area and pondered whether to just chill at the hotel and wait for air traffic to resume or attempt to get a rental car and drive home. The distance from Ft. Lauderdale to Dallas is almost 1,400 miles, so they were not anxious to make the drive if it could be avoided. It was becoming clear, however, that no one knew when air traffic would resume and once resumed, how long the delays might be for booking and then boarding flights home.

Later that day, they decided that they could drive home before air travel questions were likely to be answered, if they could get a rental. Having delayed their departure by a day already, they were behind

5 NACHA, National Automated Clearing House Association, (dba Nacha), is the organization that develops and maintains the exchange rules and formats for ACH payments and manages the ACH network.

6 Jane Larimer was later promoted to Chief Operations Office and General Counsel and, later, to President and CEO, NACHA.

many potential car renters and some conference attendees told them they were unable to find rentals. Some even bought new cars or vans to drive home. Phyllis and David were still using a travel agent who was able to locate a rental. They immediately packed their bags and left the hotel mid-afternoon.

Their original travel plans did not include driving, so they were unprepared for a long road trip. Their first stop was a shopping mall in Orlando. Phyllis bought a paper map and David bought a power cable and adapter for the cigarette lighter port for his cell phone. Smartphones with GPS-based navigation systems and USB power ports were not yet available in 2001. That was the first of many stops over the next two days. Phyllis complained that they were making too many stops by not coordinating their bathroom, gas, and dining breaks. They made a total of 13 stops between Ft. Lauderdale and Dallas.

After driving for six hours, they were finally able to turn west on I10 and head towards Texas. They then made celebratory calls to family and friends to let them know that they were finally headed in the direction of home.

They were determined to drive until they left Florida, so they drove well into the night. It was an eerie time to be on the road and particularly after dark. They listened to the radio for news updates, but there was little new information, and they did not know if the country was still under attack. There were very few cars on I10 and no commercial traffic. They drove for miles without seeing another vehicle. When they did see a car rapidly approaching from the rear, it was a little unnerving. David preferred to drive most of the way since he tended to drive faster than Phyllis. She always says she is a terrible driver. And they were ready to be back in familiar territory with family and friends. At one point, they were cruising around 85 to 90 miles per hour, not expecting anyone to pass them, when a car began to quickly overtake them. Normally, David would have slowed down a bit to avoid getting a ticket, but he decided not to. Within a few minutes, a highway patrol car flew past them going, by David's estimate, about 120 miles per hour. They were relieved they were safe but wondered where the patrol car was going at such a high rate of speed, and what unknown crisis lay ahead. That sequence of events was repeated a couple of more times before the night was over.

When they arrived in Mobile, Alabama, it was around three in the morning on September 13th. They found a hotel just off the interstate, west of Mobile, in case there was traffic to slow their morning departure. The front door to the hotel was locked and when approached, the desk clerk eyed David suspiciously and seemed hesitant to open the door. But he did and there were rooms available. After only a few hours of sleep, they hit the road for the final push home. In hindsight, there was little to no traffic two days after 9/11.

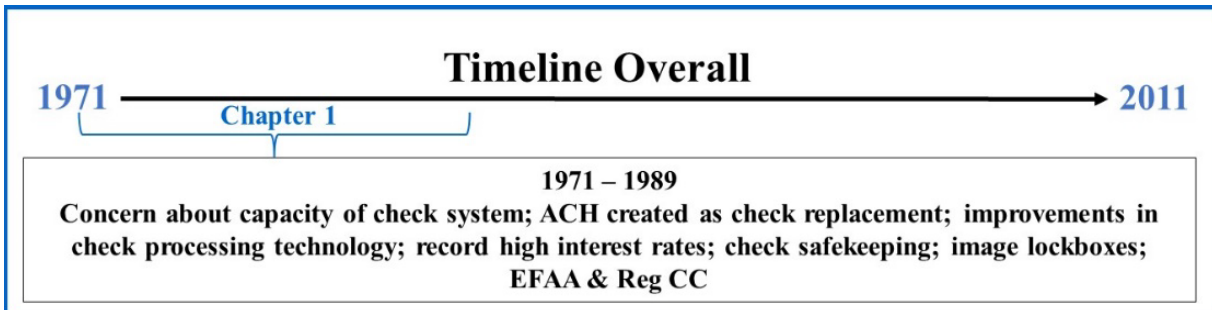
It is a common misbelief that 9/11 was the motivation for the new, federal payments law known as Check 21. The events of 9/11 influenced the passage of Check 21, but 9/11 occurred after decades of work to truncate checks and several years after work had begun on a new concept that would completely overhaul the nation's largest non-cash payment system.

This is the story of the people and events that initiated, passed, and implemented Check 21. That legislation paved the way for using electronics to accelerate the collection of approximately 40 billion paper checks per year valued at more than \$40 trillion. This story also explains the role the events on and after 9/11 played in its passage.

Phyllis and David hope you enjoy their stories as much as they enjoy telling and retelling them.

Chapter 1 – Before the Beginning

Before 1990 – This chapter is dedicated to Steve Kopiec,^{7 8} Float Manager with Manufacturers Hanover Trust (MHT),⁹ who was instrumental in the National Association of Check Safekeeping (NACS) organization, one of the earliest banking organizations to focus on check truncation.



In the late 1970s and into the 1980s, the banking industry was worried about the growing volume of checks. In fact, it was predicted the industry would be buried in paper by the 1980s and unable to process the expected volume. In the early 1970s, the Automated Clearing House (ACH)^{10 11} was developed as an electronic replacement for paper check payments. By 1980, the volume of ACH payments was growing annually by double digit percentages, which almost anyone would have considered very successful. But the volume of ACH transactions was still only a small fraction of the volume of check payments. Fortunately, the industry was not buried in paper and successfully processed tens of billions of checks per year well into the 2000s. This was mostly because of advances in check processing technology, like high-speed reader/sorters and the industry’s use of Magnetic Ink Character Recognition (MICR).¹²

One of the key developments involved improvements in the rapid capturing (reading) of information on paper checks without destroying the paper documents. The processing speeds of check reader/sorters increased to as many as 2,000 checks per minute, but there were practical limits. Move the checks too fast and they would tear and jam the machine, creating operational headaches and delays. Paper standards for checks required the paper to be of a specific weight to withstand the physical stresses of processing and transportation. It was common for checks to be read and sorted five to seven times and processed in three to four locations. And if a check was unpaid, such as for insufficient funds, returned to the depository

7 Steve is now deceased.

8 Marge Kopiec, Steve’s wife, hired Phyllis as a programmer at MHT.

9 MHT was acquired by Chemical Bank in 1991. Chemical Bank acquired J.P. Morgan Chase in 1996 and kept the Chase name.

10 The ACH includes both debit and credit payments under rules of the National Automated Clearing House Association (NACHA Operating Rules and NACHA Operating Guidelines) or rules established by the Federal Reserve in its Operating Circular 4 on automated clearinghouse items. The ACH is best known for direct deposit of payroll or direct debits to the accounts of bank customers.

11 From 1988 to 2008 Elliott McEntee was President and CEO of NACHA. Elliott is now deceased.

12 MICR is comprised of numbers and symbols printed in magnetic ink at the bottom of a physical check that can be recognized at high speed by automated processing equipment.

bank,¹³ and sometimes re-presented,¹⁴ it was possible a check would be processed 11 times or more. All that processing and movement placed a lot of stress on those paper documents.

The funny characters on the bottom of checks are known as MICR characters, and they are printed in a specific font (E-13B) using magnetic ink. MICR characters printed in magnetic ink allow checks to be read by machines with excellent accuracy, greatly expanding the capacity to process checks. Additionally, advancements in the equipment (reader/sorters) that read the MICR characters also increased processing speed and capacity. Then in the 1990s, high-speed cameras were added to reader/sorters to take pictures (images) of checks as they flew along the reader/sorter transports.

During the 1980s and 1990s, the industry actively discussed and pursued the concept of check truncation.¹⁵ In its simplest form, check truncation is the replacement of the paper check with an electronic record of the check after the check is deposited. In the 1980s, NACS was formed and developed rules and processes for truncating checks. Truncation, however, required all parties with an interest in the check to agree to truncation. You may think that obtaining those agreements would not have been too difficult, but that was not the case. In the 1980s there were approximately 20,000 commercial banks in the United States, plus thousands of credit unions and thrift institutions with millions of customers. Each of those institutions had to be able to exchange checks with any of the other thousands of institutions and their millions of customers.

The number of agreements required to support truncation on this scale was staggering, totaling millions of agreements. What are the odds that all those parties, including their attorneys, would support an agreement with the same assignments of liabilities? Needless to say, NACS was unsuccessful in obtaining those essential agreements.

NACS used the concept of adding a code to the MICR line in the EPC¹⁶ field (see [Chapter 8](#)) to tell all institutions in the clearing process that a check could be truncated. For this concept to work, customers needed to replace all their checks with new checks containing the appropriate code in the MICR line. Banks¹⁷ did not want to require their customers to replace their checks, and neither the banks nor their customers wanted to cover the cost of replacement. Only a limited number of banks participated in the NACS project with a limited volume of checks, dooming it to failure.

At about that time, many California banks offered a product called Check Safekeeping. Check Safekeeping allowed the original paper checks to be delivered to the paying bank¹⁸ as opposed to being truncated at a previous bank in the clearing process. The graphic below shows a typical paper check clearing process. The paying bank would “safekeep” the checks, rather than mailing them to its customers

13 The depositary bank is the first bank with which a check is deposited. Also known as the Bank of First Deposit (BOFD).

Customer A writes a check to Customer B who deposits the check in its bank, Bank B. Bank B is the depositary bank.

14 Re-presentation is the subsequent submission of an item (check payment) that has been presented, dishonored, and returned; also known as re-clear or re-deposit.

15 Truncation removes an original check from the forward collection or return processes and by agreement replaces it with electronic data from the MICR line. Later under Check 21, the truncated original check can be replaced with a Substitute Check.

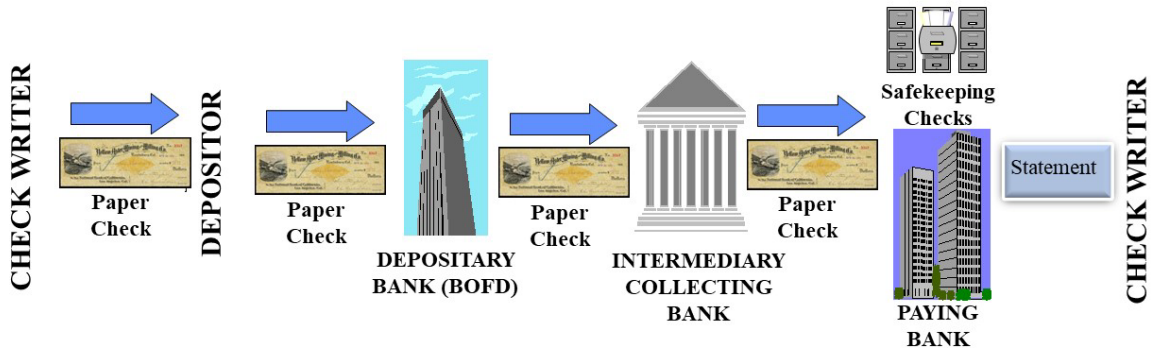
16 EPC (external processing code) in the MICR line is a digit (also known as Position 44) that conveys special information regarding the correct handling or routing of a check or check data to financial institutions and other processors. For substitute checks the code “4” was assigned for forward items and the code “5” for return items. Published with permission of Accredited Standards Committee (ACS) X9.

17 The term bank or banks is used generically throughout this book to include all types of financial institutions including commercial banks, credit unions, bankers’ banks, corporate credit unions, savings banks, and thrift institutions.

18 Paying banks are the banks on which the checks are written (drawn). Customer A writes a check on its account at Bank A. Bank A is the paying bank.

with their bank statements. Safekeeping is allowed under the Uniform Commercial Code (UCC)¹⁹ if the checks are properly “described” to the customers on their bank statements. The California banks were mostly successful in offering these products and eliminating the expense of mailing the checks to their customers.

Clearing & Safekeeping Paper Checks



This raises the question of why banks were mailing paid checks to their customers in the first place. The story goes that banks did not originally return paid checks with customer statements, but rather stored them. At some point, a large bank observed that the volume of stored checks was growing, and so was its cost to store them. The bank developed the clever idea of giving all the checks back to its customers, thus eliminating the bank’s storage problem. This approach of mailing paid checks to bank customers was popular and was rapidly adopted throughout the country. The storage costs were replaced, however, with the costs of sorting the checks, stuffing them into envelopes, and mailing them. Those costs would haunt the banking industry for years.

In an interesting marketing strategy, banks eliminated their check storage costs by including the checks in customers’ statements and having their customers store the checks and absorb the costs. Later the banks accepted those same costs if the customers were willing to pay them to safekeep (store) their checks. While California banks were successful with check safekeeping products, most of the rest of the country were not. Either the banks did not offer safekeeping, or banks feared their customers would not accept it.

Also in the 1980s, banks introduced image lockbox²⁰ systems to expedite the processing and clearing of checks for business customers. These systems reduced business’s receivable balances and increased business’s liquidity. There are two versions of these systems: Retail Lockbox and Wholesale Lockbox.

Retail Lockboxes are used primarily for consumer payments. Consumers mail their checks with a remittance, usually a machine-readable document, to the lockbox processor.²¹ Processors expedite the depositing and clearing of the checks and provide reports to the banks’ business customers, showing

19 The Uniform Commercial Code (UCC) is a uniform set of state laws adopted by each state individually and is one of the primary laws governing check payments. Regulation CC (Reg CC) is a federal regulation that supplements the UCC.

20 A deposit service provided to business customers. Under the service, the payments to those customers are mailed to a special post office box (lockbox) instead of directly to the company.

21 Lockbox processors include both banks and non-banks.

deposited checks and remittance data. This information is used by businesses to manage their receivables. Retail Lockboxes are typically characterized by large-volume, small-dollar items (checks). Examples of Retail Lockboxes are consumer payments for telephone, gas, water bills and taxes. Some of these check payments have been replaced with other types of payments including ACH bill payments.

Wholesale Lockboxes are used to collect business payments to other businesses for supplies associated with the manufacturing of products or for services performed by one business for another. They are typically characterized by low-volume, high-dollar items. Remittances to Wholesale Lockboxes do not normally include machine-readable documents and can include hundreds or thousands of invoices associated with a single payment. One company that processes medical payments has reported it sends boxes of remittance information for single payments.

Retail and Wholesale Lockboxes morphed over time to share overlapping characteristics.

What makes for a good lockbox? The local post office that receives payments for a lockbox must be efficient and the lockbox should be close to a major airport. The lockbox processor must have an excellent clearing network that can deliver (clear) checks to paying banks faster than just clearing those same checks through the Fed. Many banks were known for their lockbox products.

Since speed is essential, any process that accelerates check clearing is viewed favorably by lockbox customers. Image lockbox systems were initially justified based on accelerated clearing times and reduced operational costs. Once a check is received at a lockbox, it is imaged and sent on its way. Any information that the customer needs from the check is then obtained from the check image. Image technology, even in the 1980s, was far superior to the then-current practice of using microfilm or microfiche to capture and retain check information.²² Film and fiche were slow to process, slow to research, of low quality, and subject to loss or damage. Film and fiche had to be chemically developed, which could take days, and the indexing of the information for research retrieval was far from perfect. It was common for large volumes of checks to be skipped in the filming or developing processes. Additionally, sometimes the film or fiche would be black and/or could not be quickly retrieved. Image technology guaranteed a higher quality picture of the check that was almost immediately available, easier to retrieve, and more dependable.

In the 1980s, interest rates were increasing and borrowing money was expensive. Interest rates reached their highest point in modern history in 1981 when the annual average rate was 16.63%, according to Freddie Mac²³ data. Fixed rates declined to about 13% in 1984 and finished the decade around 10%. The use of a lockbox could accelerate the deposit of checks into business's bank accounts and was one way to take advantage of high interest rates.

There are many different interest rates. There is the rate:

- Customers pay when they buy things, i.e., houses or cars
- One bank pays to another bank for overnight borrowings, the Fed Funds rate
- The Fed charges banks to borrow money at its discount window, the prime rate
- Banks pay consumers on their savings accounts
- Banks pay to business customers for balances maintained at the bank, the earnings credit rate
- Banks use internally to allocate the cost of funds for making loans, buying equipment, or buying software, etc.

²² Banks are required by law to maintain copies of checks.

²³ The Federal Home Loan Mortgage Corporation, commonly known as Freddie Mac, is a publicly traded, government-sponsored enterprise, headquartered in Tysons Corner, Virginia.

With high interest rates in the 1980s, float managers²⁴ were rock stars in their banks. Whenever an operating area needed some additional revenue to cover expenses, it would call on its float manager. The float guys were very creative in coming up with ways to make money for their banks. One example was the use of courier networks that flew Lear Jets to deliver checks directly to paying banks. Jets are faster than trucks, and faster delivery reduces collection float,²⁵ increasing the amount of investable funds and earning income for depository banks.

Float managers have many stories about courier mishaps, such as checks falling off trucks, couriers being kidnapped, and couriers tripping and spilling checks in the winds of downtown Manhattan.

In one situation, a bank was moving its check processing to a different site. It processed the checks at the original site, transported them in large open bins to the new site, and reprocessed them. The processing totals from both sites should have been the same. However, while the bins were rolling through the streets of lower Manhattan, a bump caused checks to spill all over Broadway. An attempt was made by the bank clerks to pick up as many checks as possible, but after a while they looked at each other, shrugged their shoulders, and kept going. Obviously, the cash letters²⁶ did not balance between the two processing sites. Years later, when those same clerks had moved up in management, they laughed about the day the checks were dumped on Broadway.

In another case, a shipment arrived at a check processing center and while it was being unloaded, the clerks realized that instead of bags full of checks, the bags were full of cash. Bank management quickly stopped any processing since the courier had obviously picked up the wrong bags.

Tommy Kracher²⁷ tells a story about a courier who finally arrived at the bank on Monday after failing to arrive as scheduled on Friday. The courier company alleged its truck, driver, and checks had been hijacked. Apparently, the kidnappers had watched the courier going from bank to bank, picking up what they believed were bags of cash. Over the weekend the not-so-bright kidnappers realized there was no cash, only checks with no value to them. Once they realized this, they released the courier and the checks on Monday creating speculation the courier's employee may have been part of the plan. In the meantime, the bank initiated the difficult task of posting provisional credits to its customers' accounts despite the fact the information needed was normally obtained by processing the checks, which in this case had not yet arrived.

One more example of courier mayhem: BB&T²⁸ used a courier to pick up checks from the Federal Reserve Bank on a rainy day in downtown Charlotte, North Carolina, and deliver them to the bank's processing center miles outside of downtown. At some point not far from the Fed, the door of the courier's truck opened. It was only after the truck arrived at the processing center that the courier realized checks had been flying out of the truck all over town in the rain. It was a huge task to gather all the checks they could find and dry them before they could be processed. Rain and checks are never a good combination.

24 Float managers analyze check capture trend data to determine the most expeditious interbank clearing schemes. They collaborate with internal retail and commercial groups to define pricing and availability models for different bank products and typically manage the transportation of checks.

25 There are many types of "float". Collection float refers to the time from when a check is deposited with the depository bank until it is paid by the paying bank and financially settled between the banks.

26 A group of checks sent by a bank or its agents to another bank, a clearinghouse, or a Fed office. A cash letter contains a number of negotiable items, usually checks, accompanied by a transmittal letter that lists the dollar totals of the checks. Published with permission of Accredited Standards Committee (ASC) X9.

27 Tommy's last bank employer was Cadence Bank. He had extensive bank operations expertise from working with multiple banks in the US and Canada.

28 In 2019 BB&T and SunTrust merged to form Truist Bank (Truist).

Check 21 and check image exchange ended these kinds of courier issues by eliminating the need to transport paper checks.

Some of the larger clearing banks and banks with large lockboxes instituted a process called “Hot Shot.” If a large dollar check was deposited on a Friday that could be cleared that same day, the bank would fly an officer to present (hand deliver) the check to the paying bank. Otherwise, the check would normally not be cleared and settled²⁹ until the following Monday. Checks are “demand instruments” under the UCC and therefore are payable “on demand”. By delivering a check on Friday, the bank could make an extra two days of float on that check. A single, one-million-dollar check could earn an extra \$1,300 over a two-day weekend in those days. Business checks and checks to and from New York brokerage houses easily totaled multimillions of dollars per item. With multiple checks of that magnitude, the savings from Hot Shots could be considerable.

Lockbox deposits typically come into the bank in the early hours of the day. Bank employees in certain areas of the bank, e.g., teller and lockbox, were put on alert to find checks over a certain dollar amount drawn on select banks. The employee who found a large dollar check received a small bonus. A bank officer, usually someone from the float or cash management area, would fly the check(s) to cities like New York, Chicago, or Boston. If the check could be presented before the paying bank’s deadline on Friday, usually about noon, the collecting bank³⁰ could receive the amount of the check that same day via Fedwire.³¹ Banks fund themselves, in part, by borrowing from other banks overnight. By receiving the funds on Friday, the banks could borrow less over the weekend or, in the case of banks with excess liquidity, could lend more to other banks. This timing difference, collection float, provided two or three days of additional interest earnings or expense reductions.

The officers that volunteered to take these free trips would show up on Friday mornings with suitcases in hand, ready to travel on a moment’s notice. There are stories of people running through airports and downtown Manhattan because their flights had arrived late. They were rushing to the paying bank’s processing center before the bank’s deadline to make the trip worthwhile. The interest made on those Hot Shots more than covered the costs of the flight and hotel. A great way to get a free weekend in another city.

Some banks used jets to transport checks. Banks in Philadelphia sometimes used a sea plane to move checks from Philly to lower Manhattan, potentially avoiding New York traffic delays, where couriers would then deliver them to the New York banks.

During periods of high interest rates, banks would make money by withholding available funds from customers’ deposited checks longer than the time needed to collect them, sometimes longer than reasonable. By the mid-1980s, there were many complaints from customers that banks were putting long holds on deposited checks, some as long as two weeks. There is a story of a large Manhattan Bank that put holds of several days on checks deposited in its own Brooklyn branch, even though the checks would be cleared that same day.

29 Settlement is the term used when the paying bank pays the depository bank for the checks the depository bank delivers to the paying bank. Settlement also occurs when the depository bank pays the paying bank for unpaid items (returns). Settlement normally occurs via Fedwire.

30 Collecting bank - Any bank that handles a check for forward collection, except the paying bank.

31 Fedwire is an online, real-time system operated by the Fed that moves monies between banks through their accounts with the Fed. These monies are immediately final and irrevocable. Fedwire, at the time of this writing, does not operate on Saturdays, Sundays, or federal holidays.

Most checks cleared within two days in the 1980s, but usually no longer than three. The rationale for longer holds was that while the forward collection³² was fast, the time for the depository bank to receive unpaid items was not. According to the UCC, a paying bank is required to initiate the return of an unpaid check by midnight of the following day, and each subsequent bank in the return chain is required to initiate its return by midnight of the day following its receipt of the check. This was fast if the check went directly from the paying bank to the depository bank, but not if there was one or more intermediary banks,³³ each of which could add almost two days to the return process. Depending on the number of intermediary banks and the circuitous route taken by the returned check, it could require 10 days or so after the date of deposit for the depository bank to know the check would not be paid.

The volume of unpaid returned checks was about 1% of the total checks in the 1980s, and banks put long holds on many checks for a relatively small volume of returned checks. Then came Congress to save the day for depositors in the form of the Expedited Funds Availability Act (EFAA) of 1987. There is a story of a congressman's mother whose bank put an extended hold on her deposited check, and she complained to her son to do something about it. She was not alone in complaining about long hold times. Congress required the Fed to enact a regulation to implement the EFAA. That regulation, known as Regulation CC (Reg CC), required banks to provide customers with funds availability on deposited checks based on several criteria including the locations of depository and paying banks, the dollar amount of the check, and the anticipated ability to collect the check.³⁴ The EFAA also required banks to make new disclosures to customers.

An important goal of the EFAA is to "improve the check payment system".³⁵ The regulatory provisions about funds availability and customer disclosures also include requirements that returned checks be received by the depository bank within two or four days (depending on the banks' locations) after the check is presented to the paying bank. With the allowable holds and improvements in return processing, banks could sometimes make the new deadlines and sometimes not. But the EFAA provided customers with greater certainty, as a matter of law, as to when their deposited funds would be available.

Remember those creative float managers? The new regulation created clear, legal requirements for return deadlines and funds availability. Nevertheless, creative float managers were able to make money by clearing checks more quickly than Reg CC required and then keeping the value of the timing differences for their banks.

The check system was the largest non-cash payment system by volume in the United States in the 1980s, and checks were exchanged between banks primarily via trucks and airplanes. Checks were moved between Hawaii, the East Coast, Puerto Rico, Alaska, and all points in between, across as many as six time zones. Banks in the western time zones were disadvantaged relative to East Coast banks in the interbank collection of checks. For example, checks deposited in California drawn on banks in Boston required about 12 hours to be processed by the banks on both ends, transported to and from the airports on both ends, and flown for five and a half hours across the country while losing three hours because of time zone differences. By comparison, checks deposited in New York drawn on the same Boston banks, in the same time zone and with only a one-hour flight time, had an advantage of approximately seven and a half hours, assuming the same processing requirements for both banks.

32 Forward collection is the process of transporting deposited checks from depository banks to paying banks.

33 An intermediary bank is any financial institution other than the depository or paying bank that facilitates check exchanges between two banks.

34 For example, for a bank customer who frequently overdraws his account, the bank's ability to collect the check might be in doubt. When collectability is in doubt, within reason, Reg CC allows the bank to place a longer hold on the funds.

35 EFAA states that to improve the check processing system, the Fed shall consider requiring, by regulation, provisions to expedite and automate the return of checks, and provide for check truncation.

This difference is important because the longer it takes to transport checks between banks, the earlier the depository banks must stop processing checks for delivery that same day to paying banks. West Coast banks needed to discontinue processing of checks drawn on East Coast banks before noon Pacific Time (3 p.m. ET) to make an East Coast 9 p.m. ET deadline. In the example above, the New York bank could continue processing checks drawn on Boston banks until after 7:00 p.m., virtually all day.³⁶

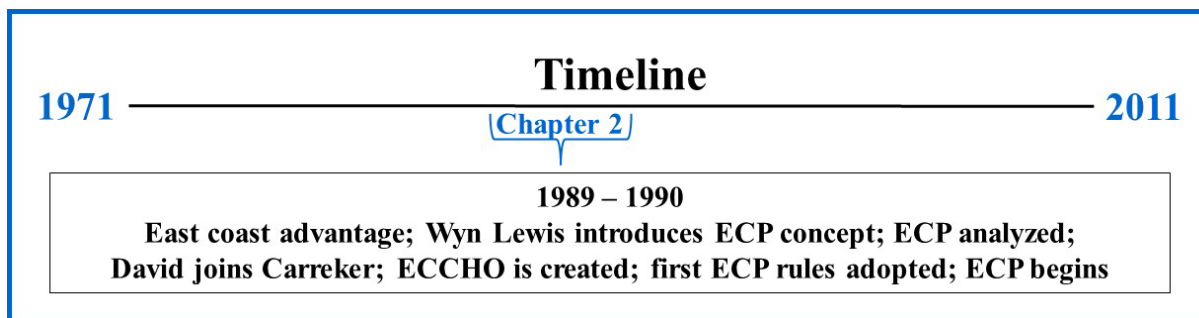
When paying banks receive checks from other institutions by their processing cut-off times, they normally provide funds via Fedwire to the depository bank the same or the next banking day. Missing the cutoff meant a delay of one to three days. For example, missing a Friday receipt deadline on a three-day weekend created a loss of value for the depository bank and likewise a gain in value for the paying bank. With high interest rates, the loss or gain in float income could be significant. This book does not address the financial implications of these losses or gains, but there were several. The inherent West Coast disadvantage created incentives for West Coast bankers to look for creative ways to narrow the East Coast advantage.

Key factors driving the collection of checks during the 1980s were a fear that growing check volumes would exceed processing capacity, high interest rates, improvements in check processing technology, and collection time limitations because of the dependency on the physical presentment of paper checks.

36 Check deadlines are based on the time local to each of the banks. For example, Pacific Time for West Coast banks and Eastern Time for East Coast banks for the same check. Deadlines for electronic payments, by contrast, are based on Eastern Time.

Chapter 2 – ECCHO Formed - Precursor to Check 21

1989 – 1990: This chapter is dedicated to Wyn Lewis, Vice President, Float Manager, Wells Fargo. Following is his story.



There were several precursors to Check 21 and one such creative approach grew out of discussions at a Bank Administration Institute (BAI) Float Conference in 1989. One evening there was an impromptu meeting at a bar (a meeting? at a bar?). Wyn Lewis,³⁷ initiated a discussion as to whether the use of electronic transmissions could accelerate the collection of paper checks. In the discussion were Bob Bean, Principal, J.D. Carreker and Associates,³⁸ Dominick Cavuto with Bankers Trust,³⁹ Ron Ciechanowski with Chemical Bank,⁴⁰ Ron Freel with Chase Bank,⁴¹ Bob Olson with Security Pacific,⁴² and perhaps one or two others. These were experienced float managers with their respective organizations. Bob Bean had also previously worked for the Fed and as a float manager for RepublicBank Dallas.⁴³

Wyn proposed, on a bar napkin, that the MICR lines from captured checks be transmitted electronically from West Coast banks to East Coast banks in addition to transporting the paper checks by air. Essentially, he proposed splitting the normal process into two parts; an electronic transmission of data followed, a few hours later, by the normal delivery of the paper checks. Because electronic transmissions are faster than planes, the MICR line data would arrive at the paying banks in advance of the paper checks. This timing difference would allow depository banks to extend their processing cutoff times a few hours later in the day.

Wyn proposed that banks would then use data from the MICR line for posting to their customers' accounts rather than posting from paper checks. The paper checks would continue to be used for the return of any unpaid checks back to depository banks and for inclusion of paid checks in customers' statements. This new bifurcated process (see graphic below) would allow depository banks to increase the volume of checks they cleared on the same day as deposited, even to paying banks across the continent.

37 Wyn worked for Carreker Corporation after Wells Fargo and is now President, the Vibrant Vine Winery.

38 J.D. Carreker & Associates provided integrated consulting and software solutions. After several name changes (one of which was Carreker Corporation) and acquisitions, the company is now a subsidiary of Fiserv, Inc.

39 In November 1998, Deutsche Bank purchased Bankers Trust and the purchase was finalized on June 4, 1999.

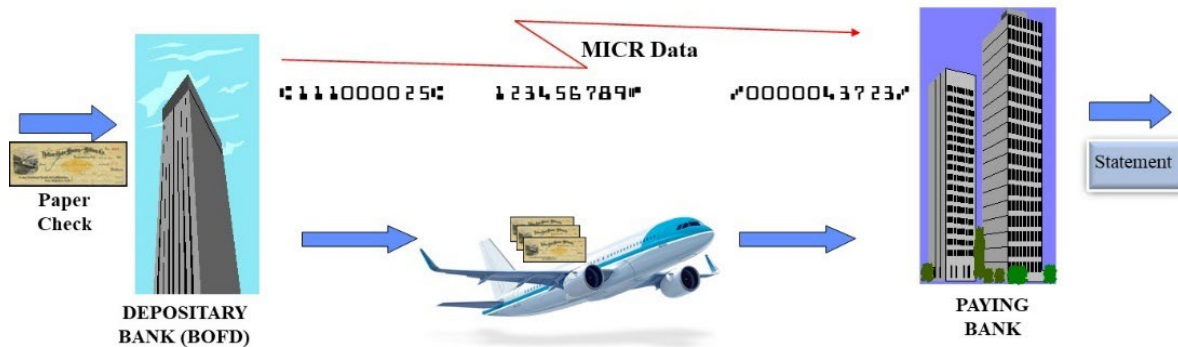
40 Ron Ciechanowski is now deceased. On March 31, 1996, Chemical merged with the Chase Manhattan Corporation forming what was then the largest bank holding company in the United States.

41 Ron Freel is now deceased.

42 Security Pacific National Bank was a large U.S. bank headquartered in Los Angeles, California. It was acquired by Bank of America in 1992.

43 RepublicBank Dallas after several name changes, mergers, and a failure is now part of Bank of America.

Wyn's Two-Part Recommendation



Most bank operational changes are dictated by cost savings. Wyn's proposal was unique in that it would increase the bank's operational costs, which could be justified, at least by large banks, by the value created from the accelerated presentment (collection) of checks. As an extra benefit for depository banks, accelerated presentments would also offset some of the time zone advantage of the East Coast banks. By posting to customers' accounts from electronic data, unpaid items could be returned by paying banks to depository banks a day sooner than posting from the paper. Receiving unpaid items sooner reduced the depository banks' losses and risks associated with returned checks.

There was also new value for paying banks from accelerated postings from multiple sources in a high interest rate environment. By decrementing (debiting) an interest-bearing account a day earlier, the bank would pay interest for one to three fewer days on the amount of the accelerated posting. If an electronic file could be sent today, later known as electronic check presentment (ECP),⁴⁴ and settled⁴⁵ tomorrow via Fedwire, there was money to be made. Phyllis likes to quote the great financial expert, Wimpy: "I will gladly pay you Tuesday for a hamburger today."

Also, businesses typically maintain peg balances⁴⁶ in their bank accounts. When banks accelerate the posting of checks drawn on those accounts, the businesses' balances could fall below their designated peg amounts. To maintain their peg balances, businesses need to "replenish" their balances by making a deposit a day or more earlier than they would have otherwise. The early deposits would mostly come from the businesses' investments and not from other banks. For this idea to work, however, one bank could not achieve these benefits without other banks agreeing to participate (see [Chapter 1](#)). That was why Wyn was pitching the concept to other large banks with whom Wells Fargo already had banking relationships.

Bob Bean, upon arriving back at his office in Dallas following the BAI conference, discussed this idea with his employer Denny Carreker. Denny and his consulting firm, J. D. Carreker and Associates, were well-known across the industry for their float management expertise. One of Denny's many skills was the ability to get groups of executives from competing banks to participate in group projects, and he saw an

44 ECP is a two-prong process involving the transmission of data from the MICR line of a check directly from the depository bank to the paying bank followed later that same day or soon after midnight by the physical delivery of the paper check to the paying bank.

45 When the paying bank pays the depository bank for checks drawn on it, the paying bank "settles" with the depository bank. Settlement normally occurs by sending the value of settled checks via Fedwire.

46 Peg balances are the amounts that business customers wish to maintain in their accounts at all times. These balances are used to meet the customers' liquidity requirements and to pay for bank services.

opportunity to promote this accelerated collection idea to the industry. Group projects allowed Denny to gather his largest customers in one room at the same time and sell them on his newest project.

Within a couple of months, Denny had organized a group meeting of about fifteen of the largest check-clearing banks in the United States. The group approved a project to study whether this idea was legal, whether it was operationally practical, and whether it was financially feasible. Morrison & Foerster (MoFo), an international law firm with a wealth of payments law expertise was hired to consider the legal implications. Among other things, MoFo had previously worked with the California Check Clearing House Organization on its check exchange rules, and with NACHA to develop the original set of ACH rules. The first in-person meeting of Denny's new project was held in June of 1989 to consider using ECP to accelerate the collection of checks.

By October of 1989, the initial analysis was complete. The group determined with the right legal framework, MICR lines could be transmitted directly to paying banks and used for posting to customers' accounts in advance of the arrival of the paper checks. It was also determined it was operationally feasible and there were financial incentives to do so. With these conclusions, the group decided the next step was to create a new membership organization to develop and maintain the interbank exchange rules for ECP.

There was a contest at the October meeting to name the new organization. It took multiple rounds of voting on various suggestions before the group settled on the name Electronic Check Clearing House Organization (ECCHO). In planning for the meeting, Denny tasked David with providing a bottle of Dom Pérignon champagne to the person who suggested the winning name. David had been with Denny's organization less than two weeks and was not sure if Denny was serious about buying a pricey bottle of champagne, so he fretted over what to do. Finally, on the morning of the meeting, he asked Bob Bean if Denny was serious. Bob and David had previously worked together at RepublicBank Dallas. Bob confirmed; absolutely, Denny was serious.

It was clear David was in trouble, so after breakfast, and immediately before the meeting, he asked the restaurant at the New York hotel where the meeting was being held for a recommendation of a high-quality wine that could be presented instead of the champagne. At the meeting, when Denny was promoting the naming process and announcing that a bottle of Dom Pérignon would be presented to the winner, David had to fess up that it was not quite Dom Pérignon. Denny's disappointment was palpable. This was one of David's first lessons on the differences between a cost-conscious bank operations officer and a consultant splurging on its customers.

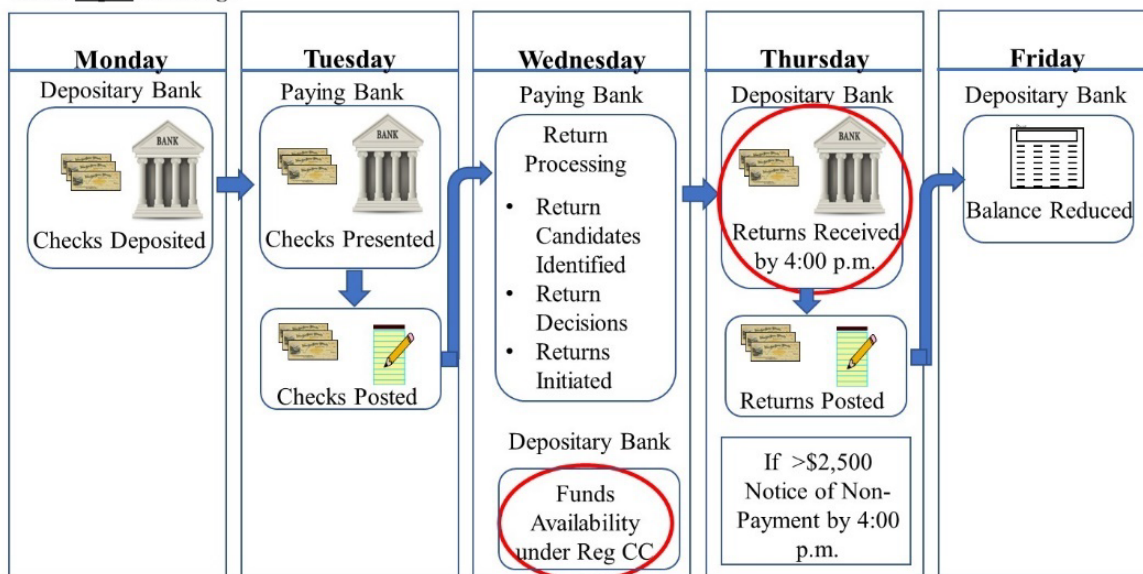
Ten banks committed to fund the creation of ECCHO but expressed some concern that accelerated posting of checks might be met with negative reactions from bank customers. The public rationale for ECP was that the new provisions in Reg CC required banks to provide customers with accelerated funds availability, which in some cases was before the bank would know if the check would be returned unpaid.

The graphic below shows the typical timing and sequence of events for a paper check drawn on and deposited in two banks that are local banks under Reg CC. Reg CC requires depository banks to provide funds to depositing customers within two days of deposit for checks drawn on local banks.⁴⁷ But the depository bank would not normally receive an unpaid, return paper check until Thursday for checks deposited on Monday. Checks received on Thursday would be posted Thursday night and reflected in the customer's balance on Friday, two days after the customer had full use of its funds. This delay created a window during which bad actors could defraud the bank. This risk supported the banks' argument that they needed ECP to accelerate postings and returns.

⁴⁷ Local banks are banks within a single Federal Reserve Bank area. Later, once the Fed consolidated all check processing into a single, national region, all banks became local banks.

Return Item Risk

Local Paper Exchange



Note: This graphic reflects the Reg CC requirements in 1989. Some provisions have changed since then.⁴⁸

ECCHO⁴⁹ became a legal organization in March of 1990, and Denny Carreker was named its first Executive Director. Alan Holroyde, Executive Vice President, Wells Fargo Bank, was elected by the ECCHO Board of Directors as its first Chair and Wyn was elected as the first Chair of ECCHO's Operations Committee. Alan was a supportive chair who provided strong, positive ECCHO leadership. Because ECCHO had no employees, Denny's employees became ECCHO's staff. Initially, David was the only one dedicated to ECCHO. Sissy Toney was added in 1991 as ECCHO's administrative assistant, and Phyllis was hired in 1991, two years after David was hired.

Denny's original plan was to develop exchange rules and an operational network to transmit the check data between two exchanging banks. The bankers embraced the idea of creating rules but did not envision Denny's company as an operational organization. Denny's network concept included using a communication network owned by American Airlines that was in use in Europe. But there was a problem beyond the bankers' unwillingness to support a Carreker network.

One of David's early assignments from Denny was to create a relationship with American Airlines. David met with a person at American Airlines that he knew from Electronic Data Systems (EDS)⁵⁰ where they both worked in the 1970s. After the initial meetings with American Airlines, David met with Denny and asked why he had selected American Airlines. Denny said it was because of their network and David explained the problem.

48 In 2018 the Fed updated Reg CC. It changed the Notice of Non-Payment requirement from \$2,500 to \$5,000. It changed the time this Notice and the return must be received by the depository bank from 4:00 p.m. to 2:00 p.m.

49 December 31, 2017, ECCHO as an organization was dissolved and its assets were purchased by TCH and became a business line of The Clearing House Payments Company L.L.C.

50 EDS was purchased by General Motors and later in 2008 by Hewlett Packard.

The check payment system is a batch-based (cash letter) system, but every existing network was transaction-based, meaning it could move only one check at a time. A transaction-based network works well for cards, ATMs and Fedwire, but for banks to use such a network for checks would require every bank to significantly rework its existing check operation. The bankers were not having it, and American Airlines did not have an existing batch network. Neither did any other organization.

Denny sold the group hard but to no avail. The discussion abruptly ended when an overhead transparency showing an American Airlines jet was displayed on the screen. It is still unclear why that triggered the discussion cutoff, but it did, with jeers about the plane flying in the wrong direction; obviously, planes fly in all directions. This picture was of a plane flying from the right side of the page to the left. It seemed that some in the group thought it should be shown flying from left to right. Perhaps because they were West Coast bankers imagining flights to the East Coast.

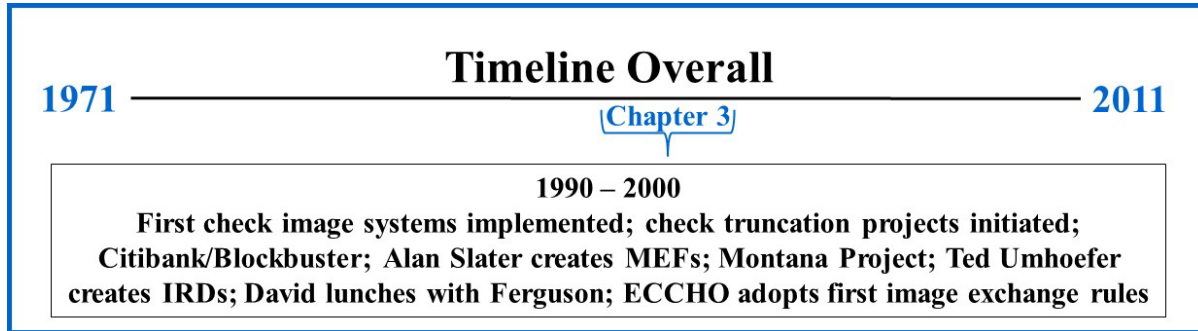
When making presentations, even the most experienced speakers never know what little, insignificant, thing might cause either a very positive or negative reaction, and Denny was an excellent presenter. Despite this setback, Denny successfully served as ECCHO's Executive Director for almost ten years.⁵¹

Without ECCHO, there may not have been a Check 21! More on that later.

51 David was elected Executive Director in 1999 by the ECCHO Board following Denny's term. Later in 2001, David was promoted to President and CEO.

Chapter 3 – In the Beginning

1990 - 2000 – This chapter is dedicated to Alan Slater and Ted Umhoefer. Their stories are below.



Entering the 1990s, bank image technology existed,⁵² Reg CC had been implemented, ECCHO was created, interest rates were falling, and Electronic Check Presentment (ECP) was being implemented, albeit slowly.

Check collection for large banks was enhanced by ECP in the early 1990s. ECP used the MICR line to accelerate the presentment⁵³ of check information to banks in advance of the arrival of the original checks (see [Chapter 2](#)). The value of ECP was limited by the amount of dollars that could be presented and therefore only large banks could benefit financially from its use. Remember, Wyn Lewis' idea increased the clearing costs so the value from ECP needed to exceed the additional operational costs of a new parallel process. It was, however, an important early step in the transition from paper to electronic check collection.

The first large banks to implement image check processing systems were Comerica Bank and Barnett Bank⁵⁴ using Unisys Corporation's system. Check image systems initially replaced microfilm and microfiche systems (see [Chapter 1](#)) and supported the emergence of new products such as image statements. Image statements eliminated the need to mail the physical checks back to customers by providing them with image copies of their checks. For large volume check writers, CD ROMs were also available with images of paid checks. This is where the banks initially made another mistake. As related in [Chapter 1](#), banks decided to mail paid checks back to their customers rather than store them. When image systems were implemented, the banks initially compounded that error by mailing paper copies of check images in customers' statements. Later, however, this decision helped support the transition from paper statements to downloadable electronic statements over the internet, eliminating the need and expense of physically sorting and mailing paper statements.

In the 1990s everyone was talking about truncating checks, and there were active projects to that effect. But if banks provided copies of all paid checks to their customers, paying banks had to somehow receive the checks or the images of the checks to provide them to their customers. In the early 1990s, transmitting images of checks was expensive, and the hope was that neither the physical checks nor their copies would

⁵² Image technology for banks had been developed and implemented on a limited basis for example Lockboxes see [Chapter 1](#).

⁵³ Presentment is a legal term but is used in this book to describe an operational process to move checks and check-related data to the paying bank.

⁵⁴ In 1997 Barnett Bank was acquired by NationsBank which later became Bank of America.

be delivered to paying banks. The alternative for paying banks was to post to their customers' accounts using non-image, MICR line data files. But because the banks had done such a great job of selling image statements, many banks were not interested in receiving only the MICR information for posting since their customers were expecting images of their checks in their statements. Every problem solved along the way to achieving truncation revealed yet another barrier to overcome.

One of the early Reserve Banks⁵⁵ to investigate the use of image technology, check truncation, and ECP was Montana, in the 9th Federal Reserve District, part of the Federal Reserve Bank of Minneapolis. Ted Umhoefer,⁵⁶ with the Fed, seeing an opportunity to improve the check return process in Montana, initiated EPIC (Montana Electronic Presentment Image Check Project) or as most everyone called it, the Montana Project. If you rotate a map of Montana on its eastern border 180 degrees, the rotated western edge of Montana will then cover parts of North and South Dakota, Minnesota, and Wisconsin. Ted used this graphic in many presentations to emphasize the large geography and small population of that region. He described the logistical challenges of receiving, collecting, and returning checks during frequent delays caused by heavy snow. Ted created the idea of using what he called, an Image Replacement Document (IRD)⁵⁷ to return unpaid checks. He envisioned the paying bank would notify the Fed of the returned checks and the Fed would then create IRDs for delivery to the depository bank. The IRDs could then be posted to the customers' accounts and returned to customers for collection.

There was no legal basis for creating IRDs, but the Fed was working under the assumption that a notice to the depository bank and its customers would provide the authorization to convert images into IRDs which the depositors would then receive in lieu of the original checks. The concept was known as "Notice Equals Authorization" and was already in use by NACHA as authorization for the conversion of checks into ACH payments.⁵⁸

Software written for EPIC and the Minneapolis Fed, through the Federal Reserve's Retail Products Office,⁵⁹ was used in an attempt to implement the project. But there were issues with the software, and the project had limited success. However, some IRDs were used when snowstorms did not allow the timely movement of the physical checks. This use of IRDs essentially validated Ted's concept.

In his work on this project, Ted created a prototype of an IRD. It looked like a check but with the image of the check reduced in size. The image of the check was printed on the right side of the IRD with a new legend on the left. A reduction in the size of the check image was necessary so both the image and the legend could fit on a piece of paper that could be processed as if it were the original check. The amount of reduction varied by the size of the original check. Since business checks tend to be larger than consumer checks, business checks need to be reduced to approximately 67% of their original size; consumer checks need to be reduced to approximately 95%.

Ted also showed what the IRD would look like if the IRD was subsequently shrunk four times as it traveled through multiple processing sites. Each site would recapture the image of the IRD it received and shrink it again with a new legend and MICR line. With each shrinkage, the image of the original check became progressively smaller, until by the fourth iteration, the original check looked like a postage stamp. See the graphic below.

55 The Federal Reserve is organized into twelve Federal Reserve districts. Each district includes a Reserve Bank. Reserve Banks supervise and examine banks, provide key financial services, and serve their districts.

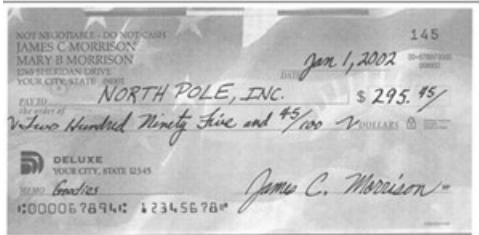
56 Ted, now deceased, was a Vice President of the Federal Reserve Bank of Minneapolis.

57 Ted's IRD was a reprint of an image of a check that was intended as a replacement for an unpaid, returned check.

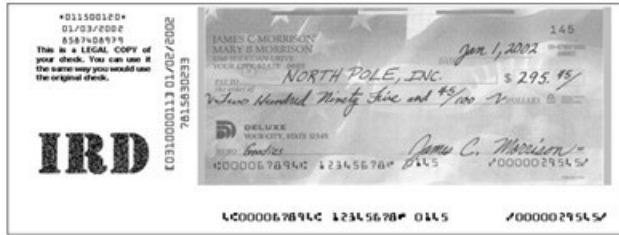
58 Check conversion replaces a payment initiated by a paper check into an electronic (ACH) payment. Under the NACHA rules, there are multiple applications of check conversion, including ARC, POP, and BOC.

59 The Fed's Retail Products Office is responsible for developing, providing, and pricing check services (products) to financial institutions, and providing Fed transportation services.

Shrinking IRD



Original Check



Substitute Check



2nd Generation



4th Generation

Since Ted's project was designed for processing returned checks through the Fed, and since returned checks can only be presented for collection two times, there would normally be only two shrinkages, which would have been acceptable so long as the use of IRDs was limited to the return of unpaid checks. Later, under Check 21 that limitation would not apply.

At about the same time, the Fed conducted an Image Returns project that provided technical, operational, and legal information to exchange image returns. There was also an update to Reg CC allowing the electronic return of unpaid items.

Many bankers believed the initial implementation of image exchange should start with image returns rather than with the forward collection process. This judgmental error was made by Canadian banks as well. The logic was that because the volume of returns was only about 1% of total check volume, the smaller volume would be easier to manage for early implementations. That never materialized because banks would not spend money on a project with a small volume and therefore with the expectation of a small financial return. Additionally, banks realized that to return check images, they must first implement much of the infrastructure required for processing images in either direction. This meant most of the costs of full implementation would be required to implement only the return process with a fraction of the financial benefit.

The mid-to-late 1990s saw the proliferation of organizations dedicated to image and electronic exchanges, as well as expanded collaboration within the industry. Among those organizations was SVPCO, a subsidiary of The New York Clearing House, later renamed The Clearing House (TCH). While its original focus was on ECP with paper-to-follow using the ECCHO rules, SVPCO's plans called for full truncation without moving the paper or images to the paying bank. SVPCO eventually adopted the work of the Paperless Automated Check Exchange and Settlement (PACES) project. This provided SVPCO with a head start on the work needed to implement image exchange. A description of PACES is below. Another company, Viewpointe, was formed with its initial focus on archiving check images. Issues associated with archival and retrieval of check images were also being addressed by the Image Archive Forum (IAF).

The PACES project was conducted by the Financial Services Technology Consortium (FSTC). PACES intended to develop and pilot an interbank check image exchange. The project consisted of four banks, technology vendors, the Fed, and ECCHO. PACES planned to use ECP with images-to-follow, rather than ECP with paper-to-follow, making ECP the backbone of the project. The project lasted two years, and a significant amount of work and knowledge was accumulated about image exchange. That knowledge included the functional specifications for the exchange of ECP with image-to-follow, the requirements for back-office processing of images, the development of an image quality standard, and a set of image exchange rules. Two vendors, as members of the project, collaboratively created software for image exchange.⁶⁰ With the support of this project, ECCHO approved its first set of image exchange rules in the fall of 1999. As the project was wrapping up, there was a push for at least two banks to volunteer for a pilot exchange, but that effort was unsuccessful. In the fall of 1999, the U.S. financial industry and the rest of the world were only focused on Y2K⁶¹ and the fear that unpredictable things would happen to most computer systems when the clock struck midnight on December 31, 1999.

Meanwhile, and it may be hard to believe now, in the mid-1980s into the 1990s there was a Blockbuster on street corners throughout America and abroad. Blockbuster was a retail store that rented home movies on VHS and Betamax tapes,⁶² as well as electronic games. It may be even harder for "us old folks" to believe that an explanation of Blockbuster is necessary. At its peak, Blockbuster had more than 9,000 stores across multiple countries. As of the date of this writing, there is only one remaining store worldwide, and it is in Bend, Oregon.⁶³

During Blockbuster's prime, many banks wanted it as a customer. Citibank, known for its initial deployment of ATMs in each of its branches in New York City in the 1970s,⁶⁴ was able to sell Blockbuster a new service that included adding Citibank ATMs in 3,000 Blockbuster stores. These ATMs were to provide cash dispensing and check deposit-taking functions.

60 NCR and Check Solutions created image exchange software.

61 Y2K (Year 2000) concerns involved the date formats commonly used in computer systems. Because storage space was expensive in the early days of computer systems, dates in programs used only two digits for the year; 47 instead of 1947, for example. There was concern that on January 1, 2000, some systems might be confused about which century was being referenced resulting in miscalculations.

62 Prior to streaming services over the internet, people watched movies recorded on mylar tape. There were two prominent formats for video tape, VHS (Video Home System) and Betamax.

63 Blockbuster URL - <https://bendblockbuster.com/>

64 In 1977, the chair of Citibank took a huge risk, spending more than \$100 million to install ATMs all over New York City. That investment paid off the following January when a huge blizzard hit New York, dumping 17 inches of snow on the city. Banks were closed for days; meanwhile, ATM use increased by 20 percent.
<https://www.history.com/topics/inventions/automated-teller-machines>.

Sometime after the deal was complete, Citibank determined its business case projections did not include the cost of \$300 to \$400 per day to send an armored car to service each ATM. As deposit-taking devices, any check deposited in a Blockbuster ATM needed to be retrieved and delivered to a Citibank check processing location the same day as deposited, no matter how remote the ATM location. Based on the EFAA and Reg CC, the Bank had to retrieve the deposits each day and provide funds availability to its customers. While Reg CC did not require daily pickup per se, it provided time-sensitive deadlines for when the depository bank (the bank taking deposits, Citibank) had to provide availability to its customers. But Citibank could not determine the appropriate availability until the checks had been processed. Without applying proper funds availability, the bank would be in violation of Reg CC.

Once the collection and risk costs were factored into the business case, the arrangement Citibank had with Blockbuster was no longer financially attractive. The bank needed to find a better, faster, cheaper way to collect ATM deposited checks!

Alan Slater, Vice President and Director of Loss Prevention at Citibank, was the person who informed the Bank's marketing group there was a cost problem and a legal problem. Because of his operations experience and his previous work on Reg CC, Alan was asked to investigate possible solutions. Prior to the Blockbuster deal, Alan was actively considering, "...if check digitization could be used for customer statements, why couldn't it be used for other functions as well."⁶⁵ For the Blockbuster deal, he landed on the idea of adding cameras to ATMs to take pictures of each check as it was deposited. The pictures (images) could then be transmitted to Citibank's processing center where the images would be printed for further, normal paper processing.

Image-enabled ATMs did not yet exist, so Alan asked a California tech subsidiary of Citibank to build a prototype ATM with a camera. One of the problems to be solved was the limited space inside an ATM for the large cameras of the 1990s. Alan says a successful prototype was built and that it worked although "...it was a bit clunky."⁶⁶

Once the images were received at the processing center, the Bank would print what Alan called an MEF, a MICR Encoded Facsimile (what a terrible name, even Louise hated the name!). That newly printed version of the deposited check, the MEF, would then be used instead of the original paper check for presentment to the paying bank. This was an interesting concept that used technology that was mostly already available, except for image-enabled ATMs. The use of cameras to record digital images of checks had been around since the 1980s; however, they had been used primarily to improve intra-bank processing and for customer reporting, such as for lockbox processing, but not for interbank check collection.

Once Alan developed the MEF concept, he began promoting it across the nation to any audience that would listen. In addition to the natural reluctance to adopt such a novel idea, it was the late 1990s and Y2K swallowed up every industry resource to fend off the expected doom when the clock struck midnight on New Year's Eve. But Alan was determined. He talked with SVPCO, an organization that TCH was just forming. He spoke to the Federal Reserve's Retail Products Office and the Federal Reserve Board staff. He spoke to anyone and everyone. But there were no takers including TCH, of which Citibank was a large, long-standing member. In addition to the costs of adding new technology to the check system and the question as to whether customers would finally accept bank statements sans original checks, there was the knotty question of whether these MEFs were legal and if not, what was required to provide the legal structure and agreements to protect any bank and any bank customer that might receive them.

65 From a phone conversation between Alan, Phyllis, and David on March 9, 2023.

66 Ibid.

Unrelated to Alan's MEF promotion but during that same time, David had a lunch meeting with Roger Ferguson Jr., Vice-Chair of the Federal Reserve Board of Governors.⁶⁷ During Ferguson's first year as Vice-Chair, David had the pleasure of having a one-on-one lunch meeting with him in a private dining room at the Fed in D.C. The meeting had been arranged by Gill Schwartz, partner in Schwartz and Ballen, LLP, a law firm in D.C. and ECCHO's legal counsel. David wanted to visit with the Vice-Chair to elevate the relationship between ECCHO and the Fed. They had a pleasant conversation and an excellent lunch. Dining at the Fed always included excellent food. The Vice-Chair patiently listened to David's comments, after which he immediately turned the conversation to the topic of check truncation, a long-standing, unachieved objective of the banking industry.

The Federal Reserve Board of Governors is composed of seven members nominated by the President and confirmed by the Senate for terms of 14 years. The Chair and Vice-Chair are also nominated by the President and confirmed by the Senate for four-year terms. The Board is best known for its management of the U.S. economy primarily through its management of interest rates, but its responsibility to manage the overall U.S. economy involves much more than that. To effectively manage the diverse needs of the vast U.S. economy, each governor takes the primary lead in one or more specialized areas. One of Vice-Chair Ferguson's primary leadership roles was the support of strong, secure, efficient payment systems and Federal Reserve operations. Perhaps the best-known vice-chair was George Mitchell,⁶⁸ who was a strong supporter of the original development of the ACH payment system.

When the Vice-Chair redirected the lunch conversation away from the Fed/ECCHO relationship to truncation, it was clear he had an ardent desire to achieve what the industry had been unable to achieve over the past several decades. They talked about some of the advantages of reducing the volume of interbank paper checks. David shared with him his understanding of the most intransigent barriers to truncation acceptance, but none seemed to resonate with the Vice-Chair as insolvable problems. It was clear the Vice Chair was determined to find a solution to advance check truncation.

Alan worked on Citibank's input into the development of Reg CC in the 1980s and worked closely with Louise Roseman. That relationship allowed Alan to contact her about his MEF concept. Louise was already aware of the Vice-Chair's (her boss') interest in a more efficient check payment system through check truncation.

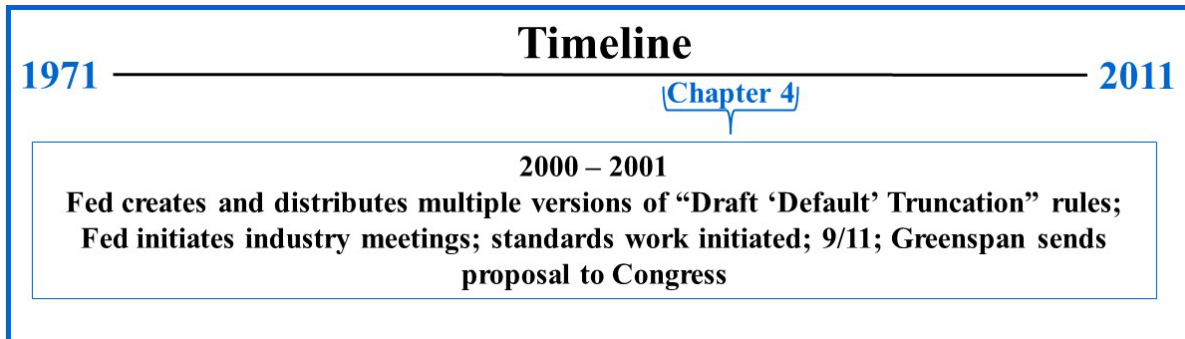
In the 1990s there was an interest in minimizing the movement of paper checks, a business economic incentive to do so, a regulator's interest, and a rough concept of how to achieve it. What remained were the large tasks of new federal legislation and implementation.

⁶⁷ Ferguson served as Vice-Chair from 1999 to 2006.

⁶⁸ George W. Mitchell joined the Board of Governors of the Federal Reserve System on August 31, 1961. He was appointed Vice-Chair on May 1, 1973, and held the post until February 13, 1976. Mitchell was a strong proponent of electronic banking during his time at the Board of Governors.

Chapter 4 – We’re Off and Running (or Walking?)

2000 - 2001 – This chapter is dedicated to Vice-Chair Roger Ferguson, who wanted to finally achieve check truncation through a new federal law.



On January 1, 2000, everyone woke up with Y2K in the rearview mirror and to a world no different than it was on December 31, 1999. It was a new year, a new decade, and a new century with much image exchange work already accomplished. There were two similar ideas regarding check replacement documents (MEFs and IRDs), and the industry had already explored the technical and operational processes associated with image exchange. Also, ECCHO had adopted an initial set of rules for check image exchange that addressed the legal issues known at the time. Check electrification was off and running or, at least walking.

Vice-Chair Ferguson wanted to achieve check truncation during his tenure. Both Alan Slater’s MEF concept and Ted Umhoefer’s IRD concept, with full implementation, could double or more the number of paper checks from Fed estimates of 40 billion paper checks to 80 billion paper checks; 40 billion original paper checks and 40 billion replacement documents.⁶⁹ Clearly, both MEFs and IRDs were dumb ideas inconsistent with the concept of reducing the number of paper payments and increasing efficiency. Many bankers across the industry were opposed to such a crazy concept. Alan was told by an industry leader⁷⁰ this concept was not just a career mistake but a “career ender”.

What everyone initially overlooked, however, was the major opportunity that could be created with the support of a new federal law to authorize replacement checks.

Alan was invited to pitch his MEF concept to the Fed. The Fed was interested in the concept but determined it did not have the authority without a new federal law. After holding meetings within the Fed, the Fed worked with a group of attorneys (Legal Group) including:

- Barkley Clark a Uniform Commercial Code (UCC) expert, now deceased
- Gail Hildebrand, Senior Attorney, Consumers Union
- Oliver Ireland, Associate General Counsel, Federal Reserve Board of Governors

⁶⁹ The 40 billion new replacement documents (IRDs) is only an estimate. In some cases, original checks would not be replaced with IRDs. In other cases, a single original check would be replaced with several IRDs at multiple points in the collection, return, and second collection of the check. The Fed estimated check volume peaked around 1995 at about 60 billion. During Vice-Chair Ferguson’s congressional testimony in 2002, he reported the volume had declined to about 40 billion.

⁷⁰ Hank Farrar, now deceased, made this comment, reflecting common industry sentiment.

- John Kimball, Vice President and Associate General Counsel, Federal Reserve Bank of Boston, now deceased
- Al Martin, attorney with Federal Reserve Bank of Atlanta, now deceased
- One other attorney

The Fed wrongly assumed any new federal payments law would require the support of consumer groups to achieve congressional approval. This led the Fed to first consider what consumer groups wanted from the new law before hearing any industry input. An initial draft of the proposed law included a provision for consumers known as “expedited recredit” (more on this later). This misjudgment led the Fed to exclude any legal representatives from banks or bank trade associations, which skewed the initial drafting of the legislative proposal with a bias for consumer rights without regard to the existing protections under check law and the potential negative impacts on banks. Once the Fed agreed to the inclusion of the consumer groups’ suggestions, those suggestions were effectively grandfathered in and could never be completely removed, however unnecessary. This is further addressed in [Chapter 5](#).

On January 13, 2000, Louise Roseman invited a few individuals to participate in an informal group, “...to discuss the value of a statute on the conversion of paper checks to electronics and the associated operational issues.”⁷¹ Louise held a meeting with a small group of bank representatives (Banking Group), including:

- Kirby Crowell, Stillwater National Bank
- Hank Farrar, Small Value Payments Company (SVPCO), now deceased
- John Fricke, Chase Bank
- Fred Herr, Retail Payments Office, FRB Atlanta, now deceased
- Kay Moon, Volunteer Corporate Credit Union
- Mel Purcell, FRB Nashville
- Alan Slater, Citibank
- Ted Umhoefer, FRB Minneapolis, now deceased
- David Walker, ECCHO

Louise presented an overview of the check replacement concept named the “Draft ‘Default’ Truncation Rules” and the Banking Group discussed its initial thoughts on the benefits and anticipated issues. Louise asked for suggestions to improve the name, but none were offered. Luckily it was changed to the Check Truncation Act (CTA) before it was sent to Congress. Later the U.S. Senate changed the name to Check Clearing for the 21st Century Act (Check 21). Congress is much more creative in naming bills to sound positive, and Congress felt that the term “truncation” was too negative.

The Fed had already initiated work on the draft statute, and Louise passed along an early draft to the Banking Group of what would eventually become Check 21. For the most part, the Group expressed more concerns than support.

One of the early discussions regarding the potential new law was the need to specify the objectives of the law which were not included in the earliest versions. This oversight was quickly resolved when the Fed updated the draft to include the following three objectives:

71 A copy of Louise’s invitation letter and draft proposal can be found in [Appendix 2](#).

- (1) To facilitate check truncation by authorizing Substitute Checks⁷²
- (2) To foster innovation in the check collection system without mandating receipt of checks in electronic form
- (3) To improve the overall efficiency of the nation's payments system

These objectives were as obvious as motherhood and apple pie, but it was important to state them. The need to implement this law without mandating receipt of checks in electronic form was critical for the smaller banks and credit unions. It is interesting that not long after the law passed and became effective, community banks and credit unions were among the first to exchange image files.

From the get-go, there were heated discussions about aspects of the potential new law. ECCHO and most of the industry did not initially support the Fed's check replacement concept. The first such discussion was about the need for a benefits case. For whatever reason, the Fed did not want to conduct a benefits analysis and never created one. ECCHO fought hard to get the Fed to perform a benefits analysis but was not successful. There was concern that the costs might outweigh the benefits. The cost of Substitute Checks included the cost of the paper, toner, printers, and the transportation to deliver them. None of these were cheap, and it was clear to the banks that some offsetting benefits were needed.

Fortunately, Substitute Checks proved to be mostly a fleeting, transitional vehicle, and in the long run those costs were replaced by the smaller costs associated with exchanging images. The savings from image exchange far outweighed the interim, transitional costs. Some of the benefits of image exchange included, but are not limited to, reduced (virtually eliminated) transportation expenses, reduced hardware (reader/sorters), reduced operational personnel to process paper checks, reduced facility and HVAC costs, reduced risk by accelerating the receipt of returns, and fewer exceptions requiring manual research and resolution.

The Fed distributed additional versions of the draft proposal over time and invited public comment on each version. There were at least a half dozen versions. ECCHO was consistent in its comments that there was no need for expedited recredit, that banks needed a benefits analysis, and expressed concern about the possible creation of duplicate payments. The Fed also entertained expanding legal equivalency beyond the Substitute Check to also include the image of the check. The Fed thought the industry might want this expansion and thus promote greater industry support. But the industry did not, and it was not included in the Fed's final proposal.

While the concept of making the image of the check the legal equivalent of the original check sounded like a promising idea, in 2001 the banking industry, including the Fed, had no experience with image-based truncation. That dearth of experience made it impossible to anticipate what was needed and what was to be avoided in a new law. Any law or regulation that would have mandated specific aspects of image exchange would likely have limited the industry's flexibility to react to evolving knowledge, problems, and opportunities hampering its development and implementation. Additionally, once a provision is law, it is much more difficult to change. ECCHO developed its first set of image exchange rules in 1999, five years in advance of the effective date of Check 21, and its rules continue to be modified and improved as more is learned.

⁷² Reg CC describes a Substitute Check as a paper reproduction of an original check that: (1) contains an image of the front and back of the original check; (2) bears a MICR line that, except as provided under ANS X9.100-140, contains all the information appearing on the MICR line of the original check at the time the original check was issued and any additional information that was encoded on the original check's MICR line before an image of the original check was captured; (3) conforms in paper stock, dimension, and otherwise with ANS X9.100-140; and (4) is suitable for automated processing in the same manner as the original check.

It seemed obvious to ECCHO that with the ability to create multiple versions of legally equivalent documents, the potential for duplicates was very real. The Fed responded to this by stating the proposed law included a warranty against duplicates. The industry, including the Fed, soon learned the hard way that a warranty is not a preventative. More on duplicates in [Chapter 9](#).

As the drafting process evolved, the Fed initiated meetings to discuss its proposal. This is a standard Fed procedure, which continues today for virtually every change in services and regulations. When the Fed or the industry has a new project that involves the Fed, the Fed reaches out for industry input, as it did for Check 21, Faster Payments, and Central Bank Digital Currencies (CBDC), to name just a few. This process can be a great source of product research for the Fed and the industry, allowing the Fed to hear and learn from the most experienced bankers and providers in the industry. For Check 21, the Fed conducted a series of regional meetings throughout the country to present the concept of a replacement check and to hear feedback from a wide variety of sources. Phyllis or David representing ECCHO participated in every one of these meetings to voice its concerns and recommendations.

Consumer representatives participated in the initial drafting meetings and a new consumer protection provision, expedited recredit, was included in the draft bill. It was included, in part, because check payments are specifically excluded from Regulation E,⁷³ and consumer groups wanted the addition of Reg E-like provisions, giving consumers the right of recredit for unauthorized postings to their accounts. While that might sound reasonable, consumerists wanted expedited recredit to apply to all checks, both original paper checks and Substitute Checks. The banks felt existing UCC and Reg CC consumer protections, plus the overlapping provisions of Reg E, would create unnecessary expense to the banks without any corresponding value to consumers.

A meeting was held at the Fed in D.C. that included bank and bank trade attorneys and consumer representatives. ECCHO's attorney, Bob Ballen, attended the meeting. The discussion got so heated that at the end of the meeting, Louise, who had previously worked with Bob at the Fed, jokingly asked him if he needed a protective escort out of the building.

The Federal Reserve's Payments System Development Committee (PSDC) conducted a meeting at the Federal Reserve Bank of Boston in June of 2000. The Committee was co-chaired by Vice-Chair Ferguson and Cathy Minehan, First Vice President⁷⁴ of the Federal Reserve Bank of Boston. It was a "to see and to be seen" meeting with many important individuals from banks and banking organizations attending. Louise presented the concept of the "Draft 'Default' Truncation Rules" and was asked a lot of hard questions. Many were ECCHO's questions that had been planted with various individuals, including a question about whether the proposed law would be voluntary or mandatory. Phyllis and David were seated immediately behind Ferguson and Minehan. When Phyllis and David took their seats, David asked Phyllis not to mumble, as she usually does during others' presentations, because it would be a distraction for the two Fed executives. It was hard for her to contain herself, but she mumbled less than usual.

During the break, while standing directly in front of Phyllis and David, Ferguson expressed his consternation to Minehan about some of the concerns being expressed because, he emphasized, the potential new law was going to be voluntary. Phyllis politely (or so she thought) interrupted the discussion between the Fed executives and told them that the law would not be voluntary since the paying bank would have no choice but to receive Substitute Checks. Ferguson looked at her incredulously,

73 Regulation E is a consumer protection regulation that implemented the provisions of the EFTA (Electronic Funds Transfer Act) of 1978. It established the rights, liabilities, and responsibilities of parties in electronic funds transfers, and protects consumers when they use such systems.

74 The First Vice President position at each Reserve Bank reports directly to the President of the Reserve Bank and manages overall bank operations.

probably not believing someone would interrupt as she had just done. OK, Phyllis tends to butt into conversations that she is not part of, and she contradicted the Vice-Chair of the Federal Reserve. Recalling this moment, Phyllis says, “I guess I lost my opportunity to make a good first impression”. She was correct, however, in that it was voluntary for a bank to create Substitute Checks, but once created, it was mandatory that banks and bank customers accept them.

ECCHO held a meeting on the proposed bill at the Federal Reserve Bank of Atlanta in the spring of 2001. In the late 1990s, many regional Fed offices were moving into new buildings, and Atlanta was one of them. The Fed is very accommodating about the use of space in its many buildings, so demand can make finding available meeting space difficult. This meeting was scheduled just as the Atlanta Fed was closing its old location and many of the Fed’s employees had already moved into its new location. The old building, which was still quite nice, had space readily available since all meetings were then being planned at the new location. This may have been the last industry meeting at the old Atlanta Fed building.

The term “image survivability” was coined at that meeting. One of the concerns of bank operations personnel was that they would lose some of their ability to spot fraudulent checks since they would no longer be able to feel the original paper or see the actual color of the check when it was replaced with a black and white print from an image. All Substitute Checks would look and feel alike. Therefore, they believed that other security features and processes were needed to compensate for that loss or that would survive the imaging process. The specifications for Substitute Checks were just beginning to be developed. More on the standard can be found in [Chapter 8](#). An example of a Substitute Check can be found in [Appendix 5](#).

Low-tech overhead transparencies were being used at the meeting to facilitate discussions. At some point in the meeting, people started cutting up the transparencies and rearranging them, to focus the discussions on certain aspects of IRDs, such as the leading and trailing edges.⁷⁵ Sometimes you just need low tech options to solve complex issues.

The most memorable aspect of this meeting, however, was the outstanding support of the Fed staff. Sally Martin and Bonnie Watson were administrative assistants for senior vice presidents Fred Herr and Rich Oliver, respectively, and they were very professional in coordinating the meeting and facilities.

Sally and Bonnie were always great to work with. Sally had been with the Fed for many years and could locate almost any Fed employee at any time and get him or her on the phone immediately. She had all the phone numbers, not just the official numbers published for Fed employees, and she could find them wherever they were. If you needed to talk with someone and you called Sally, she would find a way to connect you with them. Since she knew everyone at the Fed, even if she did not know how to contact a particular person, she knew who would know and within a few minutes could have them on the line. It was always amusing when she would call and say, in her distinctively, charming Alabama accent, something like, “Fred would like to talk with you,” and you would say, “Sure, when?,” and she would say, “Right now,” and immediately connect the two of you. And if you were in trouble with Fred for some reason, as Phyllis was occasionally, you did not want to get that call. Scheduling phone conversations with others usually involved a date sometime in the future, but with Sally scheduling was frequently instantaneous. She was very efficient, courteous, and had a great sense of humor. She loved to tell personal stories about her boss, Fred, that he would not normally have shared, like stories about him and Jackson, his Labrador retriever. When Fred talked about his dog, he would smile and say something like,

75 Leading and trailing edges refer to the orientation of paper checks as they are processed through reader/sorters, face up, and from right to left. The leading edge is the edge that first passes through the sorter and the trailing edge likewise is the last edge. The leading edge is the right edge of a document when its face is viewed.

“He loves me.” When Fred retired, ECCHO commissioned the creation of the following caricature. See [Chapter 9](#) and [Appendix 16](#) for more on the caricatures.



The star of this meeting was the dining room wait staff. As stated earlier, anyone who has ever had lunch/dinner in a Fed dining room knows the food and staff are always excellent. When lunch was served the first day of the meeting, Harold Deal with BB&T, politely told the staff that he had a dietary restriction and could not eat something they served him. The staff immediately delivered to him a meal that met his dietary needs. The next day, without any further conversation or reminders, the staff, anticipating his needs, served him an excellent meal specially prepared for him.

When check and float were king there were several check and/or float meetings and conferences each year. One of these conferences was the Float Roundtable in New York, which has now been discontinued. The Float Roundtable was a bit unique. It was a one-man show managed by Ron Freel. Ron had previously been a float manager at Chase and when he left Chase, he took over the management of the Float Roundtable. Since Ron was not technically oriented, his communications about the conference were always paper letters mailed through the U.S. Post Office rather than emails or any other electronic communications. It is unclear how he sealed the envelopes, but the invitations inside were always stuck to the envelope and there was no way to open it without ripping the invitation. Everyone in the industry knew they were going to receive a ripped registration letter from Ron.

Ron made his retirement income from the conference. There are stories about banks/vendors that paid Ron by check for their Roundtable sponsorships or registrations. When the checks had not cleared after

several months, Ron was called, and he explained that he holds the checks until he needs the money and then deposits them. Not the best exercise of his float management skills!

Phyllis and David were frequent speakers at Ron's conference. On one occasion David was scheduled to speak, but he had a conflict and Phyllis ended up making his speech. Phyllis likes to say that this was one of David's esoteric speeches, explaining how the medium (electronic vs paper) was the message. Phyllis hated these speeches but obligingly worked through them. During the Q&A phase, a lady in the middle of the room got up and asked about Check 21 (still being called the "Draft 'Default' Truncation Rules"). Still in its development phase and not yet sent to Congress, the lady had heard Louise mention the replacement check concept in a speech a few months earlier. Phyllis tried to explain the concept of taking a picture of a paper check, converting the picture to an image, and then printing another piece of paper (IRD or Substitute Check) for use instead of the original paper check. The longer Phyllis described the concept of replacement checks, the more disbelieving this lady looked. After trying to explain it multiple times, Phyllis finally gave up and said the concept "just has to grow on you." Everyone initially thought the idea was, at least superficially, ridiculous but it was growing on everyone.

At a BAI Float Conference, (yes, there were lots of check and float conferences in those days) there was another presentation on the "Draft 'Default' Truncation Rules." Phyllis started asking questions, and Terry Roth, Vice President,⁷⁶ Federal Reserve Bank of Cleveland who was experienced in check operations and very creative with check features and pricing, turned to her accusingly and said, "You're opposed!" She responded that ECCHO is not opposed, but that there were some concerns that needed to be addressed.

On September 11th, the Towers fell. While 9/11 did not initiate the creation of the Check 21 Act, it did provide a clear example of the benefits of the act. When all non-military aircraft were grounded, hundreds of millions of paper checks could not be moved from depository banks to paying banks. This posed a significant liquidity problem for banks and the U.S. economy.

In 2001 the total value of checks written each day was about \$275 billion. Some of that amount was for local checks (checks written on and deposited with banks within proximity of each other). Local checks did not contribute to the immediate problem after 9/11 since they were not dependent on air transportation. In the normal daily process, banks accept check deposits that are drawn on other banks. Those other banks, paying banks, send the value of the checks received each day to depository banks via Fedwire. When checks are not delivered to paying banks, they do not pay depository banks. When planes stopped flying, checks were not delivered to paying banks, and funds were therefore not moved between the banks.

But depository banks' customers continued to use their bank balances after 9/11 as they normally would to pay their bills. Depository banks were then in the position of paying out funds they could not collect from paying banks and therefore did not have. Remember the EFAA and Reg CC codified into law the requirement that depository banks must make funds from deposited checks available within a limited time. By not flying checks between depository and paying banks, a shortfall of tens of billions of dollars each day was created, resulting in a developing liquidity problem for every bank in the United States. Without an immediate solution to the 9/11 liquidity crisis, the entire U.S. economy would fail, followed by the failure of many banks across the globe. International banks are also dependent on deposits in U.S. banks for their liquidity and would experience similar shortfalls.

Alan Greenspan, the Chair of the Federal Reserve, was in meetings in Europe when the planes crashed into the Towers and all non-military aviation was grounded. He returned to the United States as quickly as

⁷⁶ Terry was promoted to Senior Vice President, Federal Reserve Bank of Cleveland in 2012.

possible. However, in his absence the Fed and the country were deciding how to respond to the attack and how to avoid the impending liquidity loss of tens of billions of dollars.

The U.S. banking system serves U.S. consumers, businesses, and other banks in six time zones from Hawaii to Puerto Rico and other territories. It also serves many parties across the globe. Trucking checks across the country would take days, and Hawaii and Puerto Rico would also require marine transport. Planes were the only way to timely deliver checks across such a vast nation. In the absence of air transport of checks, checks would accumulate in the banks where they were deposited, at paying banks awaiting return, at the Fed, and on planes that were grounded. Banks are required by regulation or agreement to make funds available to their customers sooner than trucks and boats can deliver checks to paying banks and then reverse the travel process to deliver unpaid items to depository banks. When planes were grounded, risks were created for depository and paying bank. Paying banks could not make timely returns and depository banks could not safely meet Reg CC deposit availability requirements. A much larger issue, however, was the lack of movement of interbank funds because of grounded aircraft.

Typically, depository banks make funds available to their customers under the assumption the banks on which the checks are drawn (paying banks) will pay them for those checks via Fedwire by the next day. Stopping air transportation would cause tens of billions of dollars to quickly flow out of banks, creating a huge, immediate liquidity problem affecting not just the banks but the entire United States and world economies. Something had to be done and done quickly. But Greenspan was unavailable!

Vice-Chair Ferguson assumed the responsibility as Interim Chair while Greenspan was out of the country. Ferguson quickly made the decision that banks needed immediate support to avoid catastrophe. He determined that if planes could not fly checks across the country, then the Fed needed to step in. Specifically, he determined that depository banks would continue to receive funds as they did pre-9/11, even though the Fed could not deliver them to paying banks. Ferguson testified before House and Senate committees that “During the week of the attacks, the Federal Reserve Banks’ daily check flow ballooned to more than \$47 billion, which is more than 100 times its normal level.”⁷⁷ This required the Fed to inject an estimated \$60 billion into the banking system, ensuring the safety of the system and the economy. This was a clear risk for the Fed, but it was a much smaller risk than allowing the economy to abruptly halt. It was critical to maintain liquidity and it was also critical to maintain public confidence in the United States economy and payments systems.

At the same time Ferguson was deciding to provide direct financial support to the banking system, others within the Fed were working to get planes in the air to restart the delivery of checks. The Federal Reserve Bank of Atlanta oversees the Fed’s retail payment products, and it was responsible for getting the checks moving. Julius Weyman,⁷⁸ Assistant Vice President of Operations, Federal Reserve Bank of Atlanta, oversaw Check Relay, the Fed’s check transportation system. He had been trying to reach someone in the U.S. Airforce to authorize the resumption of the air transport of checks. Eventually, Julius was successful in getting an Air Force colonel to listen. The colonel explained he was in the middle of a national emergency, and he was only allowing military and medical aircraft to fly. When Julius explained that not flying checks would crater the economy, the colonel found a way to work with him. He agreed if Julius could provide the tail numbers⁷⁹ for the cash letter flights, he would authorize them to fly. Imagine you are the pilot of the first flight transporting checks, knowing that the military would shoot down any unauthorized aircraft and all you had to rely on was that some random Air Force pilot recognizes your plane’s tail number to avoid a fatal encounter. How comfortable would you be flying that plane?

77 A transcript of Ferguson’s full testimony is in [Appendix 7](#).

78 In 2008, Julius Weyman was named Regional Executive of Birmingham Branch, Federal Reserve Bank Atlanta.

79 These unique alphanumeric codes, between two and six characters in length, are painted on all planes and are used to identify specific airplanes.

Appreciation is due to those pilots who flew under the Air Force rule that grounded all non-essential air traffic. Check payments were essential to the U.S. and world economies.

Sometime after the colonel agreed to this arrangement, Fred Herr called the colonel to report the latest series of tail numbers. The colonel said he could not accept the information from Fred, and he would only accept additional tail numbers from Julius. Fred was widely known across the banking industry and wielded a vast amount of power within the Fed. An employee within Fred's organization, Julius alone, had the ear of the colonel! Fred, in typical good humor, enjoyed retelling the story of how much more power Julius had with the Air Force than he did.

Many erroneously believed that 9/11 was the impetus for Check 21. However, the Fed and the banking industry had been working on the legislation for almost two years when the Towers fell. In fact, Louise had set a deadline to submit comments on the latest draft to her within a few days after 9/11, which she extended following the attacks. The events of 9/11 and the resulting liquidity crisis provided Congress with a clear justification for the passage of the new law.

Additionally, the country badly needed to update its antiquated check collection system, and 9/11 provided that opportunity. Checks have been around for hundreds of years in many countries, and the United States had the largest check clearing system in the world. It is amazing that such an archaic system moving tens of trillions of dollars a year ran as efficiently as it did for so many years. Nevertheless, it was time to update the check collection system.

Within a month of 9/11 at another check conference, Joe Feringa with Wells Fargo Bank and Phyllis delivered a presentation called the "ECP Imperative". Their message was clear; the country needed an alternative to its dependency on the physical check.

There is a story that after 9/11, Chair Greenspan was upset about the severe impact 9/11 had on the payments system. Not only did the Fed have to inject tens of billions of dollars of liquidity into the banking system, but payment processing in New York, the epicenter of financial markets in the United States, was affected even more than the rest of the country. New York City had very limited bank functionality for about two weeks. Greenspan, at an internal Fed meeting, reportedly provided the strong directive that never again could the U.S. payments system experience such impacts.

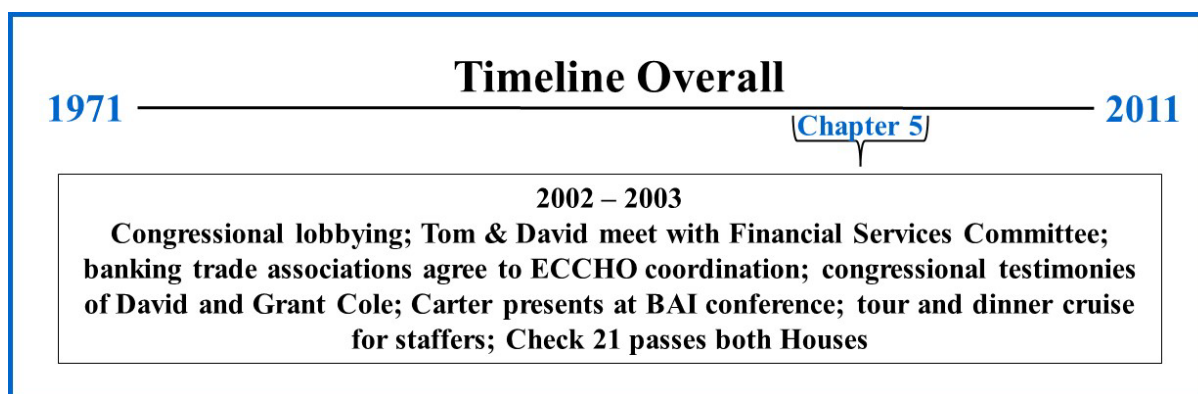
On December 17, 2001, Greenspan sent a proposed bill to Congress to eliminate the dependency on physical checks. He emphasized that, "Had the provisions of this proposed Act been in effect when air traffic came to a standstill due to the terrorist attacks on September 11th, banks would have been able to reduce the impact of the disruption in air transportation on the check collection system."⁸⁰ In addition to addressing the 9/11 issues, the proposal would address Vice-Chair Ferguson's goal to truncate the physical movement of paper checks. It is believed this was the only time the Fed in its long history has ever proposed a new law to Congress.

As it turns out, a paper Substitute Check was not such a dumb idea but a strategic bridge in the transition from paper checks to electronic check images. If images of checks could be electronically transmitted across the country and printed at or near the paying bank, the nation would no longer be held hostage to the physical transportation of paper checks. This became abundantly clear with the events following September 11, 2001.

80 A copy of Greenspan's letter to Congress is in [Appendix 3](#).

Chapter 5 – I’m a Bill

2002 - 2003 – This chapter is dedicated to the 107th and 108th Congress’ House Financial Services Committee and to Carter McDowell, Chief Counsel to the House Financial Services Committee, who worked closely with the banking industry to pass Check 21 despite the Committee’s initial reaction that there was no support for the bill.



“...But I know I’ll be a law someday
“At least I hope and pray that I will,
“But today I am still just a bill.”⁸¹

Everything many of us know about how a bill becomes a law we learned from *Schoolhouse Rock* and high school civics class. Following the events of 9/11, a new federal law was introduced and, boy, was there a lot to learn!

Bills are introduced in Congress by an elected representative or senator, so although the Fed proposed new legislation in a unique historical action, the proposal could progress no further than the congressional inbox until a member of Congress sponsored it. The Fed is precluded by law or policy⁸² from lobbying Congress. It does, however, testify before Congress as needed.

The Fed naively⁸³ assumed that if it sent a proposal to Congress, it would be considered and approved quickly. The Fed had never made a proposal to Congress and was surprised that Congress did not jump into action. The proposal picked up a sponsor but then languished until Tom Fox and David visited with the House Financial Services Committee. More on that later.

Congressional sessions are two years in length and at the end of each session, every bill that is not passed by both chambers is deleted and must be reintroduced in the next legislative session. This allows each Congress to begin with a completely clean slate. Check 21 was first introduced in 2002 in the middle of

81 From *Schoolhouse Rock*, “I’m Just a Bill”.

82 The Anti-Lobbying Act of 1919 prohibits the use of government funds to be used for lobbying, and it applies to all government employees. However, employees of the Federal Reserve are not government employees. The Federal Reserve is a quasi-governmental organization created by the Federal Reserve Act of 1913. It is self-funded and does not use taxes to fund its activities. If the Anti-Lobbying Act does not apply, then the Federal Reserve follows the same restrictions by policy.

83 During the PSDC meeting in 2000 in Boston, Al Martin spoke about how quickly the Fed expected this proposal to become law.

the 107th Congress. Representatives Mike Ferguson (R, NJ) and Harold Ford Jr. (D, TN) introduced H.R. 5414. When that session ended in 2002, the bill died for lack of passage and had to be re-introduced in 2003 in the 108th Congress. When a bill is introduced, its priority placement on the calendar is in part determined by the number of representatives/senators co-sponsoring the bill. A larger number of co-sponsors tends to give it a higher priority, especially if the co-sponsoring group is bipartisan. Check 21 was sponsored by Representative Messila Hart, (R, PA) in the 108th Congress with 32 co-sponsors: 18 Republicans and 14 Democrats. A complete listing of the co-sponsors is in [Appendix 4](#).

As everyone knows, new laws must pass both the House and the Senate, and then be signed by the President. When a new bill is introduced, it is assigned a number based on the chamber in which it is first introduced. Because Representative Hart introduced Check 21, it became House Bill H.R. 1474. Following its introduction, the new bill was assigned to the House Financial Services Committee for consideration.

A few months into 2002, Tom and David, both representing ECCHO, visited the House Financial Services Committee for an update on the status of The Check Truncation Act. This first meeting was with Carter McDowell and various other committee staff members. It was a pleasant meeting and David's first introduction to congressional lobbying. Before this meeting, Bob Ballen registered his company and ECCHO as lobbyists. The first meeting with Carter and other committee staffers began like all other first-time meetings between two organizations: introductions, followed by an explanation of why the meeting had been requested. The meeting quickly evolved into questions from the staffers about which other representatives' staffs Tom and David had met with and what those staffers had said about the bill.

Since Tom and David were new to lobbying, this was a complete surprise, and four lessons quickly became apparent. First, lobbyists are an integral part of the communication network between congressional offices. Lobbyists are a bit like bees moving among the offices of elected officials. Frequently, lobbyists have the most current information as to the thinking of the various representatives/senators on bills because they can "pollenate" multiple offices in a single day of appointments. Everyone knows that lobbyists influence legislation, but David, at least, had not previously understood or appreciated that lobbyists also serve as a critical information distribution system.

Second, in the initial stages of most bills' evolutionary processes, the primary interface is with congressional staffers and not with elected officials. Once a bill is drafted and interest in the bill has been established, meetings with the representatives and senators can be appropriate to finalize their support and to lobby for any changes before and during the "Mark Up"⁸⁴ process.

Third, everything revolves around Ds (Democrats) and Rs (Republicans). Every discussion with congressional staff relaying information from other congressional offices must include the source of the information. Stated support or opposition for a bill or an element of the bill is heavily nuanced by whether the source is a D or an R. Cross-party communication is received with skepticism until verified.

Fourth, except for a few senior staff positions, staffers are mostly and noticeably young. These are the people who do most of the actual work on legislation. They draft the bills that become laws, and they have considerable influence over the contents of the final legislation. Thank goodness that in addition to being young, everyone who worked on the bill was also very smart and dedicated to doing an excellent job for the country.

During the first meeting with the Financial Services Committee, Tom and David learned the committee did not see the Federal Reserve's proposed new legislation going anywhere because, they reported, there

84 "Mark Up" is the term used when changes are made, "marked", to draft legislation.

was no support for it. They also reported on the other side, that they did not see any opposition. Tom and David asked what, if any, input the committee had received from consumer groups. The staff responded that consumer groups had expressed some opposition, and since there was no support for the bill the staff was not taking that input too seriously. Tom and David reported there was banking support. and they could provide specifics in future meetings.

Following that meeting, Tom and David began scheduling meetings with each of the major banking trade associations in D.C. Each meeting was essentially the same. When asked if the association had any interest in the Fed's proposal, each said yes. When asked if they would support the proposal, they said yes. When asked if they would be willing to lead a coordinated industry effort across all the major banking associations, they said no because it was too low on their priority list of congressional lobbying efforts. David reported these positions to the ECCHO Board of Directors and gained its support for a proposal to be made back to the associations. Tom and David then circled back to each association and asked if they would support ECCHO serving as the coordinator of the various organizations to lobby for the bill. To their surprise, everyone said yes. As it turned out, this was very fortuitous.

As newcomers to the inter-association politics of D.C., David did not realize that if any of the trade associations had offered to lead the industry's efforts to support the Fed's proposal, the other trades would likely not have participated. To parties outside of the Beltway, this may seem a bit odd under the assumption that the banking industry has common interests. But each of the associations has a different membership base with little overlap. Credit unions tend to join credit union associations, community banks tend to join community bank associations, and large banks tend to join associations with other large banks. Each of these banking groups competes with each other, and their respective associations reflect that competitiveness in their legislative activities. Frequently, those activities reflect strong, differing positions on the same bills. As competitor associations, each is suspicious of the others, and if something is good for and supported by one group, it may be assumed it will disadvantage the others. When an attorney was changing employment from one large association to another, Phyllis was told they were going to the enemy. As an organization outside of the Beltway and not engaged in regular, conflicting lobbying, ECCHO was seen as a neutral party rather than a competitive threat to the agendas of any other association.

Having agreed to support ECCHO as the industry coordinator, the next question for the associations was whether they would invest the necessary staff time to participate in periodic meetings with ECCHO and other organizations. Again, the surprising answer was yes; a qualified yes depending on the results of the joint efforts, but a yes, nevertheless. And so began periodic meetings over the next couple of years. A group, uncreatively named, The Group, was formed and quickly grew to include approximately 140 individuals representing about 60 organizations including trade associations, financial institutions, clearinghouses, corporations, and payment processors. This required a major coordination effort. While David served as the formal coordinator of The Group, he depended on Tom for his knowledge and excellent communication skills. Accepted by The Group, Tom and David quickly established a positive rapport with the members.

Speaking of rapport, it was always a pleasure to visit congressional offices in D.C. with Ed Hill.⁸⁵ Ed was Vice President, Government Relations with Bank of America and was instrumental in setting up meetings and making introductions to congressional staffs. Ed knew everyone and was constantly taking and making phone calls to schedule meetings and to have discussions. When Tom and David were with Ed, it was a slow process to move between congressional offices so Tom and David needed to arrive early. Because Ed knew everyone and had many legislative balls in the air all the time, not only was he on the phone a lot but he stopped to visit with everyone up and down the hallways. Sometimes Tom and David

85 Ed is currently Senior Vice President & Head of Government Affairs with Bank Policy Institute.

would turn around only to see Ed still halfway down the hallway behind them. His rapport with congressional staffers greatly facilitated their lobbying activities.

Co-sponsors of the bill included two representatives from Ohio. There were two Ohio-based businesses active in these lobbying efforts. NCR was in favor of the bill and participated in The Group. Airnet, a check transportation company, was opposed because Check 21 would adversely impact its business model.⁸⁶ NCR was very excited about participating in The Group and even included its participation in some of its marketing materials. Both companies sold services in support of check payments, but NCR was much larger and carried greater political influence.

The level of cooperation among The Group's members was outstanding. Most meetings were conference calls, so no one was required to travel or take time away from their other responsibilities. But occasionally The Group piled into the offices of one of the trade associations or Schwartz & Ballen's conference room for an in-person meeting. While many of the members already knew each other, this was a great opportunity for the others to introduce themselves. Any concerns as to whether the individuals would actively share evaporated immediately. Most meetings began with individuals sharing information about their lobbying activities since The Group's last meeting. This was always very interesting, educational, and provided insights into how lobbyists worked for their members and clients. Their reports included who was meeting with whom and any intel as to which provisions were supported by congressional staffers and especially any opposition to specific provisions in the bill.

The primary objectives of The Group's meetings were to build consensus positions on every aspect of the bill and to reach agreement on messaging to Congress. This helped ensure that whichever lobbyist was visiting with congressional representatives, the same provisions were supported and the same provisions were opposed and, as much as possible, for the same reasons. This was extraordinarily successful because the individuals trusted each other with consistent, non-competitive messaging. Not only were consensus positions reinforced, but unnecessary, redundant lobbying was avoided, which enhanced lobbyist productivity and conserved limited congressional availability. Once House and Senate hearings started, the testimonies provided by associations, banks, corporations, and ECCHO reflected the successful efforts of the industry's consensus-building and coordination.

For many bills, community banks, credit unions, and large banks have differing opinions on various aspects of the bills, so the lobbyists are frequently at odds with each other. Check 21 was one of very few times when they could work with and not in opposition to their fellow lobbyists to achieve a common goal. Because of their frequent interactions, they were well acquainted and had mutual respect despite competitive efforts on other bills. It was a good time to be a banking trade association lobbyist! At one point in the process, the lobbyists were almost giddy because they were not fighting with each other. The large banks, small banks, credit unions, and savings banks all agreed they wanted to see this bill become law. Late in the process, a bank added a lobbyist to the effort who was known by the other lobbyists to be independent and at times unpredictable. The other lobbyists welcomed him into The Group but informed him that he was to stay on message and "to not mess things up." Everyone was working together well (playing nicely in the sandbox) and rogue, self-serving behavior was not acceptable.

In addition to consensus building among the industry participants, the group was successful in convincing the Fed to drop its support for expedited recredit. Expedited recredit was a provision supported by consumer representatives but opposed by banks and eventually by the Fed. After much discussion with congressional representatives, the group was able to limit this unnecessary provision but was unable to

⁸⁶ Before Check 21, AirNet performed the essential service of flying checks all over the United States to accelerate check clearing between banks. Under Check 21, AirNet successfully transitioned its business model from flying checks to flying pharmaceuticals and nuclear medicines.

eliminate it completely. Consumer representatives felt consumers needed additional protection should consumers experience financial losses as the result of banks posting “Substitute Checks” to their accounts. Substitute Checks, as proposed in the legislation, were paper documents created from images of original paper checks and evolved from Alan’s MEF and Ted’s IRD.

Although the Fed had included expedited recredit in its proposal, when Vice-Chair Ferguson testified before House and Senate Committees, he reported the Fed had subsequently determined the new protection was not needed, and the Fed would no longer support its inclusion. Ferguson also reported, however, that the Fed would not oppose its inclusion. One representative asked Ferguson if consumers might be reluctant to report complaints to the Fed. Louise, who was seated immediately behind him, handed him a note responsive to the question. Ferguson reported consumers were not reluctant to voice their complaints, and the Fed receives plenty of complaints from consumers about all manner of issues. There was a follow-up question about the number of complaints received from consumers specifically about check payments. Louise responded again through the Vice-Chair that the number of complaints received each year from consumers about check payments could be counted on one hand.

While the recredit provision was not to be struck from the bill, H.R. 1474 was modified to limit the new provision. The final bill provided for expedited recredit but only for consumer losses that would not have occurred if the original check had been presented to the paying bank instead of the new Substitute Check. In the 20 years since Check 21 passed, the industry has never reported paying a single expedited recredit claim. A very small number of claims have been submitted, but typically those claims either did not conform to the provisions of Check 21 or included some error in submission.

One of the interesting lessons learned about congressional hearings is the practice of paid line sitters. Congressional hearing rooms have limited seating. The public is invited to attend most hearings, but attendance depends on the ability to get a seat. Some seats are reserved for those providing testimony and for their support staff. When David was scheduled to testify before the House Financial Services Subcommittee, he learned that ECCHO’s attorneys, Schwartz & Ballen had arranged for a line sitter for the hearing. This was the first time he was aware of the customary practice of people arriving early to stand in line to ensure seats in the hearing room. Once the doors are opened to the hearing room, seating is provided on a first-in, first-seated basis. When the seats are full, no one else is allowed in the room. Soon after Bob and David arrived and relieved their line sitter, representatives from the various trade associations began to arrive and other line sitters were replaced with familiar faces.

Committee hearings are scheduled events, and each witness (speaker) is given a limited amount of time to provide oral statements. Copies of written testimony are provided to the committee members in advance. Once it is your panel’s⁸⁷ time on the agenda, the panel is invited to sit at a table facing the committee members with the audience immediately behind them. On the table in front of the panelists are microphones and two lights, a green one and a red one. Once oral statements begin, the green light comes on, and when your time is up, the red light comes on and the mic is turned off. Following the panel’s testimony, the committee members can ask the panelist an unlimited number of questions.

On September 25, 2002, David testified before the Financial Institutions and Consumer Credit Subcommittee of the House Financial Services Committee. There were two panels of witnesses planned for the subcommittee hearing. The first panel included a single witness, the Honorable Vice-Chair Ferguson. After he delivered his testimony, the subcommittee members began asking him questions. During this period, various subcommittee members entered and exited the hearing room. Some joined the hearing to get their questions on the record and then immediately left. Some of the transient members

87 Typically, individuals scheduled to testify are organized into “panels,” which can be a single person or multiple persons. When a panel’s time arrives on the agenda, the entire panel is normally seated at the same time.

looked really bored while asking their questions as if it was an imposition to be there. Others seemed as if they felt obligated to ask one or more specific questions on the record that might be of interest to their constituents. One member was even propped up on her elbow when questioning and then immediately exited the room. Following the end of Ferguson's testimony and questions, the subcommittee took a break to allow time for the members to go to the House floor for a vote. Subcommittee and committee hearings are scheduled around other legislative business such as votes on various motions and/or bills.

The number of subcommittee members that returned after voting was reduced considerably from the number present for the Vice-Chair's panel. This may have been, in part, because there was no controversy. Clearly there was less interest in the testimony from the second panel of which David was one. His testimony can be found in [Appendix 6](#). Joining David on that panel were:

- Joel Biggerstaff, CEO, AirNet Systems, Inc.
- Robert M. Fenner, General Counsel, National Credit Union Administration
- Curtis L. Hage, Chairman & CEO, Home Federal Bank
- Gail Hillebrand, Senior Attorney, Consumers Union
- Lee Schram, Vice President and General Manager of Payment Solutions, NCR Corporation

By the time David's panel was finished, there were very few subcommittee members left in the room. Glad the subcommittee had a copy of David's testimony to review!

David Reading His Testimony Before the House Subcommittee



A second hearing was held on April 8, 2003, before the full House Financial Services Committee. David did not provide testimony for that hearing, but Grant Cole, Senior Vice President at Bank of America and Chair of ECCHO did. He represented four organizations:

- Bank of America
- Consumer Bankers Association
- ECCHO
- Financial Services Roundtable

Grant's representation of these four organizations was another example of the broad industry support for the bill. There were six other individuals on the panel, including the Honorable Vice-Chair Ferguson. A transcript of the Vice-Chair's testimony can be found in [Appendix 7](#).⁸⁸

Grant was a very experienced senior, bank operations manager. Around the time he was scheduled to testify, the industry was having active discussions about a technical change needed to support the replication of the MICR line from the original check to the new Substitute Check under Check 21. The X9 standards body was determining how to recreate the MICR line on the Substitute Check (see [Charter 8](#)). Whatever the final solution might be, it would require a change in the MICR line, and that conflicted with a provision in the bill that the MICR line would be replicated without change. Given the very short time allotted for testimony at the hearing, a detailed discussion of changes in the MICR line was not possible. Reluctantly, Grant agreed not to address the specific change, but he was determined to address the general need. He could not resist asserting his operational background, and he mentioned that without a change to the MICR line between the original check and its replacement Substitute Check, it would be technologically impractical to process Substitute Checks. This was a technical detail not understood by the committee members. His handlers were probably the only people with any idea what he was talking about. But no harm was done, other than perhaps the creation of some mild confusion. A transcript of Grant's testimony is in [Appendix 8](#). Grant was a tremendous asset, always readily available when needed, and always very supportive.

In September of 2002, BAI held its annual ECP Conference in New Orleans. One of the key topics for the conference was Check 21 and various parties who were involved in the effort to pass it were invited to speak. One individual whom ECCHO really wanted to invite as a speaker was Carter McDowell. Anticipating that he would not be readily available for a phone call, David sent him an email and asked if he would be interested in speaking at the conference. To David's surprise, he immediately responded yes. David followed up with another email inviting Carter to join him and several others for dinner at Commander's Palace⁸⁹ the evening before the conference. Again, to David's surprise, Carter immediately responded yes and added that Commander's Palace was one of his favorite restaurants in New Orleans.

BAI had warned David that congressional representatives who agree to speak sometimes cancel at the last minute, leaving the conference scrambling to find replacement speakers. David's pleasure with Carter's agreement to participate was modified by the realization that more pressing matters in D.C. might override his commitment to the conference. Still, Carter's enthusiasm was unexpected. Sometime later, David learned why Carter was eager to accept. Carter grew up in New Orleans.

Dinner at Commander's Palace included:

- Brian Black with BAI

88 Transcripts of the full hearing on September 25, 2002 and April 8, 2003 can be viewed at <https://www.congress.gov/event/107th-congress/house-event/LC16783/text> and <https://www.congress.gov/event/108th-congress/house-event/LC14261/text> respectively. Ferguson's testimony in each instance was essentially the same.

89 Commander's Palace is a New Orleans landmark restaurant established in 1893, known for its award-winning food quality and its convivial atmosphere.

- Grant Cole with Bank of America
- Hank Farrar with SVPCO
- Tom Fox with Schwartz & Ballen
- Fred Herr with FRB Atlanta
- Gary McKnight with Frost Bank
- Phyllis Meyerson with ECCHO
- Michelle Profit with Credit Union National Association (CUNA)
- David Walker with ECCHO

The group was seated at a large table in the middle of the main dining room, the best place to experience the restaurant. The food is always good, the atmosphere welcoming and the service excellent. The conversation during dinner was lively. At one point someone said something about the number of ECCHO employees, surprising Carter. He assumed that an organization leading a legislative effort as important as Check 21 would be large, perhaps offering an employment opportunity after his term serving in Congress. Congressional staffers are always looking for their next employment at the end of their D.C. service. He was truly shocked when he learned the entire ECCHO organization included only three employees, Susan Holly,⁹⁰ Phyllis, and David and that two-thirds were at the table. Based on his reaction, David was immediately concerned some of Carter's support might be lost. Fortunately, none was.

Carter's speech was essentially a Civics 101 lesson on how laws are made and specifically how Check 21 had progressed in its evolution from a proposal to a bill and finally to becoming a law. Few people had given a minute's consideration since high school about the legislative process. He spoke for almost an hour without notes or a formal presentation, and the audience hung on every word. The conference attendees loved it.

Most of ECCHO's lobbying efforts were meetings in congressional offices in D.C. There was one notable exception. The head lobbyist for Bank of America, Ed Hill, arranged for an educational tour of Bank of America's check image processing operations in Baltimore, MD, and a dinner boat cruise for congressional staffers. The congressional staffers and a few others from the D.C. trade associations were invited to take a bus from D.C. to the bank's processing center. The group was split into two groups for the tour. Grant had carefully explained to his staff they should not use jargon and acronyms unique to check processing because they would not be understood by the staffers. Much to Phyllis' chagrin, when her group exited the elevator at a workstation, the bank's tour guide immediately began explaining how "unencoded"⁹¹ work was processed at that workstation. Congressional staffers had no idea what "unencoded" work was. After the tour, there was a question-and-answer session with no questions about unencoded items, but there were a few questions about consumer protections.

Following the bank tour, the group proceeded to Baltimore Harbor for the dinner cruise. On the boat, Phyllis asked the staffers whether their congressman/senators listened to what they say, basically asking if we were educating the right people. Of course, they said yes. Once everyone was seated for dinner, the waitperson asked for drink orders. Soft drinks, juice, beer, and wine were included in the meal, but mixed drinks were not. Ed sensed some uneasiness among the diners. Within a few minutes, the waitperson came back to tell everyone "the gentleman over there," pointing to Ed, said "Open bar" and everyone relaxed. Ed clearly knew his audience.

90 Susan, now deceased, was ECCHO's Office Manager between 2001 and 2004.

91 Unencoded work – Checks for which the amount field has not been printed on the MICR line of the check. Encoded work includes the amount on the MICR line of the check. Companies with a large volume of checks will encode their own deposits, and banks will charge less in fees for processing those checks.

Before the dinner cruise, David had had more success in meeting with the representatives and their staffs than with the senators and their staffs. Staffers from both chambers had accepted the invitation for the tour and dinner. David had not yet met with Senator Sarbanes' office and his senior counsel had accepted the invitation. When David approached her after dinner, she was on the deck standing in the corner at the railing away from everyone else. David approached her to address any questions she might have about the bill. The conversation was positive and informative, but Phyllis has always teased David about backing the staffer into a corner.

As more was learned about the legislative process, it became obvious to Phyllis that elected officials are frequently not in D.C. In many of her speeches, she liked to say,

They don't work on Mondays or Fridays; those are travel days between D.C. and their home districts. They get off a week for the July 4th holiday. Most of us only get one day. They don't work in August. It's their vacation time. They come back in September and work for about a minute before they go home to campaign. And it's no wonder why it is so hard to get anything done.

Based on that schedule, it always felt like there was a rush to complete tasks before the next recess. Congressional work schedules made it even more remarkable that Check 21 passed so quickly. Unlike their employers, congressional staffers continue to work year-round since they do most of the legislative work and thank goodness they do.

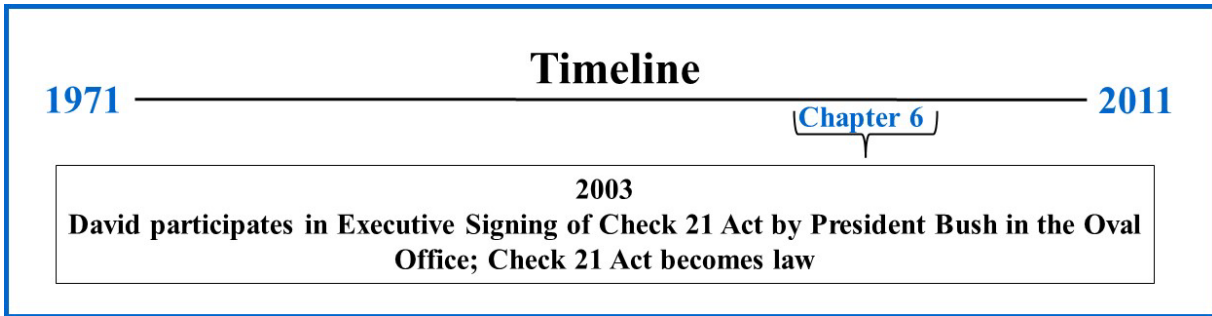
Almost two years after Chair Greenspan sent the Fed's proposal to Congress, the bill survived two sessions of Congress, hearings by House and Senate Committees and Subcommittees, and lobbying by consumer groups and the banking industry. It was time for a vote.

It passed the House by 405 votes for and 0 opposed. In the Senate it passed by unanimous consent.

One representative was out of town and missed the vote. When he returned the next day, he stood on the House floor to announce on the record that while he was not there the day before, had he been there he would have voted in favor of the bill. Everyone wanted to be on record supporting the bill.

Chapter 6 – The Oval Office & Presidential Signing Ceremony

This chapter is dedicated to Chair Greenspan who sent the bill to Congress culminating in President George W. Bush’s Presidential Signing Ceremony.



Friday, October 24, 2003 – David was in Vermont for Parents’ Weekend at his son’s (Jim’s) college. During the day, his phone was turned off and he did not have access to voicemail. At the end of the day, he and his wife Suzanne returned to their hotel room before going to dinner that evening.

Back at the hotel, David checked his phone and listened to a voicemail from ECCHO’s lobbyist, Brant Imperatore, a partner at O’Connor and Hannan. David had been working with Brant and his firm to promote Check 21, visiting members of Congress numerous times. Brant was instrumental in getting David invited to testify before the House Financial Services Subcommittee.

When David listened to Brant’s voicemail, Brant was extremely excited about his “great news.” A transcript of Brant’s message is in [Appendix 9](#). He reported that David would be receiving a call from the White House to invite him to participate in the Presidential Signing Ceremony for Check 21 in the Oval Office. There was also a voicemail from Katy Hayes, the Associate Director with the White House Public Liaison Office. She asked David if he would be available to participate in the Signing Ceremony on Tuesday, October 28th. A transcript of Ms. Hayes’ call is also in [Appendix 9](#). After listening to the voicemails, David said to Suzanne, “You have to hear this,” and then played the voicemails for her. Looking very skeptical, she asked if they were real.

Ms. Hayes reported David was one of several “industry representatives” who were invited to attend the signing in the Oval Office. Because David’s phone was turned off when Ms. Hayes called, her message went to voicemail, which allowed David to save a copy. The ECCHO staff always enjoyed playing that recording for visitors to their offices. While Ms. Hayes didn’t exactly say this, Phyllis has always said that her message almost sounded like she was saying, “If you have nothing else better to do on Tuesday, would you like to attend?” Of course, he said yes! Ms. Hayes said there were several other CEOs, senators, and representatives invited, and she was awaiting confirmation from a couple of the CEOs. David asked if a representative from the Federal Reserve would be attending, specifically Louise. Ms. Hayes reported the President was only inviting CEOs. David suspected there was more to it than that. While Louise was not a CEO and Chair Greenspan did not hold the title of CEO, he was the chief executive officer of the Fed, and inviting him would have been appropriate. This was especially true

considering Check 21 was the first and only time the Fed had proposed legislation, and that Check 21 enjoyed unanimous support in Congress.

None of the three branches of the U.S. government have primary responsibility for managing the economy overall. That responsibility falls to the Federal Reserve. In addition to making laws, the legislative and executive branches, among other duties, approve the spending of public money (taxes). The national economy, however, is also composed of private money, which Congress does not control. While the Fed does not determine the amounts of either or how those monies are spent, it is responsible for managing the impact of both on the overall economy. This provides the Fed with overlapping power with the other branches, causing its relationships with those bodies to wax and wane over time. It was truly a travesty that no one from the Fed was included in the Presidential Signing Ceremony.

Following the call with Ms. Hayes, David called Brant to confirm he had talked with the White House and had accepted the invitation. Then he called Tom to let him know he had been invited to the signing ceremony and would be in D.C. on Monday evening and asked if he could meet with Tom on Tuesday morning prior to going to the White House.

Activities following those initial phone calls were a bit of a blur. David needed to make flight reservations from Dallas to D.C. for Monday, less than three days after receiving the invitation. Frequent flyers know getting flights on short notice at a reasonable price can be difficult. When David checked with American Airlines about the availability of seats, he was pleased to learn there were seats available. The bad news was the ticket price for those seats was expensive, in fact, the most expensive David had ever even considered for a domestic flight. Without hesitation and with only a modicum of angst, David booked the flight. He was confident the ECCHO Board of Directors would not object to this expense.

Next, David thought about what to wear to a meeting with POTUS in the Oval Office. He decided he wanted, more than needed, a new suit to wear. He anticipated this would be a challenge, given the limited time available. Arriving back in Dallas on Sunday afternoon and leaving on Monday did not allow much time for shopping, buying, and altering a new suit before catching the flight. He selected a traditionally cut, single-breasted, two-button suit in grey pinstripe appropriate for the occasion, a white shirt, and for a touch of fun, a Jerry Garcia tie. It made him laugh just thinking about Jerry Garcia's artwork in an Oval Office meeting with bank CEOs and the President. It was the most liberal tie worn at the Signing Ceremony. The suit only required the cuffs to be hemmed and for an extra charge, it was ready late Monday morning in time to make the flight that same afternoon.

On Tuesday morning David met Tom at his office. The instruction from the White House was that he was to enter through the Northwest Gate. Tom suggested he walk with David to ensure an on-time arrival because walking time was more predictable than taking a taxi. The Capital was designed with streets forming concentric circles to confuse an invading enemy. Typically, car travel requires a circuitous route and a longer distance than just walking. Depending on normal traffic delays and the unexpected traffic stops from the movement of government officials, travel time by taxi could be unpredictable. The weather was brisk but not cool enough to require an overcoat. It was a grey, overcast day, somewhat out of sync with the positive expectation of completing a major accomplishment.

The Northwest Gate is only open to individuals previously approved and scheduled to visit the White House. Identification is presented through a small window outside the guard building at the street so the guard can check the approved list of visitors. When David returned Ms. Hayes' call, in addition to confirming his participation, she requested some information. He assumed this was needed to check his background prior to his arrival, and he was a bit surprised so little additional information was needed. The background check for the White House visit was probably completed even before the invitation was

extended, and the purpose of the additional information was simply to verify the correct person was being invited.

Once the guard determined that David was on the approved list, Tom left David and returned to his office. David was invited into the guard house, where he was scanned and photographed. Then he exited the guard house for the walk up the picturesque, curved driveway to the West Wing. Upon arriving at the West Wing, he was greeted at the entry by a Marine standing guard who immediately opened the door. This was all a bit surreal for David, triggering flashbacks to scenes from movies filmed at the White House.

David entered through a short, narrow hallway that opened to medium-sized rooms on either side. He was greeted on his right by a person who directed him to the Roosevelt Room, where he joined others who were there for the ceremony. It is named the Roosevelt Room because of the large portrait of Teddy Roosevelt on horseback at one end of the room. The CEOs in attendance were Mark Hurd, with NCR; F. Weller Meyer, with Acacia Federal Savings Bank; Harris Simmons, with Zions Bank; and David. David had previously met Hurd and Simmons through their lobbying efforts with Congress. The CEOs were identified collectively as the “industry representatives.” The CEOs of Bank of America and AirNet had also been invited, but they had declined. Bank of America had just announced its acquisition of Fleet Bank that weekend, which was a higher priority. It was not reported why AirNet declined but Check 21 was not great news for AirNet’s business model.

There were four senators present:

- Wayne Allard, (R, CO)
- Robert Bennett, (R, UT)
- Paul Sarbanes, (D, MD)
- Richard Shelby, (R, AL)

There were also four representatives present:

- Spencer Bachus, (R, AL)
- Melissa Hart, (R, PA)
- Michael Oxley, (R, OH)
- Pat Tiberi, (R, OH)

After a brief time in the Roosevelt Room, a White House staffer came in and asked everyone to line up in a particular order. Being a rookie to Oval Office visits, the lineup sequence rationale was not immediately obvious, but it felt to David a bit like being back in grade school, all in a single file. As a “Walker,” David was accustomed to being at the end of the line in alphabetical sequence, which was exactly where he was placed.

Used as a staging area for visitors, the Roosevelt Room is immediately across a narrow hallway from the Oval Office. Once lined up, everyone was directed across the hallway and into the Oval Office. The President was standing just inside the doorway and greeted each person individually as they entered. The first CEOs into the room were directed behind and around the Resolute Desk, roughly forming a semicircle. Since David was the last person in, he had slightly more time to visit with President Bush than any of the others. As they strolled from the doorway to the desk, David mentioned that he and the President had previously met at a small gathering in Waxahachie, Texas,⁹² when then-Governor Bush ran for his last gubernatorial term. David did not expect him to remember, but the President seemed to be attempting to as he slowly repeated “Waxahachie, Waxahachie, Waxahachie” as they strolled to his desk.

92 David lives in the city of Waxahachie, south of Dallas.

David's immediate reaction to the room was that it was much brighter than he had imagined, and it was very yellow. Perhaps he was remembering pictures of the deep blue oval carpet from President Clinton's term. Each President selects the carpet and colors for the office, and President Bush's Oval Office had yellow paint and a yellow carpet with light-colored sofas and chairs. Even on an overcast day, with the draperies closed the room was filled with light.

The President's desk was almost completely empty except for a portfolio and a small clock. There was nothing else on the desk, not even a phone. Once everyone was arranged around the desk, the President said a few words about how important "He heard this bill was." David was not expecting a long speech, but he was surprised the President had so little to say about a new law that would revolutionize a major part of the U.S. payments system. David had understood, before receiving his invitation, the President was not initially inclined to hold a Presidential Signing Ceremony, but he was glad the President had changed his mind!

The President then sat down at his desk and opened the portfolio. Inside was a single pen and a single piece of paper. When Presidents sign bills into law, the entire document is not used at the signing event, just the page he is to sign. The first question that David was asked by everyone after the signing was, "Did you get a pen?" The President used only one pen and he kept it.

Once seated, the President picked up the pen, placed his hands on the desk, paused, looked up at his staff, and said, "Ready." At that point, the double doors between the Oval Office and Rose Garden were flung open and a bevy of photographers dashed in, some kneeling before the desk and others standing and all rapidly taking as many pictures as they could. With cameras clicking away and with a small flourish, the President put pen to paper and signed the law. Then, on some cue that David did not hear or see, the photographers dashed back out into the Rose Garden, and the doors were quickly closed. And that was the end of the photo op. It all seemed a bit comical.

That was it! President Bush stood up and the attendees were directed out of the Oval Office. The President returned to his regular business, lobbying the elected officials as they exited to support one or more of his legislative items. Everyone exited a door that led directly into the hallway and walked past the Marine, who once again politely and smartly opened the door as everyone left. The entire ceremony lasted no more than a few minutes from start to finish, but to individuals in the banking industry, it represented a huge achievement for the industry, the U.S. economy, and the public. It also initiated the most successful payments system upgrade in the history of the country and, likely, the entire world.

David did not realize the reason for the Roosevelt Room lineup until sometime later, but it was just prep for the photo op in the Oval Office. Two industry CEOs were on each end and the senators and representatives were in the middle of the lineup which placed them directly behind the President. This ensured the elected officials would be in every picture.

A few weeks after returning home, David received another call from Ms. Hayes to say that his photo was ready and asked where to send it. During the signing ceremony, in addition to the bevy of news photographers, the official, omnipresent White House photographer was also taking pictures to commemorate the event. In the picture below, you can see a news photographer's flash at the bottom. This probably explains why the news photographers were kneeling in front of the desk, so the White House photographer had a clear view of the President, senators, and representatives. David was on the far left of the President (far right in the picture) since he was at the end of the lineup and the last one to enter the room. In David's picture, he noticed Mr. Meyer, on the opposite end, is mostly cut off and only his tie is visible. Had the CEOs been more experienced with Presidential signings, they would have squeezed

together more closely. David assumes Mr. Meyer probably has a similar picture in which he appears with only part of David's Jerry Garcia tie showing.

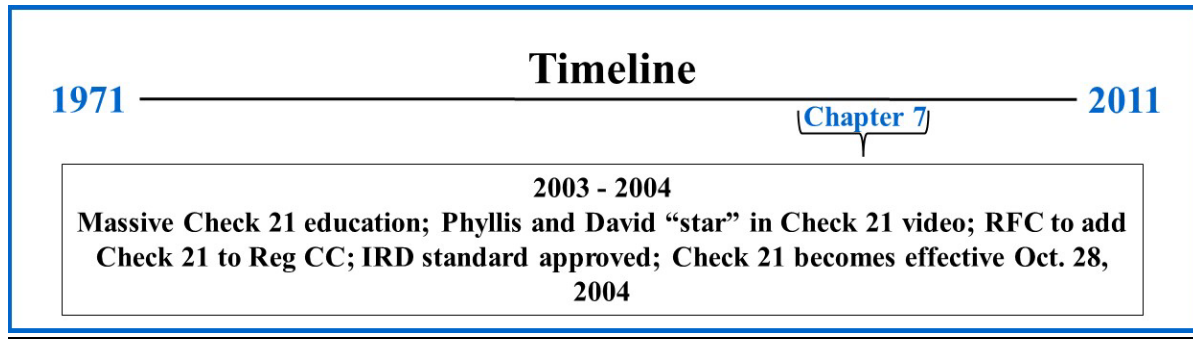


As everyone walked back down the curved driveway toward the northwest gate, David was walking with a couple of the attendees. One of the CEOs said something about how long it had taken to get the bill passed, to which one of the representatives remarked that it had passed with lightning speed and noted, by contrast, some bills are worked on for a decade or more before becoming law if they ever do. This was truly a phenomenal accomplishment, not only amazingly fast but also passing both houses of Congress without opposition.

Then, David was through the gate and out on the streets of D.C., no longer in a meeting with the most powerful person on the planet. He was just another ordinary Joe hailing a cab in a big city.

Chapter 7 – We Have a Law – Now What?

2003 - 2004 – This chapter is dedicated to Fred Herr, now deceased, Senior Vice President of the Federal Reserve’s Retail Products Office in Atlanta, who along with ECCHO successfully pushed everyone in the industry to be ready for the new law.



On October 29, 2003, the day following the Presidential Signing Ceremony, the Fed held a meeting in D.C. It was advertised as a payments meeting but was mostly to acknowledge the passage of the new law. Everyone from the industry who had a part in getting the law passed attended. Chair Greenspan spoke to the group and Vice-Chair Ferguson was also there. Phyllis and David were in attendance and Phyllis managed not to insult the Vice-Chair this time. Unfortunately, this was not his first impression of her.

The act stated the Fed may prescribe regulations to “implement, prevent circumvention or evasion of, or facilitate compliance with the provisions of the act.”⁹³ In December 2003, the Fed issued a request for comment (RFC) that proposed to modify Reg CC to address all Check 21 provisions. The Fed developed a modification to Reg CC as a new Subpart D to implement the act. Subpart D reorganizes and restates the provisions of Check 21 and provides safe harbor Consumer Awareness language. The Fed also clarified aspects of the act that may not have been sufficiently clear for banks to implement.

The industry and the Fed had less than a year to work through all the considerations in the regulation. Knowing this, Phyllis, who was home alone, read the RFC on Christmas Day. Later she told everyone she had opened and played with her presents before reading Reg CC. Many people thought she was crazy, and maybe she was. After relating her Christmas story to the ECCHO Operations Committee, several members felt so bad about her solitary holiday they invited her to spend the next Christmas with them.

Louise Roseman called a meeting in D.C. to discuss a provision in the Reg CC RFC to add a “Purported Substitute Check.” It was not a real Substitute Check and therefore did not have legal equivalence. As hard as it might be to believe, the consumer groups agreed with the banks, which they almost never do, that a “Purported Substitute Check” was a terrible idea. Louise planned an in-person meeting that included limited phone access. The Fed’s conference call facilities were old and only supported a relatively small number of phone lines. David was scheduled to attend the meeting in person while Phyllis had a speech in a different city. On the Friday before the Monday meeting, Louise reviewed the list of attendees and noticed Phyllis was not on the list. Her admin called Phyllis to invite her to use one of the limited phone lines. Phyllis moved her speech to a different time that day and attended the meeting from

93 Check Clearing for the 21st Century Act, Sec. 15. Regulations. <https://www.congress.gov/108/plaws/publ100/PLAW-108publ100.htm>.

the office of a hotel employee where she was making her presentation. Phyllis was honored that Louise included her. Eventually the concept of a “Purported Substitute Check” was dropped and not included in the final Reg CC provisions.

Because Check 21 replaced a paper check with another paper check, the basic processing requirements did not change for banks or for their customers. Customers continued to write checks and receive paper checks in their statements. Banks continued to receive paper checks in deposits and paying banks continued to receive paper checks for posting. The law did not require banks to:

- Change existing relationships
- Capture images of checks
- Image enable the bank’s day-two⁹⁴ and/or back-office applications
- Image enable ATMs or branches
- Participate in image exchange with any organization
- Purchase any new hardware or software
- Hire consultants to develop a Check 21 plan

Banks could choose to do any or all of these things, but they were not required to because the Fed and Congress minimized the impact on institutions that chose not to participate. The Fed’s guiding principles in drafting the law were:

- To foster innovation in the check collection system without mandating receipt of checks in electronic format
- To leave banks and their customers in substantially the equivalent legal and practical positions regardless of whether or not they received the original check
- To ensure that any burdens associated with the law did not outweigh the associated benefits for banks or customers

In 2003, many banks were providing customers with periodic statements that included original, paid checks. Many bank customers felt strongly they bought and paid for their checks, and they wanted them in their statements. With the implementation of Check 21, banks can no longer guarantee their customers will receive original paper checks in their statements.

However, Check 21 provided that a “Substitute Check” is the legal equivalent of the original check. That provision removed one of the banks’ concerns that if they did not include original checks in their customers’ statements, their customers would move their accounts down the street to a bank that would. Check 21 eliminated the ability of any bank to commit to its customers that they would continue to receive original checks in their statements. Some banks included Substitute Checks and other banks provided images of the original checks or images of Substitute Checks in customers’ statements. Some bank customers, upon receiving their statements, routinely filed their checks in serial number sequence for later access. When original checks were replaced with images, some of those customers cut out the pictures of the checks from their statements and filed them in lieu of the originals. Regardless of which option banks pursued relative to checks in customers’ statements, original paper checks were being rapidly eliminated from interbank collection and statement rendering.

The law did include a few new requirements, but those were relatively minor and revolved primarily around three aspects.

94 Before Check 21, check processing was typically a two-day process with different functions performed on day one and day two. Banks captured checks on day one and performed back-office functions, i.e., return processing, statement renderings, and other functions on day two. Bank personnel functions were divided into day-one and day-two functions.

One was the requirement that banks have processes in place to handle expedited recredit claims. This was mostly a documentation and staff training requirement that did not impact normal check processing.

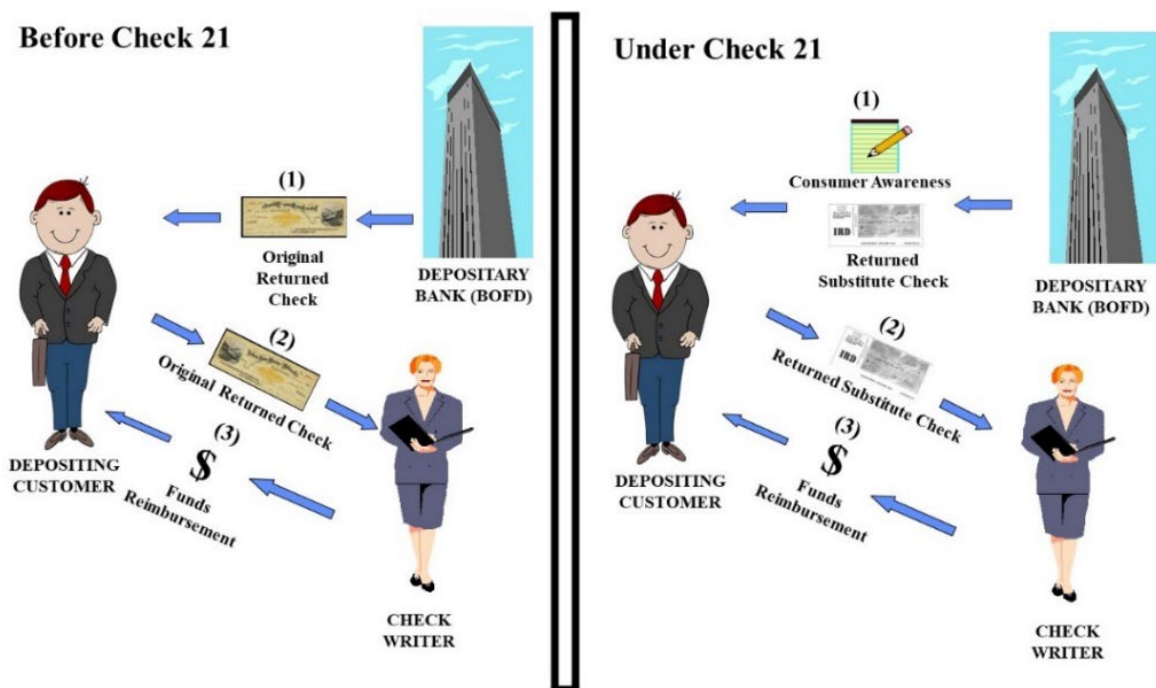
The second was that banks must provide a brief notice to consumers (Consumer Awareness) about Substitute Checks. Congress directed the Fed to specify what the Consumer Awareness must say and when it is to be distributed. The updated Reg CC provided safe harbor language for banks to use. The disclosure is intended to educate all consumers (i.e., depositors, check writers) that a Substitute Check is the legal equivalent of the original check and can be used as if it were the original check. While this did require some minimal programming, it is mostly another documentation and staff training requirement that did not impact normal check processing and with minimal impact to bank/customer interfaces.

The third aspect involved the depository bank's receipt of Substitute Checks in lieu of returned original checks. Reg CC requires depository banks that receive returned checks to provide customers, by midnight the next day, with either the returned checks or notices that it has received returns.

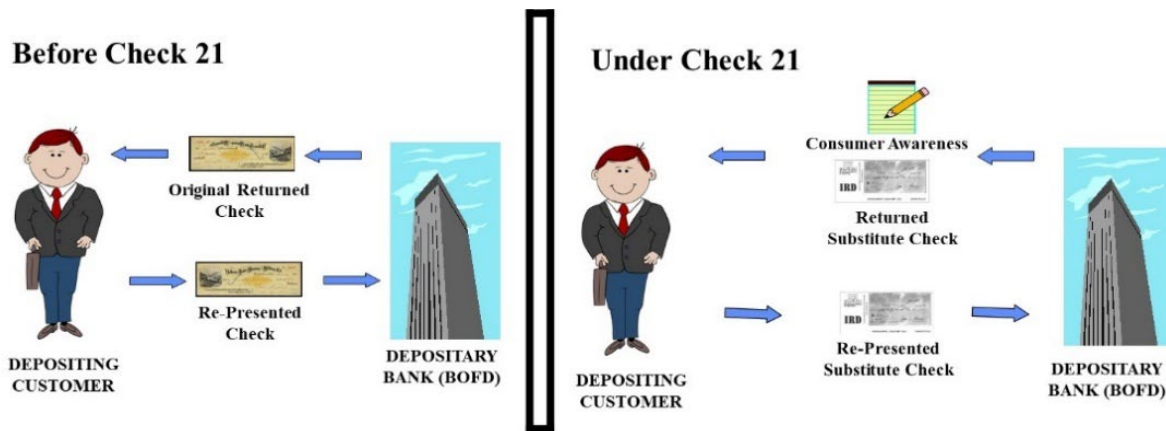
There were two considerations regarding unpaid, returned checks under Check 21. The first was the depositing customer's ability to collect the amount of the returned check from the check writer. The second was the ability to re-present the returned check a second time for collection. In 2003 the volume of unpaid returns was only about 1% of the volume of checks written so these considerations had minimal operational impact, but there is always the risk the depository banks might be unable to collect from their customers.

Before Check 21, the depository bank provided its depositor with original, returned checks. The depositor would then use the original checks to collect from the check writers. There was concern the check writers might be unwilling to reimburse the depositor if only a Substitute Check was available rather than the original check. Reg CC addressed this concern by providing legal equivalency to Substitute Checks and by requiring the inclusion of the Consumer Awareness with each returned Substitute Check.

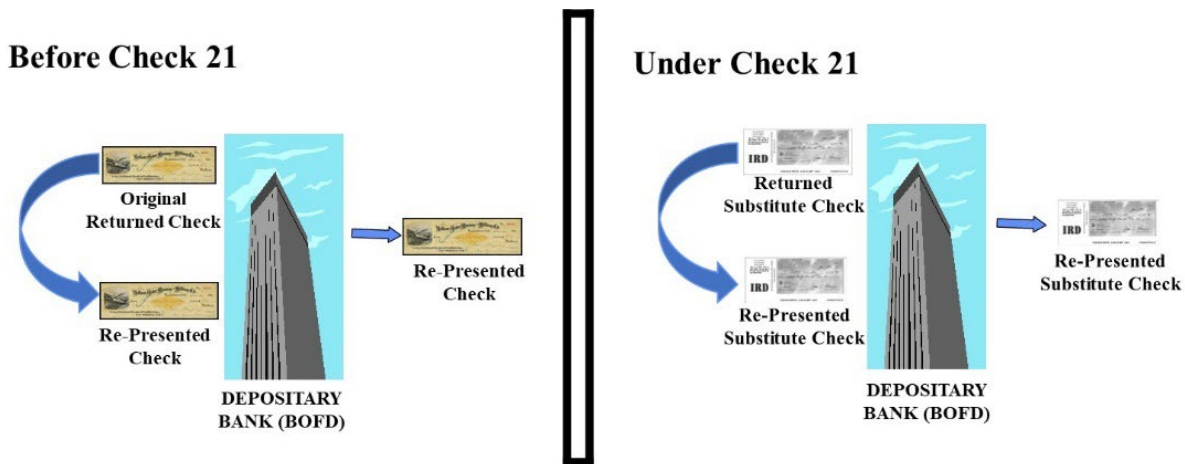
The following graphic compares the return and reimbursement processes, before and under Check 21.



It is common practice to attempt to collect some returned checks a second time through a process known as re-presentation. There are two ways to re-present returned checks. One is for the bank customer to re-deposit the returned check just as it did the first time. If the returned check, however, is a Substitute Check, then the bank customer would re-deposit the Substitute Check in lieu of the original check. The following graphic shows the re-deposit of the returned original check before Check 21 and the re-deposit of a returned Substitute Check under Check 21 along with the Consumer Awareness. Deposits of returned checks both before and under Check 21 could be made with the same depository bank or a different depository bank. The graphics below show the re-deposit being made to the same depository bank.



The second way is for the depositor to have standing instructions with its banks to automatically attempt to collect returned checks a second time. This automated process is the same before and under Check 21 with the exception that, under Check 21, a Substitute Check is re-presented instead of an original check. See the following graphic:



Banks, vendors, and the Fed needed to update systems to be ready for the new law. ECCHO had been so focused on the legal and lobbying aspects of getting the bill passed, it had spent little time working on what was needed to implement the law. An ECCHO member simply asked what the minimum requirements for banks would be. This turned out to be *the* question. Since the law does not mandate the creation of Substitute Checks, there are no minimum requirements to create them. However, once created, banks are required to receive them, which created the need to identify the minimum receipt requirements.

Some of the important minimum requirements follow. A more complete listing can be found in [Appendix 10](#).

- Check Capture – Ensure the bank’s capture system would not reject Substitute Checks with a character in the EPC field for forward collection items (see [Chapter 8](#))
- Check Returns – Ensure the bank’s return system would create the appropriate character in the EPC field for returning Substitute Checks (see [Chapter 8](#))
- Customer Service/Training/Education – Train bank personnel to minimize customer confusion
- Consumer Awareness –The law and the updated Reg CC require a Consumer Awareness and process
- Expedited Recredit – Develop and implement recredit procedures and train staff to use them for consumers and banks

In addition to developing the minimum requirements, ECCHO and many others in the industry, including the ABA (American Bankers Association) and ICBA (Independent Community Bankers Association), created materials to educate their members about the new law. To achieve successful implementation, the Fed and ECCHO delivered many, many presentations to individual banks, banking trade associations, banking conferences, corporate credit unions, bankers banks, regional payments associations, service providers, and anyone else with an interest in the new federal law. Between Phyllis and David, they delivered more than 100 presentations across the country in a little more than a year. Some of these were co-presentations with Fed representatives or representatives of other organizations but mostly these were solo presentations by Phyllis or David. A few times, they had two presentations on the same day in different cities, which meant flying in, presenting, and then immediately flying on to the next city. In addition to the Fed and ECCHO, there were many others involved in the massive industry education.

Recognizing the need to educate multiple individuals within organizations including those that could not attend presentation sessions, such as bank operation shift workers, video recordings of live presentations were added to the process. There were two of note.

One of these videos resulted from David's several trips to D.C. to meet with the Federal Financial Institutions Examination Council (FFIEC). The FFIEC is an interagency organization of examiners of state and federal banks, credit unions, and various other organizations providing banking services. Periodically the FFIEC holds a week-long training session for bank examiners at its offices in Arlington, Virginia. The number of examiners across the country are in the thousands, and the FFIEC requires them to attend these training sessions. The group is so large there is a hotel at the FFIEC’s location in Arlington to accommodate the examiners and others supporting the organization. David’s session was always at the end of a training week and was a detailed, four-hour presentation. The examiners were always happy when his session was finished which, in part, reflected their readiness to go home and not any lack of interest in Check 21 or his captivating presentation. After delivering the same presentation a couple of times to more than 400 individuals, the FFIEC asked if the session could be recorded for future training sessions. David readily agreed.

Another notable video was the 2004 educational video co-sponsored by the ICBA, SWACHA (Southwest Automated Clearing House Association, now ePay Resources), and ECCHO titled "Check 21 Implementation." Phyllis and David were the talent (a term used very loosely) for a one-hour video, which took an entire day to record. The film crew came to the ECCHO offices, which were in the flight path of Love Field in Dallas. Filming had to stop every time a plane flew over the building and the audio guy said “Cut!”

Phyllis and David initially thought they would present the material the way they typically did speeches without a script, just talking to the slides. They realized a day or two before the filming that was a bad idea, so overnight David wrote a script for the teleprompter. Phyllis quickly learned when reading a teleprompter, you should not think about what you are reading; just say the words. She was much better at that than David, who frequently had to repeat a line after stumbling over it.

During that time, there was a lot of confusion about the law and whether it was about image exchange or just Substitute Checks. At some point during the filming, in an attempt at humor, David's script read jokingly, "It's all about image," and Phyllis instantly and emphatically said, "You're wrong!", as she had been doing throughout the industry to everyone who got it wrong. When the video was completed and reviewed, Phyllis' very adamant "You're wrong" wasn't in it. She really enjoyed telling her boss (and everyone else) he was wrong, so she was disappointed and asked why it had been cut. She was told it sounded like she was telling him he was an idiot, so it was cut by Deb Yaley, the producer of the video and the president of LessonWise.⁹⁵

At another point during the filming, the videographer stopped shooting, asking Phyllis to tone it down a bit. Like Deb, he too thought the humor would be lost on most of the intended audience. Nevertheless, it was a fun learning event and was distributed broadly across the industry.

It was incredible how many meetings and speeches there were about Check 21. The following is a list of David's trips during just 14 days in June 2003. Phyllis had similar schedules.

- June 5 – Dallas to New York
- June 6 – New York to Dallas
- June 8 – Dallas to Long Beach, CA
- June 9 – Long Beach to San Francisco
- June 10 – San Francisco to Dallas
- June 11 – Dallas to Chicago
- June 12 – Chicago to Dallas
- June 13 – Dallas to Boston
- June 14 – Boston to Dallas
- June 16 – Dallas to Quebec City
- June 18 – Quebec City to Dallas

Anyone who travels has many stories about missed flights, flights to the wrong city, being stuck at airports in the wee hours of the morning, arriving late to discover your room has been given to someone else, or that there were no rooms available. Phyllis' and David's experiences were no different.

There were so many meetings and speeches Phyllis and David were not always sure they were going to the right place. Many times, they got off a plane, got in a cab, and had to convince themselves that they were in the right city for the right presentation.

Phyllis scheduled a meeting to discuss the use of dashes and spaces in the MICR line of the check. Very exciting stuff! Louise was on the distribution list and when Phyllis saw her, Louise said, "The Fed has some pretty esoteric meetings, but a meeting on dashes and spaces takes the cake."

Phyllis had back-to-back speeches at a BAI event in Orlando, Florida, and was scheduled to speak the next morning to the Ohio Bankers League. The scheduling was very tight but possible. She planned to leave Orlando in the evening and fly through Chicago, where she would spend what was left of the night

⁹⁵ Deb also worked with RWC Group and is currently President, RWC Group.

at the O'Hare airport hotel. Her plan was to take a very early flight the next morning to Ohio where Tim Mills,⁹⁶ who was coordinating the event, would meet her and drive her to the event. Things did not go exactly as planned. Her flight from Orlando was scheduled to arrive about 11 p.m. and after many delays, finally arrived in Chicago between 2:00 and 3:00 in the morning.

Flying out of Orlando in the evening always involves very tired, cranky kids running around the airport. Most parents let them burn off energy so they will sleep on the plane, which is a good idea for the kids' parents, but not so great for business travelers. When Phyllis arrived at the hotel in the wee hours of the morning, the hotel clerk said, "Have a pleasant evening". Between getting to her room, checking e-mails, not a small task in those days,⁹⁷ and getting up to catch the early flight, she had no more than two hours sleep. But she got to Ohio on time and Tim promptly met her.

She started her speech on Check 21, and after a few minutes a lady stood up and said something like "Why do I care about this." Phyllis tried to explain that if she had customers, she needed to be concerned because it was going to be a new law. She sat down and let Phyllis almost finish her speech when she stood up again, still questioning the need to know any of this. Phyllis tried again to patiently (patience is not one of Phyllis' attributes) explain the importance of the law and how it would impact her financial institution and its customers. But Phyllis was not very successful. She had had very little sleep and all she wanted to do was to get out of Ohio to get some rest.

On another occasion, Fred Herr arrived at a conference, but his checked luggage did not. When he made his presentation the next day, he was not in his typical Fed suit and tie. Phyllis probably said to Fred what she always says, "There are two kinds of luggage: carry-on and lost."



96 Tim was Vice President with The Clearing House and is currently Senior Vice President of Emerging Payments Strategy at Regions Bank.

97 Wi-Fi connects at hotels were not common. Getting emails typically consisted of hooking the computer to the phone line, which was slow and not reliable.

In the early 2000s, hotels did not have 100% smoke-free policies; most had a mix of smoking and non-smoking rooms. There were times when either Phyllis or David would arrive at a hotel and be told there were no non-smoking rooms available. Every time that happened to David, he politely asked the desk clerk to find him a non-smoking room, if not in that hotel, then in another one nearby. David never stayed in a smoking room.

On a trip to D.C., David arrived at about 6:00 p.m. at the hotel where he had reservations. This was an unusually early arrival time for him. When he checked in, he was told the hotel was completely booked with no rooms available. David insisted the hotel find him a room and at the same rate. After some hemming and hawing, the desk clerk found a room that was available for one night only. Perfect, one night was all he needed.

When David arrived at his room, he was surprised to see double doors with a doorbell. Upon entering, he could not see the end of the room. In fact, it was not one room but several. On his left was a small coat closet. On his right was a half bath. He began exploring the digs, which normally meant simply turning his head. He discovered a complete, full kitchen with a back door, which also had a doorbell. The kitchen led into a very large room that was a formal dining area with seating for 10, a meeting area with tables and chairs, and a large TV viewing area. From there he entered the bedroom with a king-size bed. The bedroom led into a dressing room with two sets of large dressers and closets, a toilet, and a bidet. On one end of the dressing room was a giant jacuzzi so large that he could have stretched out in it without reaching the other side. At the other end of the dressing room were two showers.

When it was bedtime, David started turning off the lights but finally gave up when he could not find all the light switches. He finally just closed the bedroom door and went to bed. Given the size of the suite and its location on Dupont Circle in D.C., the normal guests for this room probably had people do things for them like turn out the lights. David felt it was a real shame to have that much room and no one to share it with. He needed more friends in D.C. He could have had a great party. Sometimes there can be pleasant surprises when you travel.

Louise valued Phyllis' opinion so David always encouraged Phyllis to join him when he was meeting with her. At one such meeting in Louise's office in D.C., Phyllis noticed a large array of Buckyballs⁹⁸ artfully arranged on the conference table. Louise spent many hours on domestic and international conference calls and liked to arrange the magnetic balls into various shapes while listening on the calls. A compulsive fidgeter, Phyllis was delighted to be introduced to Buckyballs. Without asking permission, she immediately began playing with the toys and before long had destroyed all of Louise's carefully created designs. It was obvious there was no time for Phyllis to rearrange her wads of magnets into anything resembling Louise's creations. It must have taken Louise hours to arrange them and only minutes for Phyllis to dismantle them. Fortunately, Louise was good-natured and showed no frustration.

98 Buckyballs are stress reliever magnet balls that can be arranged in cool shapes.

Creative Buckyballs



Wad of Buckyballs

A few years later when Buckyballs was selling off its inventory following regulatory concerns about their safety, Phyllis purchased Buckycubes for \$10. When attending a meeting with Louise, Phyllis gift wrapped the Buckycubes and asked the hotel to deliver them to her. Although Phyllis didn't want reimbursement, later at the meeting Louise insisted. It is a Fed policy that employees cannot receive gifts, and Louise was very particular about following the policy. You could not even buy her a cup of coffee without receiving reimbursement.

Phyllis and Joe Barresi, a member of the Federal Reserve Board staff in D.C., made a great speech for UMACHA (Upper Midwest ACH Association). Years later, Fred Laing, then president of UMACHA, now deceased, frequently complimented Phyllis on that speech. It was probably one of Phyllis' best speeches. But all the speeches that Phyllis and Joe did together did not go that well.

Joe and Phyllis were speaking at the MPX⁹⁹ conference on October 28, 2004, the day the law went live. Both she and Joe were excited after working on it for so long. During that time, it did not seem to matter what her topic was, the people in the middle of the country did not seem to like her or ECCHO. Later that changed. Perhaps it was her Brooklyn/Texas accent, or perhaps her playful sense of humor. She and Joe had spoken together a number of times and worked on the IRD standard, so they knew each other pretty well. The session was in a large room that was mostly full, but they had a rough start. The conference organizers, whom they knew and were usually very efficient, failed to provide copies of their presentation to the attendees. In the session evaluations, there were a lot of negative comments about the missing materials. And this wasn't the only negative reaction to their speech.

In the Fed's changes to Reg CC, it included an unexpected requirement which had not been in the Request for Comment (RFC). The addition requires banks to provide Consumer Awareness each time a

⁹⁹ MPX is now EPCOR, one of several payments associations in this country.

consumer receives a returned Substitute Check. This provision caused the banks and vendors to do additional, unanticipated work. During their presentation, Phyllis had good-humoredly ribbed Joe about the surprise addition. One of the evaluation comments was “Poor Joe.” The commenter obviously thought Phyllis was criticizing Joe, but they were just fooling around, and neither took offense.

Across the country in Atlanta, at about the same time Phyllis and Joe were speaking at the MPX Conference, Global Concepts¹⁰⁰ was holding one of its industry forums. Glasses of champagne were raised to toast the effective day of Check 21. Steve Ledford, President of Global Concepts, had written three songs for the occasion (all three can be found in [Appendix 11](#)) and one was about Phyllis. "Go Ask Phyllis" is below. Who knew Steve¹⁰¹ could be that creative?



Go Ask Phyllis

(tune of "White Rabbit")

It says "This copy...is legal"
But is the image, way too small,
And the ones, you put in statements,
Don't do anything at all.
Go ask Phyllis...She knows it all.

And with X9.37
And 100-140 too
Do you have to, use the dashes.
Or will just the numbers do.
Go ask Phyllis...she has a clue

And if you have to recredit
And you don't know where to go
Cause the IRD came after
The check cleared S-V-P-C-O
Go Ask Phyllis...I think she'll know.

2004 by Steve Ledford

100 Global Concepts was a check consulting company, which was purchased by McKinsey and Company in 2005.

101 Steve is now retired.

In the East, Phyllis was being toasted with inspiring songs and in the middle of the country she was being criticized. She would have rather been at the Global Concepts Forum sipping champagne.

For a law that was relatively simple, there was major confusion about it. The amount of misinformation about the law was incredible. Everyone from elected officials to vendors to bankers to reporters got it wrong. In some of her speeches, Phyllis included a list of the “Myths” about the law. David of course would never have done that. The multiple-choice question below includes some of those myths, and more can be found in [Appendix 12](#). Every misstatement about the law in the appendix was made by a notable, public source. They were all wrong!

The following is a typical multiple-choice question about Check 21 used in Phyllis’ speeches. Which answer is correct?

Check 21:

- a) Mandates check truncation
- b) Mandates the destruction of the original check
- c) Grants electronic check images the same legal status as the original check
- d) Grants Substitute Checks (IRDs) the same legal status as the original check
- e) Allows banks to exchange checks electronically (using images)
- f) Allows banks to truncate an item and convert it to ACH
- g) Excludes all government checks including Treasury checks and state warrants

Answer d) is the only correct answer!

Throughout the implementation phase, consumer groups continued to push back on the new law. Suze Orman wrote an article titled "Check It Out: New Banking Law Soaks Consumers". Early in the article, Orman wrote: “In a big fat wet kiss to the banking industry, Congress has authorized electronic processing of all the personal checks you and I write, meaning banks no longer have to physically exchange checks with each other before they take the money out of our accounts.”¹⁰² Another myth about the law!

Shortly thereafter, Orman received a letter from the U.S. House of Representatives Committee on Financial Services which stated, in part, “In your column which posted on the Yahoo Finance webpage, you state that Check 21 is a gift to the banking industry and has no benefit to consumers. We respectfully disagree.”¹⁰³ The letter went on to explain the rationale and benefits of the new law ending with “Check 21, which passed the House on bipartisan vote of 405-0, benefits both consumers and our national check-clearing system.”¹⁰⁴

Orman was far from alone in her objections to and misunderstanding of the new law. As other consumer groups and consumer-focused media became aware of the law, they too voiced their objections. Many of the bank trade associations had people who worked with the media on these issues. But it was Nessa Feddis, Senior Counsel with the American Bankers Association (ABA), who was the most quoted spokesperson for the industry. Nessa had been an attorney with the ABA for many years. She handled all the criticism and complaints patiently and professionally. Phyllis spoke with Nessa the day after the law

102 The copy of the full article is in [Appendix 13](#).

103 A copy of the letter is in [Appendix 14](#).

104 Ibid.

went live, and they both commented the world had not actually ended on the previous day, as implied by consumerists.

Nessa was not the only one addressing questions and misunderstandings about the new law. Many people across the industry tried to correct the misstatements. One was Bill Saffici¹⁰⁵ of Fiserv, who methodically corrected many articles and press releases. Bill would edit in great detail any article or press release that included false information by marking up the article and sending a very polite letter to the author explaining what Check 21 really did in the hope that the author would get it correct in the future.

Regardless of your political leanings, it is believed that without a Republican Congress and President, this law would not have been possible in its current form, passed in record time, or with unanimous Congressional support. The consumer groups may have received more support from the Democrats. It is now twenty years later, and the doomsday scenarios identified by the consumer groups did not happen. The expedited recredit provision for consumers (the most contentious provision of the law) has never been used. The banking industry, including the Fed, experienced significant savings, and all customers, both consumers and businesses, have enjoyed new, improved products through services like Remote Deposit Capture (RDC) and faster availability of deposited checks.

On October 28, 2004, the law became effective. After a year of regulatory changes, operational changes, and training, it was live. Like all new processes, it started small, but there were a few organizations, including the Fed and Fiserv, that were determined to be ready and to process Substitute Checks on October 28, 2004. Bill Saffici wrote about that day, “At 10:58 p.m. on this day, I was in the Fiserv Atlanta IP Center and stood in front of a printer to watch the first IRD (within Fiserv) printed as part of a cash letter that was then presented to the FRB [Federal Reserve Bank] Atlanta on behalf of Intrust Bank in Wichita, KS. The images were communicated to Fiserv through Endpoint Exchange.”¹⁰⁶ Endpoint was later acquired by FIS.

Steve Gibson-Saxty with Endpoint wrote about his memory of that day, too. “Yes, on that day with [the] help of Fiserv (we were Metavante then) we printed the first IRDs, I believe it was 234 in total which was I believe more than the Fed printed on that Check 21-day, M&I Bank was also involved in that venture.”¹⁰⁷ William Wong with NetDeposit wrote “I still have to explain to my kids (my daughter was born two days before the big event, and my wife still reminds me that I didn’t take time off after she was born) why you can take pictures of checks with your smartphone.”¹⁰⁸

105 Bill Saffici, retired from Saffici Payments Consulting LLC and was previously VP, Product Management and Industry Liaison at Fiserv and had worked for Philadelphia National Bank (PNB)/CoreStates, which later became part of Wells Fargo.

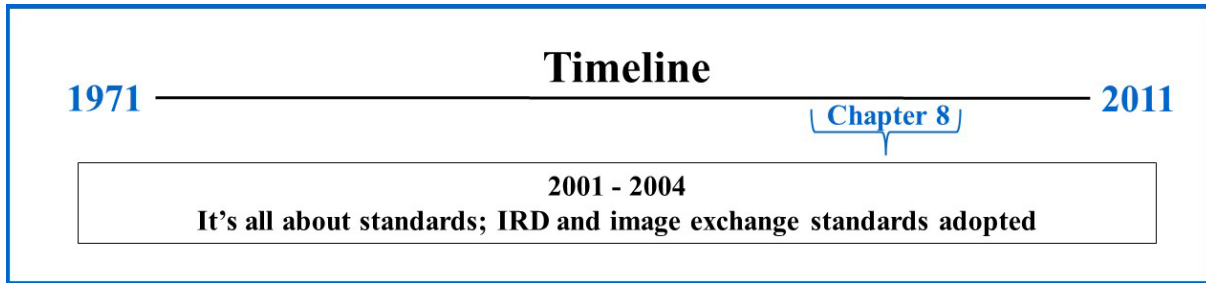
106 From a group email thread to Phyllis from Bill, Steve and William dated October 28, 2021

107 Ibid.

108 Ibid.

Chapter 8 – Is it a MEF, IRD or Substitute Check?

2001- 2004 – This chapter is dedicated to Andy Garner,¹⁰⁹ the X9 work group Chair and Project Editor of the Image Replacement Document (IRD) standard, X9.100-140. No one else in the whole standards community could have created this fabulous standard. OK, that is Phyllis’ opinion.



If you are not a standards geek, you may want to skip this chapter! (But it has some fun stories). However, an essential part of any successful, broad implementation involving many different parties is the interoperability between them. The objective of a standard is to create predictable interfaces that work for all parties with different use cases. X9.100-140 accomplished that for Check 21.

The X9 standard in conjunction with Reg CC made IRDs and Substitute Checks synonymous. More on this later.

By 2001 Andy was leading the project to create the IRD standard and it had a good beginning. Ted Umhoefer in the Montana project developed what he called an IRD, and the standards group used his format as its starting point. The first X9¹¹⁰ meeting to address this topic was in the spring of 2001 in Acapulco. The Fed’s “Draft ‘Default’ Truncation” project was moving along slowly, and it was clear that a standard for the IRD was needed to ensure every organization could easily and quickly create and receive IRDs. Since the meeting was being held in Acapulco, no one from the Fed attended because it might be viewed as a boondoggle on travel expense reports.

Acapulco, an unusual choice for an X9 meeting, was interesting and memorable.¹¹¹ The meeting was held at a beautiful, well-maintained resort hotel. In fact, workers could be seen replastering the lobby walls when the attendees first arrived and every day thereafter. Acapulco has earthquakes; at least one occurred every day during the X9 meeting. After the first earthquake, those in the group who knew nothing about earthquakes, just stayed in their seats and continued to work. A woman from California who knew about earthquakes came in from one of the other meeting rooms and gave a primer on earthquakes. She told the group that Earthquake 101 says, when you feel an earthquake, leave the building. Good advice! Every day there was an earthquake, and every day there were new cracks in the walls to be plastered.

109 Andy is currently an AI Principal Product Manager at U.S. Bank in the bank’s Digital Innovation Group. Previously he was a contractor (Senior Strategy Consultant) with Wachovia Bank for 12 years and then a Senior Vice President doing Strategy Consulting when Wachovia merged with Wells Fargo.

110 The Accredited Standards Committee X9 (ASC X9, Inc.) is an ANSI (American National Standards Institute) accredited standards organization, responsible for developing voluntary, open consensus standards for the financial services industry in the United States. X9 creates standards for the banking industry.

111 X9 had a member located in Acapulco.

Andy had already begun work on the standard, so on the first day of the X9 meeting, he presented the IRD format used in the Montana project as his starting point. Pretty quickly everyone realized if the IRD shrunk each time it was recreated (See [Chapter 3](#)), the item would quickly become illegible. Check 21 includes a warranty that the Substitute Check is an accurate representation of the original check. An illegible image of the original check would likely not meet the intent of the warranty provision. Shrinking the image in the Montana Project worked, because as mentioned earlier, IRDs in that project were used only for unpaid items limiting the number of times IRDs would be shrunk to no more than two. But based on what the X9 group knew about how IRDs could be used in the draft law, it was possible and likely that an item could be imaged and printed multiple times in the forward collection, return and re-presentment processes.

Continually shrinking the image of the original check was simply not going to work, so Andy had more work to do. More work never discouraged Andy, and by the next morning he suggested using a character in the MICR line to identify the document as an IRD. That character is known as the EPC digit and could be used to prevent subsequent shrinkages. In [Chapter 1](#) the NACS project planned to use the EPC digit to identify checks that could be truncated and in [Chapter 5](#), Grant Cole testified that a change in the MICR line, referring to the EPC code, would be needed. Because the EPC code in the MICR line had been used for various purposes over the years, the group decided to use a “4” in the EPC field to identify the item as an IRD. The “4” says “I’m an IRD do not shrink me again”. This elegant solution allowed the creation of a practical X9 IRD standard.

Developing a new standard is a very slow process. Grass grows faster. Everyone has their say, and the arguments tend to get heated and lengthy over the tiniest minutia. Phyllis clearly remembers the “discussions” about tolerances.¹¹² The two most expensive aspects of an IRD are the costs of paper and toner, making it critical to include experts in check printing and paper manufacturing in the development of the standard. However, even with the experts in the room, there were disagreements. Printers print on large rolls of paper, but different printers use rolls of different dimensions. The best standard would accommodate various dimensions while meeting the printers’ objectives of minimizing wasted paper and maximizing the number of Substitute Checks per roll.

IRDs are actual pieces of paper and will skew as they move through the various equipment because of differences in the mechanical alignment. The skewing creates normal variations in the sizes of the margins between the edges of the paper and the IRD print areas. The amounts of these variations are known as “tolerances” and must be precise but not overly precise. The tolerances are dependent, in part, on how the paper is cut and the dimensions of the paper rolls. A consensus on the exact tolerance amounts was finally reached after lengthy discussions and a lot of math. Tolerance specifications in the final standard minimized paper waste regardless of how the cutting and printing were performed.

Perforation standards were also important because IRDs can potentially have two different perforations. The first can occur when multiple IRDs are printed on a single, standard size sheet of paper. With multiple IRDs, a perforation is needed between each IRD. Determining this perforation standard was easy since automated equipment would likely be used to burst the paper apart at the perforations after the Substitute Checks are printed and prior to being processed.

The second perforation is for the “qualified return strip,” which was not as easy. Paying banks return most unpaid items via the Fed, and to get the Fed’s lowest fee for return items, the Fed requires qualified return strips to automate the return process. Qualified return strips are pieces of paper attached to the bottom of

¹¹² Tolerance is the total amount a dimension may vary and is the difference between the upper (maximum) and lower (minimum) limits. For example, the width of an IRD is defined as 8.5 inches but can vary by ± 0.0313 , the tolerance.

checks or IRDs, and include the amount of the return, an EPC code identifying it as a qualified return, and the routing transit number¹¹³ of the depository bank.

Once the Fed processes the return, it delivers it to the depository bank who removes the paper strip, and the perforation facilitates the removal process. This is critical because an item with an attached strip can jam the machine and be mangled as it is processed through a high-speed reader/sorter. The depository bank reads the return and completes the process using information from its database collected when it first processed the original check or created the IRD. The database identifies the depositor associated with the return, facilitating posting and delivery of the return to the depositor.

The “4” in the EPC field works for the forward collection of the IRD but not for the return process. The logical question was whether there was a need to add a different EPC code for a returned IRD. Most felt no. The only organization that processes items with qualified return strips is the Fed. The Fed returns some items directly to depository banks and some through other Fed offices to the depository banks. For those IRDs returned through a second Fed office, the Fed needs to know the item is an IRD that cannot be shrunk. Therefore, the EPC field needs a different value.

In 2001, virtually all non-local¹¹⁴ returns were processed via the Fed, so accommodating the Fed’s requirements was imperative. In 2001 the Fed processed checks in more than 40 locations, so it was likely this feature would be needed after the effective date of Check 21. After much debate, it was agreed to assign a “5” as the EPC code for a qualified return strip on an IRD. By the time Check 21 went live, most of the Fed processing offices had closed and there was no longer a need for the “5”.

The standard addresses the question “Is it an IRD or Substitute Check?” (MEFs were never created) Prior to the final X9.100-140 standard being released, an earlier version had been created and was designated DSTU X9.90. Draft Standard for Trial Use (DSTU) was a concept that allowed standards to shorten the normal, lengthy approval process. Standards can take years to develop and be approved, making the normal approval process unacceptable in certain situations, such as for Check 21. The original IRD standard was therefore released as DSTU X9.90. During that same time, X9 was undergoing changes to its standards numbering/naming conventions. Had the changes to the naming convention not occurred, the final version would have been X9.90 rather than X9.100-140.

Since Check 21 had not yet been approved, the original IRD standard (DSTU X9.90) allowed IRDs to be used for other purposes, for example, Photo-in-Lieu.¹¹⁵ When the original standard was approved, prior to Check 21, the standards group named it an IRD, a name already in common use. Once Check 21 passed, the group decided to retain the IRD name. Because Reg CC requires the creation of a legitimate Substitute Check to use the X9.100-140 IRD standard, the names IRD and Substitute Check became synonymous. Nevertheless, there continues to be confusion regarding the two terms.

At the same time the IRD standard was being developed, the standards group was also working on updating the ECP standard to include images. Both standards were approved at approximately the same time. The successes of Check 21 and check image exchange are interlinked, so it is important to have both standards in sync, especially during the implementation phase of Check 21. The two standards allowed maximum flexibility for banks to participate in the electrification of checks.

113 All banks have an identifying number that distinguishes them from each other. The routing transit number is nine digits in length and can be found at the bottom of every check. This number is sometimes also referred to as the ABA number.

114 Non-local refers to returns between two banks each in different Federal Reserve Bank’s jurisdictions. For example, one in the Dallas Fed area and one in the Atlanta Fed area.

115 A photo-in-lieu may be used in cases where the original item cannot be found or is unusable. It is a legible paper copy of the front and back of the related physical check that contains a legend, signed by the bank that creates the photo-in-lieu and that guarantees the validity of the copy.

The X9 group, composed of both bankers and non-bankers, needed to understand the processes of converting an original check into an image, then into an IRD, and back into an image again. There is the possibility of multiple conversions between IRDs and images. When an image is received, the data contained in the ECP standard is needed to create an IRD so the two standards need to complement each other. Phyllis tried to develop a presentation to show the complications of these multiple conversions but failed. Andy created a presentation that showed exactly what she was trying to describe. That presentation is still relevant today to explain how the two standards are used throughout the various conversion processes.¹¹⁶

From June of 2001 to June of 2004, the standard continued to be modified as the group addressed evolving issues. The Fed's Retail Products Office is involved in standards development but normally not the Federal Reserve Board staff. However since the Board proposed the law, it was provided periodic updates to solicit Board input. Andy met with Joe Barresi at the Fed in Joe's very small, cluttered office in D.C. They spent an entire afternoon going over the standard, line by line. Jack Walton, a member of the Federal Reserve Board Staff in D.C. who was in an office nearby, always marveled at the crazy persistence of Joe and Andy in their review process.

Although magnetic ink toner is expensive, the Fed considered a Reg CC requirement to print all Substitute Checks with magnetic ink including paid (canceled¹¹⁷) Substitute Checks. Those Substitute Checks are included in customers' bank statements and are "dead" items that can no longer be used by the banking system. Phyllis presented to Louise the standards body's arguments for allowing IRDs in customers' bank statements to be printed without magnetic ink. It was a lively discussion, and for every point Phyllis made, Louise had a very valid rebuttal and many good questions, as always. By the end of the call, Phyllis was disappointed and convinced she had made no progress, and therefore the standard would have to require magnetic ink for all IRDs. Sometime later, to Phyllis' great surprise and delight, Louise allowed the deviation for paid Substitute Checks. Later, Louise told Phyllis she was just asking questions. Because of her probing questions, Louise usually made the right decisions.

When Reg CC was approved and included the use of the IRD standard, the Fed gave itself an out if it wanted to deviate from the standard. It added a provision in the regulation that the Substitute Check standard would be X9.100-140 "unless the Board by rule or order determines that different standards apply."¹¹⁸ The Fed has never used this provision, nor has the Fed deviated from the standard.

The X9.100-140 standard needed to be finalized and approved by Check 21's effective date of October 2004. In June of 2004, X9 conducted what the group hoped would be its final meeting on the standard. The meeting agenda allowed four hours to finish the process and get approval from everyone in the room. At 5:00 p.m., it was obvious the process was nowhere near completed. But no one was going anywhere; this had to be finished. Lori Hood,¹¹⁹ formerly with the Federal Reserve, was the group's recording secretary. Whenever the group reached agreement, and someone wanted to reconsider, she was told to record the agreement and move on. At one point someone started discussing "tolerances" again but was quickly stopped since agreement had already been reached on that topic after beating it to death. The evening wore on and pizza was ordered so the group could continue its work. Andy remembers it was

116 A copy of this presentation, "ANS X9.100-140 Image and Document Flow Overview", can be found under Presentations at <https://www.tillerendeavors.com/endeavors/>.

117 A canceled check is a check that has been paid or cleared by the bank on which it is drawn. The check is "canceled" after it's been used or paid so that the check cannot be used again.

118 Reg CC 229.2(aaa)(3).

119 May 2004, Lori left her Project Manager position with the Federal Reserve Bank of Minneapolis to become VP, Product Manager with Fiserv.

midnight, 7 hours later, when the group finally finished. But it finished! Then there were four months before October 28th to complete the balloting needed for an ANSI-approved standard. Not an easy task.

The approval balloting process was going well until the standards group received word there was a possibility a vendor was going to vote “no”. Standards can be approved with one or more “no” votes, but the standard must go back out for reconsideration so other organizations would be aware of the concern. There was no time for this if the standard was to be approved on time.

Andy and Phyllis met with the organization that was considering voting “no” to emphasize the need for the standard to be approved before October 28. They were not sure they were making any progress when Phyllis suggested any delays in the implementation of Check 21 would likely be covered in the *American Banker*.¹²⁰ including the reasons for the delay. With so much industry awareness of the effective date, no one wanted to be responsible for delaying implementation. In the end, the vendor did not vote against approval, in part, because Andy and Phyllis swore the standard would be reopened in six months to address the vendor’s issue. It was, however, two years later when the standard was eventually reopened for revisions, and by then other changes were also needed.

As the standards group worked through their process, Fred Herr was convinced this standard could not be completed prior to the due date, but he was wrong. The standard was approved on October 1, 2004, after midnight pizza and a last-minute crisis was avoided. The standard made it!

The X9.100-140 standard¹²¹ still stands out as one of the best-developed and best-written standards. Andy, an engineer by training, insisted that everything had to be perfect and the measurements exact, in some cases to 4 decimal points. To achieve perfection and a comprehensive review during the development process, Andy required that every computer printing the IRD standard install every font used by the standard. While this may not have been necessary to review every aspect of the standard, he wanted to ensure every opportunity was used to uncover any anomalies.

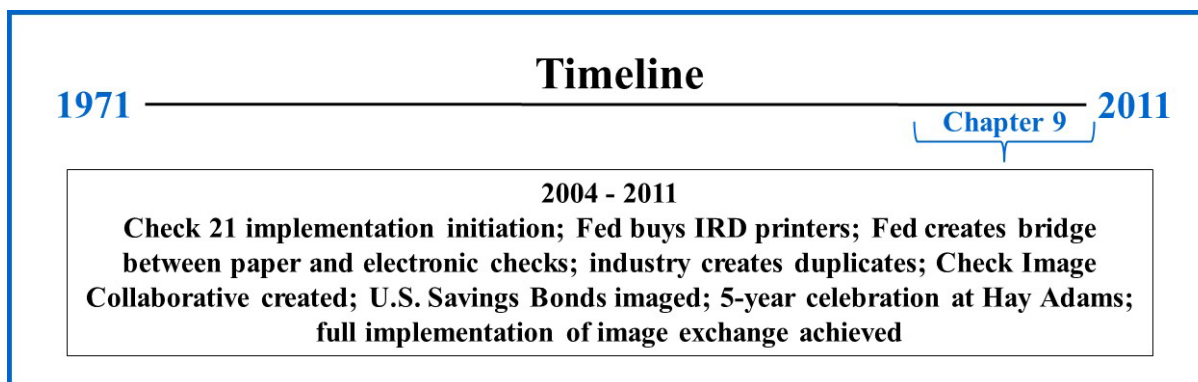
The standard, like the law, did what it was supposed to do: facilitate the truncation of the check and the transition from paper to electronic checks.

120 The American Banker is a daily newspaper that focuses on banking news. The banking industry's C-suites engage with the American Banker daily and throughout the day, online, in print, and at live events, generating more than 850,000 end-user interactions each year.

121 The master layout of the Image Replacement Document is in [Appendix 15](#), and the standard can be purchased through X9 at www.x9.org.

Chapter 9 – We’re Live and Beyond

2004 – 2011 - This chapter is dedicated to “We Did It”!



We did it! On October 28, 2004, Check Clearing for the 21st Century became effective. A lot had been accomplished, but to realize the full potential of the law, more was needed so once again the banking industry including the Fed stepped up.

When ECCHO was initially formed, its membership consisted of the largest banks in the country. However, from its beginning, it always encouraged smaller banks to join. Frost Bank became a member early and remained one of the smallest members for many years. In attempts to work with smaller banks, David had several meetings with the ICBA to encourage its support of ECP and to encourage its members to join ECCHO. His reception was mostly cordial, but never enthusiastic, since it viewed ECCHO as a large bank organization. During a break at a meeting, David was approached by an ICBA member who stood very close to him and wagged his finger close to David’s nose and said something to the effect of, “We like the Fed. The Fed is our friend.” Apparently, he misinterpreted some of David’s comments as being negative towards the Fed.¹²² Clearly, the ICBA member was opposed to joining any organization that was owned by large banks, and his bank would continue to use the Fed as its key provider of check services.

Nevertheless, ECCHO continued to encourage a relationship with the ICBA. In the early days of working on Check 21, there was a dinner in D.C. with Phyllis, David, Viveca Ware, and Fred Herr at the Vidalia Restaurant. The ICBA and its banks were always very close to the Fed. Once Viveca learned Fred thought ECCHO was OK, she was more receptive to ECCHO, and over time the ICBA’s Board approved Viveca to work with ECCHO. By 2004, Viveca and the ICBA agreed to cosponsor an educational video produced by ECCHO titled "Check 21 Implementation" (see [Chapter 7](#)).

The Fed liked the concept of using a video for educational purposes as well as the distribution networks of organizations like the ICBA and ECCHO.

In 2005 the Fed produced a video called "CheckPoint, Industry Perspectives on Check Image Exchange." The purpose of the video was to encourage the industry to continue the evolution from Check 21 and Substitute Checks to full image exchange and to finally achieve check truncation. The speakers on the video were:

¹²² In the early days of ECCHO the relationship between ECCHO and the Fed was a bit strained. Remember David met with Vice-Chair Ferguson as recounted in [Chapter 3](#) because he wanted to elevate the relationship between ECCHO and the Fed.

- Austin Adams, Chief Information Officer, JPMorgan Chase
- Pat Barron, First Vice President, Federal Reserve Bank of Atlanta
- John Beran, Executive Vice President and Chief Information Officer, Comerica
- Barbara Desoer, Global Technology, Service and Fulfillment Executive, Bank of America
- Webb Edwards, Executive Vice President, Wells Fargo & Co.
- David Hayes, President and CEO, Security Bank and Chair, ICBA
- Anthony Kitt, Senior Vice President, WesCorp
- Louise Roseman, Director, Operations and Payments Systems, Federal Reserve Board of Governors
- Robert Steen, Chief Executive Officer, Bridge Community Bank
- Gary Stern, President, Federal Reserve Bank of Minneapolis

The video was a collaborative effort produced by the Federal Reserve Banks with the support of the following organizations:

- BAI (Bank Administration Institute)
- Bank of America
- Bridge Community Bank
- Comerica
- ECCHO
- ICBA
- JPMorgan Chase
- Security Bank
- U.S. Central
- Wells Fargo & Co
- WesCorp

By 2005, Check 21 had been passed and was being implemented and many organizations were beginning to implement image exchange, the real goal. The Fed, large banks, small banks, credit unions, and regulators all voiced their support for check image exchange and encouraged industry implementation. That broad industry acceptance supported the swift implementation, but all was not wine and roses!

In early 2005, the industry experienced its first significant incident of duplicate¹²³ Substitute Checks when a system bug at a large bank generated approximately 5,000 duplicates. Everyone had talked about the risk of duplicates from the initial discussions of the Fed's proposed new law. Now the fear had become reality, and most banks were not prepared.

At the BAI Float Conference immediately following the incident, bankers tried to determine how to recover from duplicates, how to prevent them in the future, and how to avoid or at least minimize negative customer impacts. At the conference, two vendors announced new software designed to detect unexpected duplicates.

The Fed was the largest printer of IRDs, and to facilitate this new function, it decided to reassign some reader/sorter operators to operate Substitute Check printers. This was logical as the need for reader/sorter operators was declining and the need for printer operators was growing. But these jobs require different skill sets and, as a result, many duplicates were created by the Fed because of printing-related issues. One example is the failure to follow the correct procedure once there is a paper jam in the middle of printing IRDs. After the jam is cleared and the blank IRD paper reloaded into the printer, the printer must be

123 The law and Reg CC provides a warranty that no one would be asked to make a payment it has already paid (no double debit).

instructed where in the print file to begin printing. If the wrong place is specified, the printer can skip some IRDs or reprint others. In the worst case, the print routine is restarted from the beginning of the file without being noticed by the print operator thus creating many duplicates.

The Fed was not alone, however. Almost every major bank created operational duplicates. The Fed and the banks eventually got the kinks worked out, and the volume of operational duplicates declined significantly. But as the years went by, the sources and causes of duplicates changed, and fixing the duplicate problem became more complicated than anyone anticipated.

At about this same time, banks started introducing Remote Deposit Capture (RDC), allowing customers to scan and transmit check images to their banks for deposit. To facilitate RDC, banks provided their business customers with desktop check capture devices (scanners). Somewhat later, banks allowed consumer customers to deposit checks by taking pictures of checks using their cell phones. Sometimes, customers would scan checks more than once, creating duplicates. Some were accidental, such as when the wife left a check on the dining room table for the husband to deposit only later to find it still on the table. Thinking the deposit had not been made, the wife would deposit it a second time. Another example of accidental duplicates was when a business customer scanned the same checks more than once. One business employee liked the sound made by the desktop check reader when it scanned the checks, so she intentionally scanned the checks multiple times not understanding the consequences.

The problem of operational duplicates created by banks and the Fed has been mostly resolved. But among the most difficult duplicates to resolve are those created by individuals intentionally committing fraud. Over the years adjustment folks have struggled with the best ways to address these duplicates, spending numerous hours on them. Some standard procedures have been implemented as a result of ECCHO and other organizations working with their members to determine best practices.¹²⁴ Vendors have attempted to build cross-bank duplicate detection systems with limited success. Fraudulent duplicates persist.

One of the new questions about duplicates is who is responsible for finding and eliminating them. In the early days of Check 21, banks assumed the paying bank should continue to be the primary bank responsible for identifying them, just as it had been in the paper environment. With the introduction of RDC it was possible for a Substitute Check to be deposited in more than one bank which meant the first opportunity to detect duplicates would occur after the duplicates arrived at the same point in the collection process, the paying bank. This reinforced the logic of the paying bank retaining primary responsibility.

In the new image environment, however, a single customer making deposits can unintentionally create duplicate deposits with the same bank. For example, if a business customer scans many checks for electronic deposit with its bank but then inadvertently transmits the deposit file to its bank more than once, many duplicates are created. While the duplicates are deposited with a single bank, the individual checks in those deposits are drawn on multiple banks, sometimes many banks. By recognizing and stopping such duplicates at the depository bank, a large cascading negative impact can be avoided. In this scenario, the depository bank is clearly in the best position to identify duplicate deposits made at its bank.

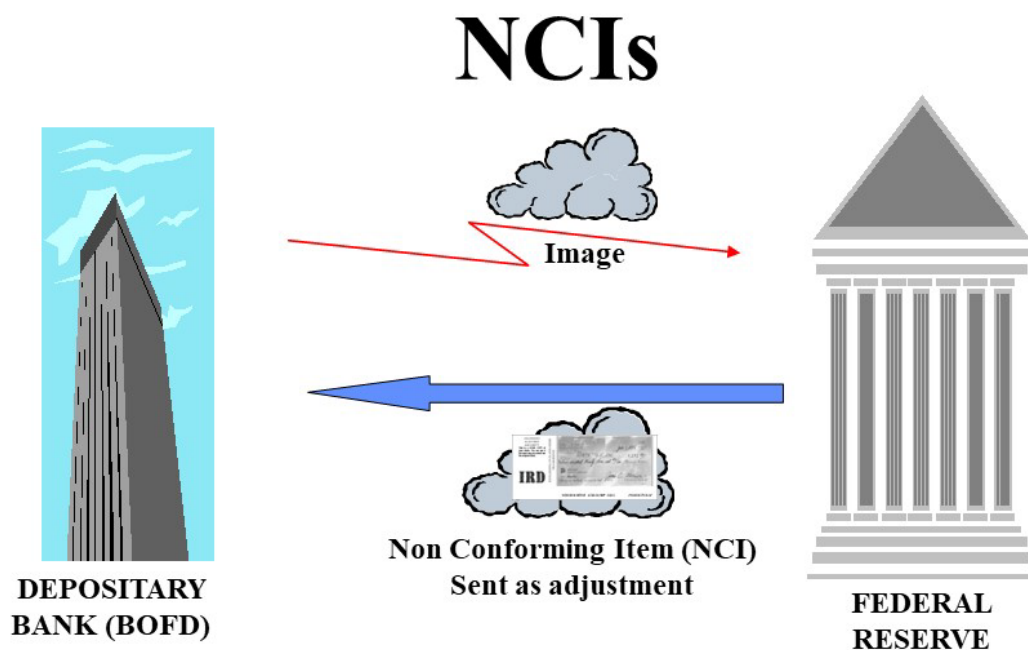
Duplicate detection evolved from a straightforward process into a sophisticated series of controls with responsibility shared by depository banks, paying banks, intermediary banks, customers, and processors. Additionally, the creation of checks in multiple forms including original paper checks, paper Substitute Checks, images of checks and images of Substitute Checks increased detection complexities.

¹²⁴ See a light-hearted play on best practices to resolve duplicates performed at a 2015 ECCHO R&A in-person meeting during the informal Roundtable at <https://www.youtube.com/watch?v=MpvvotLxc3Q>.

Even though the Fed was a major supporter of the transition from paper payments to electronic, it was still learning and in some cases, creating new problems. One example of a problem created by the Fed was its enforcement of the quality of Substitute Checks and images. The Fed decided it was important to protect the paying bank in the processing of check images and Substitute Checks. It did this by rejecting Substitute Checks and/or images that it determined were of insufficient quality for the paying bank to process. This priority was, in part, because the receipt of Substitute Checks was not voluntary for paying banks.

The Fed’s concerns for the quality of paper Substitute Checks carried over into its controls for electronic check images. The quality of check images was addressed in early image projects, but not the quality of printed Substitute Checks. Early image projects did not anticipate Substitute Checks much less the quality of Substitute Checks. In hindsight, if the quality of the image was a concern, then the quality of that same image when printed on the Substitute Check should have also been a concern.

As more banks began sending check images to the Fed instead of paper items, the Fed began routinely rejecting check images as “Non-Conforming Items” (NCIs), meaning it had determined the quality of the image would prevent it from being processed by the receiving bank. The Fed then sent those images, as NCI adjustments, back to the bank from which it had previously been received. Banks receiving NCIs from the Fed would routinely use those same images to print Substitute Checks, then image the printed Substitute Checks and resend essentially the same images back to the Fed. Typically the Fed’s IQA¹²⁵ process would then accept the images.



The whole point of the law is to improve the efficiency of check clearing, but the Fed’s rejection of these items created significant new operational complexities and slowed the collection process. Not only was

125 IQA (image quality analysis) is the process of examining the quality of the images to ensure compliance with accepted standards.

the process providing zero protection for receiving banks, NCIs for returned items were increasing risk for the depository bank by delaying returns, and potentially creating violations of Reg CC expeditious return requirements for paying banks.

An ongoing battle between the Fed and the banks ensued. Many paying banks told the Fed they did not care if the images or the Substitute Checks had minor quality defects if the defects did not impact their ability to correctly post the items. An example of a quality issue might be a fold in the check that shows on the image. If the fold did not obstruct key information, the paying bank would post it, even with a less-than-perfect image. Many other image quality issues reflected the quality of the original check, making rejecting the image or Substitute Check the wrong result. If that same original paper check had been sent to the paying bank directly, it would have had the same poor quality, but most paying banks would have considered it acceptable for posting to the customer's account. Additionally, since the quality of the original paper check was largely under the control of the paying banks' customers, the Fed was effectively protecting paying banks from their own customers.

Quality reject issues generated very heated discussions. There were some very loud, emotional discussions between industry folks and the Fed, with the industry urging the Fed to relax its quality enforcement standards. The Fed's position that it needed to protect the paying bank is a long-held orientation and is not limited to Check 21 considerations. But the banks felt the Fed was arbitrarily creating time delays, additional work for banks, and providing very marginal, if any, additional protection for paying banks or their customers. The expeditious posting of checks was in the best interest of all parties, but the Fed's position was delaying postings.

There was a dinner meeting with Phyllis, David, Fred Herr, Scott Miller with ECCHO, and Jeannine Delano with the Federal Reserve Bank of Boston. During dinner, there was a heated (screaming) discussion between Fred and Phyllis regarding the quality standard. Neither Phyllis nor Fred, two strong, knowledgeable, well-intentioned individuals both seeking the best answer to a thorny problem, did a good job of keeping their tempers in check. Everyone at that dinner was embarrassed, including the wait staff. Scott and Jeannine wanted to crawl into the wine storage bench Scott was sitting on, and David attempted to play peace maker. Spurred by spirited arguments like the one that night, the Fed started to relax its quality enforcement for Substitute Checks and images. Relaxed enforcement minimized the number of quality rejects and associated issues, helping achieve the Fed's objective of improving the system's overall efficiency.

Still, the Fed and the rest of the industry had a lot to learn about the nuances of check image exchange and the processing of Substitute Checks, as everyone was trying their best to discover and implement optimal processes. The Fed Board's staff had proposed Check 21, but the new law was being implemented by the Fed's Retail Products Office at the Federal Reserve Bank of Atlanta; two related, but different, organizations. The Product Office had a lot to learn, just like the rest of the industry.

In 2005, ECCHO started conducting Check 21 meetings for people to share information and voice concerns about frictions in the implementation of the new law and check image exchange. It soon became obvious that most people just wanted to complain either about duplicates or quality rejects, and most complaints were directed at the Fed. The Fed suggested the formation of a more formal work group, and ECCHO co-sponsored that effort. The creation of this kind of group is very common for the Fed to help appease the industry and to, on occasion, find solutions to pressing issues. Calling itself the Check Image Collaborative, the group developed a website called CheckImage Central.¹²⁶

126 See <https://www.checkimagecentral.org/>.

Over the years, the Collaborative produced several critical documents for the industry. The Collaborative reported volume data on Substitute Checks and image exchange (see [Chapter 10](#)).¹²⁷ It produced the Universal Companion Document (UCD) for the implementation of the X9 image exchange standard.¹²⁸ The Collaborative also wrote white papers on quality, legal and operational processes. What started as a contentious work group managed to produce valuable information for the industry, reflecting the cooperative working relationship between the Fed and the industry.

As the first decade of the new century was ending, the banking industry was quickly moving to fully electronic check processing. Once most checks had been converted to image exchange, the industry realized the only paper being processed was the so-called Checks Resisting Automated Processing (CRAP). The last of these domestic items were U.S. Savings Bonds.

Before Check 21, the Federal Reserve, as Fiscal Agent of the Treasury, accepted certain U.S. Savings Bonds along with paper check cash letters. In the absence of the transportation of checks from banks to the Fed, delivering Treasury Saving Bonds to the Fed became problematic. The small volume of saving bonds could not justify the cost of an expensive courier system. By 2010, check processing was nearly 100% electronic, but 100% of savings bonds remained in paper form. The banks were clamoring for the U.S. Treasury to accept savings bonds via image exchange.

U.S. Savings Bonds are not checks or negotiable instruments. They are debt instruments of the U.S. government, so the rules for paying savings bonds are different than the rules for checks. It took some lobbying and convincing for the bonds to be cleared through image exchange. But with the help of the Retail Products Office and specifically Fred Herr, the Treasury Bureau of Public Debt (BPD) finally agreed in 2011.

By redeeming bonds through an image enabled process, a more efficient redemption process was created. This change allowed for a streamlined and cost-effective alternative. Banks could leverage the efficiency of electronic check processing while eliminating the physical task of mailing bonds. From the banking industry's perspective, this was the last hurdle to convert the paper to electronics.

Phyllis and David felt it was important to recognize the industry's many accomplishments. In October 2008, ECCHO held a classy celebration for the 5-year anniversary of the signing of the law.¹²⁹ The party was at the Hay-Adams hotel in D.C., directly across the street from the White House, where many incoming presidents stay prior to their inaugurations. The event was well attended by many who helped get the law passed and implemented. It included representatives from the ECCHO Board and Operations Committee, trade associations, the Fed's Retail Products Office, the Fed's Board staff, ECCHO staff,¹³⁰ and others.

The event included the following speakers:

- Tom Rea, Master of Ceremonies, EVP U.S. Bank, now deceased
- Pat Barron, First VP, Federal Reserve Bank of Atlanta
- Grant Cole, Bank of America
- Carter McDowell, House Committee on Financial Services

127 The volumes were collected by ECCHO and published through the Collaborative. ECCHO collected volume directly from individual sources and protected them by reporting only aggregate industry volumes.

128 The UCD, is now managed by X9 as ASC X9 TR 47 Universal Companion Document Industry Adoption of X9.100-187.

129 The party favor was a creation of Elizabeth Westbrook. It was a sugar cookie with an icing picture of an IRD. Phyllis kept one on her desk until the day she retired at the end of 2017. By then the nine-year old icing was so faded it was unrecognizable and obviously inedible. Unfortunately, there are no pictures of the cookies for this book.

130 By 2008, the ECCHO staff had grown from three to six. In addition to Phyllis and David, there were Ellen Heffner, Scott Miller, Stephanie Morrow (later to become Porter) and Elizabeth Westbrook.

- Louise Roseman, Fed Board Staff
- Alan Slater, Citibank
- David Walker, ECCHO

The party was enjoyed by all, and it was great to hear the perspectives of each of the speakers. When it was David's turn on the program, he shared the story of his visit to the White House (see [Chapter 6](#)) and played the voice recording of his call from Katy Hayes (see [Appendix 9](#)) inviting him to participate in the Presidential Signing Ceremony.

Phyllis was dressed up like a proper lady and had been repeatedly instructed by Elizabeth Westbrook¹³¹ to not take off her shoes. Of course, she listened to Elizabeth, but she didn't obey her (see below). You can dress up Phyllis, but you can't take her anywhere.



Another way to recognize the industry's accomplishments was ECCHO's annual ritual of caricature holiday cards. The holiday cards were well received across the industry and some people created their own collections by saving every card. For most years, Elizabeth, ECCHO Vice President, with the help of the rest of the ECCHO staff, would create a theme for the card, prepare a draft sketch and Gail Pomes¹³²

131 Elizabeth was hired in 2003 following Susan Holley's departure, and she joined Phyllis and David as an ECCHO employee.

132 Gail Pomes is a caricaturist who drew most of ECCHO's holiday cards. She also drew pictures of ECCHO officers and other individuals in the industry, such as Fred Herr's in [Chapter 7](#).

would render the caricature drawings. The themes were based on events that occurred that year, such as the passage of Check 21, or just poked fun at the ECCHO staff. Some examples are in [Appendix 16](#).

Check 21 was always intended as a bridge from a fully paper check system to a fully electronic check system, and once the law was passed image exchange was quickly adopted. The Fed offered an array of image exchange products. Private sector companies such as SVPCO, Viewpointe, Endpoint, Fiserv, Jack Henry and others offered similar or supporting services. Typically, smaller banks, bankers' banks,¹³³ and corporate credit unions¹³⁴ used the services of the Fed, while bigger banks used the private sector companies, many of which are owned by these same big banks.

133 Bankers' banks provide banking services only to community banks and not consumers or businesses. Typically, community banks will use the services of bankers' banks for investments, check clearing, and other services.

134 Corporate credit unions, unlike what the name implies, provide banking services only to credit unions. Typically, credit unions will use the services of corporate credit unions for investments, check clearing, and other services.

Chapter 10 – Fastest Payment System Transformation in History

The transition from a paper-based check-clearing process to an electronic-based check-clearing process was the fastest in payments history in the United States, and likely in the history of all payment systems evolutions worldwide. This accomplishment is particularly impressive because of the volume of payments that were transformed and the speed at which that transformation was achieved.

As noted earlier, prior to Check 21, the Federal Reserve estimated the volume of checks written in the United States to be approximately 40 billion per year. In the 1960s and early 1970s, there were no actual measurements of check volumes. The first estimates, made by equipment vendors, were based on the number of times checks were read by reader/sorters.¹³⁵ In the normal processing of checks, each check would be read and sorted multiple times. Therefore a simple counting of the number of reads would overstate the volume by several multiples. To arrive at a reasonable estimate, the total number of reads needed to be reduced by some factor. But the number of times checks were read varied greatly depending on where they were deposited, on which banks they were drawn, the number of intermediaries in the collection and return processes, the storing and retrieval of checks for research, the preparation of customer statements, and other factors.

At some point, the Fed used the vendors' volume estimates as its beginning volume estimate. In the years following, the Fed simply inflated the volume by about five percent per year based on the assumption check volume was continuing to grow. This approach further exacerbated an already inflated volume. By the mid-1990s, the Fed's estimate had grown to about 60 billion checks. While that amount was very likely overstated, the actual volume was still tens of billions of checks per year making it the largest, non-cash payment system by volume in the United States. And because the U.S. economy is much larger than any other country's economy, the check system in the United States was likely the largest, non-cash payment system in the world.

The entire transition to electronic checks took only a little over six years beginning in late 2004, with the effective date of the Check 21 Act, through the full implementation of check image exchange in 2011. By way of comparison, it took the very successful ACH network 39 years to reach approximately the same annual volume. This is not a criticism of the ACH network but rather a comment on the unprecedented speed of the digitization of the check.

In 2011 the Fed released a request for comment (RFC) on potential changes to Reg CC. In that RFC, the Fed wrote:

The Check 21 Act has been a catalyst for rapid growth in banks' electronic handling of checks over the last 5 years. For example, at year-end 2005, the Reserve Banks received about 4 percent of checks deposited with them for collection in electronic form and presented approximately 28 percent of their checks in electronic form. In December 2010, the Reserve Banks received about 99.7 percent of checks deposited for forward collection electronically and presented about 98.4 percent of checks electronically. In addition, at the end of 2005, virtually all returned checks handled by the Reserve Banks were sent to and from the Reserve Banks in paper form. By December 2010, the Reserve Banks received 97.1 percent of returned checks electronically, and delivered about 76.7 percent of returned checks to depository banks

¹³⁵ Equipment vendors counted the number of checks read by their equipment, in part, because their billing systems included charges for the number of reads.

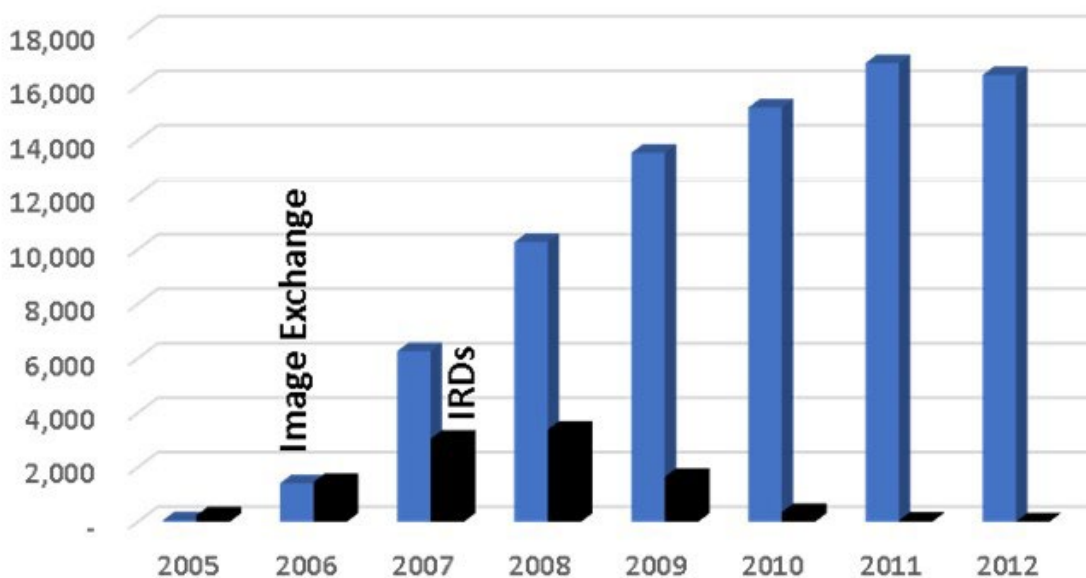
electronically. Based on information from banking industry sources, the Board believes that these trends with respect to checks handled by the Reserve Banks are representative of trends nationwide.¹³⁶

In a follow-up RFC in 2013, the Fed wrote, “Reserve Banks estimate that, by the end of 2013, more than 99.9 percent of all forward checks, 99.0 percent of FedReturn checks, and 97.0 percent of FedReceipt Return checks will be processed in electronic form.”¹³⁷

ECCHO collected check volume data from parties across the industry to show the growth of image exchanges and IRDs. This data was reported through the Check Image Collaborative. Unlike the Fed’s volume estimates, ECCHO collected the actual volume of images and IRDs received by paying banks. This method eliminated the possibility of double counting and significantly reduced under counting.

The following charts show the trends of Substitute Checks (IRDs) and images exchanged during the years 2005 through 2012. The first chart shows the trend in the volume of images and IRDs as received by paying banks. The second chart shows the trend in the value of those check images and IRDs.

Paying Bank Volume in Millions



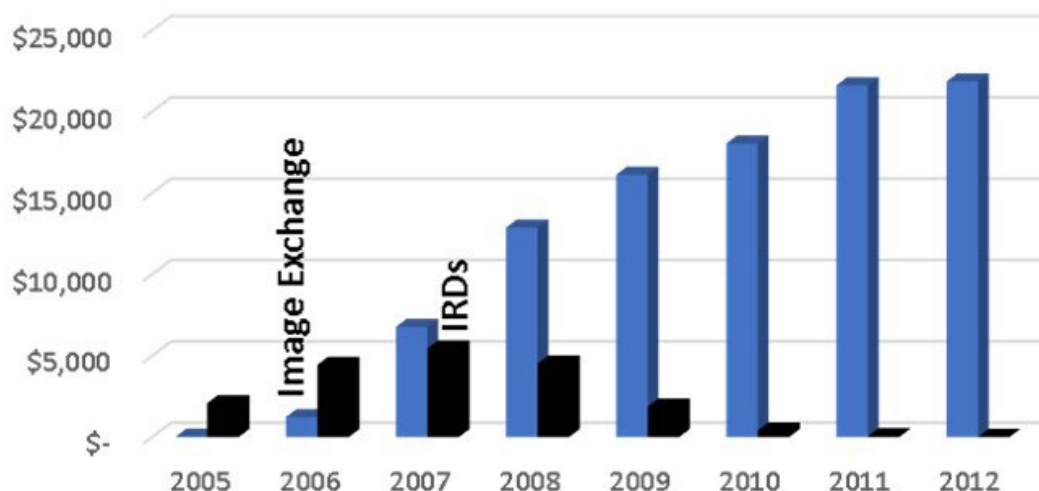
The volume of check images received at paying banks was 55.2 million in 2005, peaked at 16.8 billion in 2011, and was 16.4 billion in 2012. The volume of IRDs received at paying banks in 2005 was 238.6 million, peaked at 3.4 billion in 2008, and declined to only 5.9 million in 2012. IRDs continue to be used by depository banks to return unpaid checks to their customers and by paying banks to mail paid checks to customers in their statements. The volumes of these IRDs are small and are not reflected in the chart above.

136 The Fed’s 2011 request for comment (RFC) for changes to Reg CC.

137 The Fed’s 2013 request for comment (RFC) for changes to Reg CC.

It should also be noted the charts above and below do not include the volume or value of onus checks.¹³⁸ The Fed estimated onus volume in 2012 was 28.28% of total checks written.

Paying Bank Dollars in Billions



The dollar value of check images received at paying banks was \$26.8 billion in 2005 and grew to \$21.8 trillion in 2012. The dollar value of IRDs received at paying banks was \$2.1 billion in 2005, peaked at \$5.4 trillion in 2007, and declined to only \$7.4 billion in 2012.

Many across the industry correctly report that the volume of checks has been decreasing for many years. However, by no means is the check dead. While most consumer checks have been replaced with other payment types, many businesses still rely on checks for their payment needs, and there are many good reasons why.¹³⁹ As of the last *Federal Reserve Payments Study* (2021), the Fed estimated there were still 12 billion checks written every year.

That same Fed study reported the estimated value of the average check written increased by 82% from \$1,257 in 2012 to \$2,287 in 2021. By comparison, on 9/11 the value of the average check was only about \$1,000. Because the number of checks written by consumers continues to decline, this value increase is driven primarily by business checks.

Given the available alternatives, why have businesses continued to rely on check payments? Payments are overhead expenses and businesses prioritize spending on goods and services where they make money rather than on overhead or administrative expenses. The exception to this is if an overhead or administrative process interferes with the performance of the business' primary function of generating profits. The check payment system works and does not interfere with profit generation.

As overhead expenses, payments reduce rather than generate profits. Transitioning to a different payment type requires an investment by businesses. Businesses make spending decisions based, in part, on

¹³⁸ Onus checks are items deposited with the same bank on which they are drawn. For example, Party A writes a check to Party B and both parties bank with the same bank.

¹³⁹ For additional information on this topic see "B2B Faster Payments - Obstacles to Overcome to Achieve Business Support" at <https://tillerendeavors.com/endeavors> under White Papers.

forecasting a positive return on investment (ROI). A predictable ROI from investments in payments is possible only when a business, its customers, and suppliers make the transition investments in the same time frame. Because each of these parties has its own differing priorities, it is unlikely that many will invest in the same time frame. Therefore, businesses can be expected to continue to opt for investments in other than replacements for check payments. This investment codependency also applies to bank investments in new payment types and is discussed in [Chapter 11](#).

The transition from a paper-based check to an electronic-based check is, however, mostly but not completely accomplished. While the interbank clearing of checks is now fully electronic, Reg CC and the UCC still require a paper check to initiate a payment between the check writer and the check receiver. This requirement precludes the initiation of a fully electronic payment through the check system, as a payment defined in law as a check.

It is possible, however, with the correct agreements, for payments to be initiated in electronic form and cleared through the check system as if they were checks. Such a process would greatly encourage business payments to become electronic. Perhaps it is time to consider how businesses, U.S. banks and the U.S. economy can capitalize on the investment already made in Check 21 and image exchange and eliminate the last physical aspect of a check.

Alternatively, every non-check option available for businesses is a variation of a credit push payment. Checks are debit pull payments. The transition from debit to credit push payments requires a new investment in overhead expenses by businesses, their customers, and their suppliers. Credit push payment options have been available for decades and yet businesses have not widely adopted them as reflected in the increasing average dollar amount of checks.

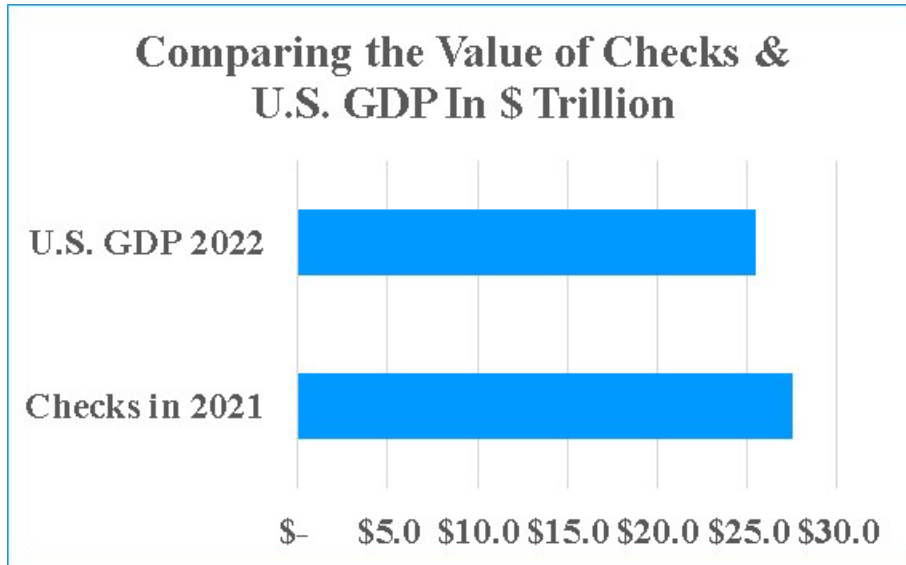
The combination of the continuing use of check payments by businesses and the historic transition in the United States from paper to electronic payments creates new opportunities to use the check payment system! To complete the transition to fully electronic payments, the existing check system could be used to process electronic debits as if they were checks under Reg CC and the UCC.

Consider the following. The total value of checks written in 2021 was \$27.5 trillion. By comparison, Statista¹⁴⁰ reported the largest economy in the world in 2022 was the economy of the United States. Additionally, the U.S. Bureau of Economic Analysis¹⁴¹ reported U.S. gross domestic product (GDP)¹⁴² in 2022 was \$25.5 trillion.

140 <https://www.statista.com/statistics/268173/countries-with-the-largest-gross-domestic-product-gdp/>.

141 The U.S. Bureau of Economic Analysis is under the U.S. Department of Commerce.

142 GDP is the total value of all goods and services produced in the United States. It is calculated based on the final sale of goods and services. Because there can be multiple payments in the process of producing and selling goods and services, the value of all the payments involved in those multiple steps can total, as does the value of checks, more than GDP.



Any payment system that is larger than the largest economy in the world, as measured by GDP, is relevant, and the check payment system continues to be very relevant.¹⁴³

143 See article written by FRB Services and ECCHO, “Check Relevance Sustains Issues Facing the Industry Don’t Exclude Checks from Payments Strategic Planning Just Yet.” at www.frbservices.org/binaries/content/assets/crsocms/news/research/050422-check-relevance-sustains-issues-facing-the-industry.pdf.

Chapter 11 – Replication of Check 21’s Success is Not Likely

Typically, changes to payment systems in the United States move at a glacial pace. Check 21 facilitated and encouraged a unique, historic transition that other payment system evolutions would covet.

It is highly unlikely any other payment transition will ever match the success of Check 21 and image exchange. To do so would require three unique characteristics; typically, none of these are present in other payment initiatives today, nor are they likely to occur in the future.

One characteristic in the amazing speed of transition is the lack of any bank requirement to develop, implement or sell new products or services for bank customers to achieve success. Check 21 was created under the assumption there would be little to no change required by bank customers. Therefore, banks are not required to promote new services to affect the transition that would otherwise require many, many years to achieve full implementation. Before Check 21, bank customers were already writing checks and receiving checks or digital representations of checks in their statements. Therefore, bank customers did not have to change their normal processes, nor did they need to convince other parties to accept a new payment type from them. Likewise, banks did not have to convince other banks to receive new payment instruments.

Another characteristic is that banks could transition to the new electronic-based checks at their individual paces. There was no requirement for every bank to transition at the same time. Banks with large financial incentives were motivated to transition sooner than banks with lesser financial incentives or conflicting, internal priorities. When all or many banks must implement a new process to achieve success, there is a constant conflict among priorities. Bank A is ready to implement this month but is dependent on Banks B and C who are not yet ready. Next month Bank B is ready, but Bank A now has a different priority, and then Bank C is not ready the next month, and so on and so on. This codependency of the banks restricts adoption and implementation and is, therefore, throttled by the slowest bank. Bank customer acceptance has a similar gating effect.

There are numerous examples of this barrier cycle of codependency, and it is a major hazard to the rapid adoption of any new payment initiative. In the early 2000s, there were about 12,000 banks in the U.S. In Canada, the number of banks was much smaller, around 100. When the Canadians decided to implement a similar system of digital transmissions of cheque images, they decided all Canadian banks would transition at the same time. This did not happen through two attempts across a number of years because, in part, every bank was never ready at the same time.¹⁴⁴

Check 21 is frequently thought of as addressing the exchange of check images among banks, but it is not. Check 21 is only about the creation of a new legal, paper Substitute Check. However, to achieve the maximum benefits from the new law, banks can but are not required to marry Check 21 with image exchange. Check 21 effectively provided a transition vehicle between the paper check world and the electronic check world. Using this vehicle, the Fed added a new bridge service to encourage the transition and that bridge service is the third characteristic.

Banks that were not ready to implement image exchange could continue to transport paper checks to the Fed just as they had always done. The Fed would then image the original paper checks and print a new Substitute Check for physical delivery to any bank not ready to receive digital images. Check 21 provided Substitute Checks as the legal equivalents of original paper checks, and paying banks were required to

144 Later Canadian attempts were successful in implementing cheque image exchange.

accept them. Paper-based Substitute Checks were processed exactly as were original checks, so the requirement to accept Substitute Checks did not disrupt the banks' normal processes or any of the other services provided to the banks' customers.

This bridge system worked for both processes, paper and electronic. Once a bank was ready to send digital images of checks to the Fed, the Fed would accept the images and then print Substitute Checks for any bank not ready to receive digital images. This allowed each bank to implement sending digital images when it was ready, irrespective of the readiness of any other bank to receive them. Once a bank was ready to send digital images to the Fed, there was no requirement that the bank also receive digital images from the Fed. This allowed banks to achieve the expense reductions associated with sending digital images instead of transporting and processing paper checks. Those savings could then be used to fund the processes to receive digital images.

To provide and support this bridge function, the Fed purchased many new printers at significant expense.¹⁴⁵ This bridge function is the characteristic most difficult to replicate for any other payment initiative and without which implementation could drag on for an extended period of time.

These three characteristics were essential to the rapid transition from a completely paper-based to a completely electronic-based payment system. Without these contributing characteristics, no other payment evolution or new payment will ever repeat the phenomenal success achieved by the Fed, Congress, and the banking industry. The numerous people in the background and in the forefront of the development and implementation of Check 21 and check image exchange are very proud of their accomplishments, as they should be.

Check 21 accomplished the Fed's guiding principles for Check 21, and check image exchange completed the broader objective of check truncation¹⁴⁶ through the electronification of the check.

The last of the Fed's guiding principles was to ensure that burdens associated with the law did not outweigh associated benefits for banks or customers. While the exact amounts of savings created by Check 21 and image exchange are unknown, they are very significant. Consider the savings from the elimination of transportation. Planes are no longer required to clear checks quickly, and trucks are no longer required to move checks to and from local processing centers or to quickly service ATMs, as in the Citibank-Blockbuster case. Also consider the number of high-speed check reader/sorters required to sort tens of billions of paper checks has been virtually eliminated, as has the personnel that operated them. These are just a few of the savings experienced by the banking industry.

The impact on bank customers has been positive as well. Most checks are now cleared the same day as deposited, and the remainder are cleared the next day. This encourages faster customer availability of deposited funds. Additionally, depositing customers can be notified of unpaid checks as early as the day of deposit and almost all others by the next day. And most customers are enamored with taking a picture of their checks with their phones to make deposits, using their banks' RDC products.

With the success of Check 21 and image exchange, the United States has a highly efficient, electronic debit payment system with desirable characteristics not available in any other payment system in the U.S. or in the world.

145 It should be noted that the Fed is not funded by tax payors but through income it receives from its services. No tax dollars were used to support the transition from paper to electronic check payments.

146 The Fed never intended to truncate the check between the check writer and the check receiver.

DONATION

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Your Choice**

**(SEND YOUR DONATION DIRECTLY TO YOUR CHARITY
DO NOT SEND US ANY MONEY)**

Thanks for Giving



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Glossary

Appendix 1 - Listing of ECCHO Directors 1999 – 2005

Bank	Name	Years						
		1999	2000	2001	2002	2003	2004	2005
Bank of America	Bob Bean		2000			2003		
Bank of America	Grant Cole			2001	2002	2003	2004	
Bank of America	Jerry Chambers	1999	2000					
Bank of America	Marie LaQuerre							2005
Bank of America	Matt Calman							2005
Bank One	Lewis Fischer			2001	2002	2003		
Bank One	Mike Manila		2000		2002	2003		
Bank One	Neil Williams	1999	2000					
Bank One	Tom Vicknair					2003		
Bank One	Tony Gerevics			2001		2003		2005
BankBoston	John McCarthy	1999						
Bankers Trust	Edward Jones	1999	2000	2001				
BB&T	Harold Deal				2002	2003		
BB&T	Joe Brannan						2004	2005
BB&T	Woody Tyner					2003		
Catalyst Corporate Credit Union	Jodi Beck							2005
Chase Manhattan Bank	James Sarras		2000		2002			
Chase Manhattan Bank	Mike Pasiecki	1999	2000					
Citibank	Lorraine Iwema				2002	2003	2004	2005
Citibank	Rob Roy	1999	2000	2001	2002			
Citibank	Steven Garofalo	1999						
Comerica	Jennie Cook	1999	2000	2001				
Comerica	Mary Ellen Baker	1999						
Comerica	Paul Obermeyer				2002	2003	2004	2005
Deutsche Bank	Don Schule			2001				
Deutsche Bank	Larry Albin			2001	2002	2003		
Deutsche Bank	Michael Mitchell							2005
First Tennessee	Jim Blassingame							2005
First Union	Jim Maxwell	1999	2000	2001				
First Union	Peter Frank			2001	2002	2003	2004	2005
First Union	Randall Hannah				2002			
Fleet Bank	Hayden Watson	1999						
Fleet Bank	Jerry McQuaid	1999	2000	2001				
Fleet Bank	Mary Ellen Baker			2001	2002	2003		

Bank	Name	Years						
		1999	2000	2001	2002	2003	2004	2005
Frost Bank	Gary McKnight	1999	2000		2002	2003	2004	2005
Frost Bank	John Spencer	1999	2000	2001				
HSBC	Thomas Kaiser		2000	2001	2002	2003	2004	2005
JP Morgan Chase	Louis Riehl			2001	2002	2003	2004	
JP Morgan Chase	Lewis Fischer							2005
JP Morgan Chase	Tony Gerevics							2005
Key Services	Don McLaughlin	1999	2000	2001	2002	2003	2004	2005
Key Services	John King						2004	
Key Services	Larry Mazuchowski							2005
Key Services	Mike Macarvey						2004	
M&I Bank	Paul Danola							2005
Mellon Bank	Genien Carlson			2001	2002	2003	2004	2005
Mellon Bank	Mike Anderson		2000	2001				
Mellon Bank	David Leach				2002			
National City Bank	Connie Rose						2004	
PNC	Kenneth Leckey				2002	2003		
PNC	Regis Reinersmann					2003	2004	
Summit Bank	Eugene Schwarzenbek		2000	2001				
SunTrust	Barney Harpe	1999	2000	2001	2002	2003		
SunTrust	Martin Patterson							2005
SunTrust	Theo Pinkston		2000					
U.S. Bank	Thomas Rea			2001	2002	2003		2005
U.S. Central Credit Union	Frances Lee							2005
U.S. Central Credit Union	Jody Beck							2005
Union Bank of California	Mark Magliaccio							2005
Union Bank of California	William Christensen	1999	2000	2001	2002	2003	2004	
Wachovia	Peter Frank							2005
Wells Fargo	Jim Koziol					2003		2005
Wells Fargo	Joe Feringa						2004	2005
Wells Fargo	Mitch Christensen	1999	2000	2001	2002		2004	2005
Wells Fargo	Tony Gerevics	1999						
Zions Bancorporation	Dan Buchanan					2003	2004	

Appendix 2 - Invitation Letter from Louise Roseman



BOARD OF GOVERNORS
OF THE
FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

LOUISE L. ROSEMAN
DIRECTOR
DIVISION OF
RESERVE BANK OPERATIONS
AND PAYMENT SYSTEMS

January 13, 2000

TO: Kirby Crowell -- Stillwater National Bank and Trust Company
Hank Farrar -- SVPCo
John Fricke -- Chase Texas
Fred Herr -- Retail Payments Office, FRB Atlanta
Kay Moon -- Volunteer Corporate Credit Union
Mel Purcell -- FRB Nashville
Alan Slater -- Citibank
Ted Umhoefer -- FRB Minneapolis
David Walker -- ECCHO

FROM: Louise Roseman

SUBJECT: Draft "Default" Rules for Check Truncation

Thank you for agreeing to participate in an informal group to discuss the value of a statute on the conversion of paper checks to electronics and the associated operational issues. The purpose of the statute would be to allow a bank to convert a transaction that begins as a paper check transaction into an electronic transaction, thus preserving the convenience of the paper check while at the same time taking advantage of the efficiencies of electronic communication and storage. (Oliver Ireland, the Board's Associate General Counsel, is forming a separate group to look at legal issues associated with converting paper checks to electronics.)

Under truncation systems currently in operation, the parties involved agree to take action based on receiving electronic information about the check. The electronic information may be considered to be the legal equivalent of the underlying paper instrument, however, only with respect to parties to the agreement. Current electronic check presentment and return systems are also limited in that it is impractical, if not impossible, to obtain agreement from every person with an interest in the check. Some check system participants have expressed concerns about the risk attendant on their inability to bind remote parties to the checks to electronic collection or return agreements.

An alternative to current truncation arrangements would be to allow banks to agree to exchange electronic versions of checks, for forward collection or return, while protecting the rights of customers who do not wish to have their checks truncated, and banks that do not agree to accept checks electronically, to receive a paper instrument that is the legal and practical

equivalent of the original check. The reconverted paper check would be created from an image of the original check, would contain substantially all the information contained on the original check as well as any subsequent indorsements, and would be machine-readable.

Our goal is to develop draft statutory language that would permit the implementation of such a system, if the industry finds such rules to be useful, while protecting 1) the parties to the checks against fraud and error, and 2) the rights of banks and their customers that want to continue receiving paper instruments rather than electronics. The draft statutory language could be implemented on the federal or state level. As an initial step, we have prepared a draft of some basic rules that might apply to an electronic check conversion system. We will contact you soon to set up a conference call to discuss the draft.

In the meantime, please feel free to contact me (at 202-452-2789 or louise.roseman@frb.gov) with questions or comments.

A handwritten signature in cursive script, appearing to read "Louise".

Enclosure

Default rules for converting paper checks to electronic checks

A statute or regulation incorporating the concepts outlined below would provide default check truncation rules for banks and their customers. The intent of the rules would be to allow banks to agree to exchange electronic versions of checks, for forward collection or return, while protecting the rights of customers who do not wish to have their checks truncated, and banks that do not agree to accept checks electronically, to receive a paper instrument that is the legal and practical equivalent of the original check. The banks that exchange electronic checks can vary these rules by agreement as between themselves, but would not be able to bind non-assenting third parties.

1. Two (or more) banks, or a bank and its customer, may agree to send and receive an electronic version of a paper check. The agreement may also address the rules that govern the collection and return of the checks as between the agreeing parties, but to the extent it does not, UCC Articles 3 and 4 and subpart C of Regulation CC will apply to the electronic check as if it were a paper check. The agreement may not vary, with respect to non-assenting parties, the UCC provisions that are specifically incorporated into this rule, such as the transfer, presentment, and return warranties, the obligations of an indorser, the midnight deadline, and the Regulation CC expeditious return requirements.

2. When a paper check is converted into an electronic check under such an agreement, the electronic check is the legal equivalent of the original paper check so long as it includes all of the information on the front and back of the paper check at the time of conversion, with the exception of background designs or security markings, and is viewable as an image of the paper check.

3. The converting bank (or the bank whose customer converts the check), and each bank that transfers or presents the electronic check and receives settlement, payment, or other consideration for the check, warrants that the electronic check is an accurate representation of all the required information that was on the paper check at the time of conversion and that the check will not be presented for payment or returned to the depository bank or drawer in paper or electronic form such that the paying bank, depository bank, or drawer will be asked to pay the amount of the check twice. These warranties run to the transferee, any subsequent collecting bank, the drawee, the drawer, any subsequent returning bank, the payee, and any indorser. The transfer and presentment warranties in the UCC and the return warranties in Regulation CC continue to apply.

4. Each bank that handles an electronic check must include its indorsement with the electronic check and is considered to have indorsed the check for purposes of UCC Articles 3 and 4. The indorsement must contain, at a minimum, the information required for indorsements in Appendix D of Regulation CC.

5. When an electronic check is presented for payment to the paying bank, sections 4-301 and 4-302 of the UCC (the midnight deadline and accountability rules) will apply. Those provisions of Subpart C of Regulation CC that affect the rights of non-assenting parties to the electronic check agreement will apply to an electronic check as if it were the original paper check (specifically, the expeditious return requirements in §§ 229.30 and 229.31 and the notice of nonpayment requirements in § 229.33).

6. If a bank receives an electronic check, it may send the check electronically to a subsequent party, if that subsequent party agrees to accept checks electronically. Otherwise, the bank must reconvert the electronic check into a paper check before sending it to a subsequent party. The reconverted paper check is the legal equivalent of the original paper check and is

subject to UCC Articles 3 and 4 and subpart C of Regulation CC as if it were the original paper check. The reconverted paper check must accurately represent all of the information that was on the original paper check, except for background designs or security markings, but including the indorsement information supplied by the banks that handled the electronic check. It must be an image of the original check (front and back), MICR-encoded, and able to be processed through check sorting machines as if it were the original paper check.

7. The reconverting bank, and each bank that transfers or presents the reconverted paper check and receives settlement, payment, or other consideration for the check, warrants that the reconverted paper check is an accurate representation of all the information that was on the original paper check, except for background designs or security markings, but including subsequent indorsements, and that the check will not be presented for payment or returned to the depository bank or drawer in paper or electronic form such that the paying bank, depository bank, or drawer will be asked to pay the amount of the check twice. These warranties run to the transferee, any subsequent collecting bank, the drawee, the drawer, any subsequent returning bank, the payee, and any indorser. The transfer and presentment warranties in the UCC and the return warranties in Regulation CC continue to apply.

Appendix 3 - Greenspan's Letter to Congress



BOARD OF GOVERNORS
OF THE
FEDERAL RESERVE SYSTEM
WASHINGTON, D. C. 20551

December 17, 2001

ALAN GREENSPAN
CHAIRMAN

The Honorable Paul S. Sarbanes
Chairman
Committee on Banking, Housing,
and Urban Affairs
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

The Board of Governors of the Federal Reserve System is pleased to forward for your consideration the enclosed legislative proposal to facilitate check truncation, along with a section-by-section analysis of the proposed law. The proposed Check Truncation Act is designed to foster payment system innovation and enhance the efficiency of the payments system by reducing some of the legal impediments to check truncation that exist under current law. An overview of the proposed Act is also enclosed.

The draft legislation reflects substantial input from the banking industry, consumer groups, and others. In its simplest terms, it would enable banks to achieve many of the benefits of electronic check processing without mandating the receipt of checks in electronic form. Banks would be able to truncate, or stop, the flow of checks, process them electronically, and create machine-readable substitute checks, if necessary, that would be the legal equivalent of the original checks.

The proposed legislation should improve the efficiency of the payments system by enabling banks to expand the use of electronics in the collection and return of checks, reducing the industry's reliance on transportation to move checks across the nation. Had the provisions of this proposed Act been in effect when air traffic came to a standstill due to the terrorist attacks on September 11, banks would have been able to reduce the impact of the disruption in air transportation on the check collection system.

The Board believes the proposed Check Truncation Act will help the nation move to a more efficient payments system and appreciates your consideration of this legislation.

Sincerely,

(signed) Alan Greenspan

Enclosures

Identical letters also sent to:
The Honorable Phil Gramm, Ranking Member, Committee on Banking, Housing, and Urban Affairs; and
The Honorable Michael G. Oxley, Chairman, and The Honorable John J. LaFalce, Ranking Member, Committee on Financial Services, U.S. House of Representatives.

Overview of the Check Truncation Act

The Federal Reserve Board has developed a draft federal law, the proposed Check Truncation Act, that would remove certain legal impediments to check truncation and would enhance the overall efficiency of the nation's payments system. Current law requires banks to physically present and return the original checks unless they have obtained agreements to do so electronically. Banks, however, have found it difficult to obtain such agreements on a large scale, which has hampered the industry's ability to achieve substantial further improvements in the check collection and return process.

The proposed Act is designed to facilitate check truncation without mandating the receipt of checks in electronic form. Under the provisions of the proposed Act, banks could agree, as they can today, to send check images or information to each other electronically rather than exchanging the original checks. The legislation would permit banks to use electronics to streamline the check collection and return process even in cases in which they do not have electronic exchange agreements. The proposed Act facilitates this expanded use of electronics by creating a new instrument, called a "substitute check," that can be created from an electronic check image and that would be the legal equivalent of the original check. Substitute checks could be processed by receiving banks just as original paper checks are today, thereby not significantly affecting the operations of banks that do not wish to participate in the electronic collection or return of checks.

In drafting this proposed law, the Federal Reserve Board attempted to strike a fair balance among the competing interests of various payments system participants. It strove to ensure, to the extent practicable, that a bank and its customer would be in substantially the same legal and practical position regardless of whether or not they received the original check. It did this through the proposed Act's warranty, indemnity, and expedited recredit provisions, which provide rights to recipients of substitute checks in the event that they incur a loss due to the receipt of a substitute check instead of the original check.

The Federal Reserve Board believes that the proposed legislation may result in substantial payments system benefits. Banks could use substitute checks to collect and return checks more quickly and to reduce the banking industry's reliance on the physical transportation of checks. Banks might also be able to reduce their infrastructure costs because their branch and ATM networks would no longer need to be tied geographically to their processing centers. Banks' customers may also benefit from these infrastructure changes if they enable banks to offer broader deposit options, later cutoff hours, more timely information, and faster check collection and return.

Appendix 4 - HR 1474 Co-Sponsors

Sponsor and Co-Sponsors of Check 21 Act

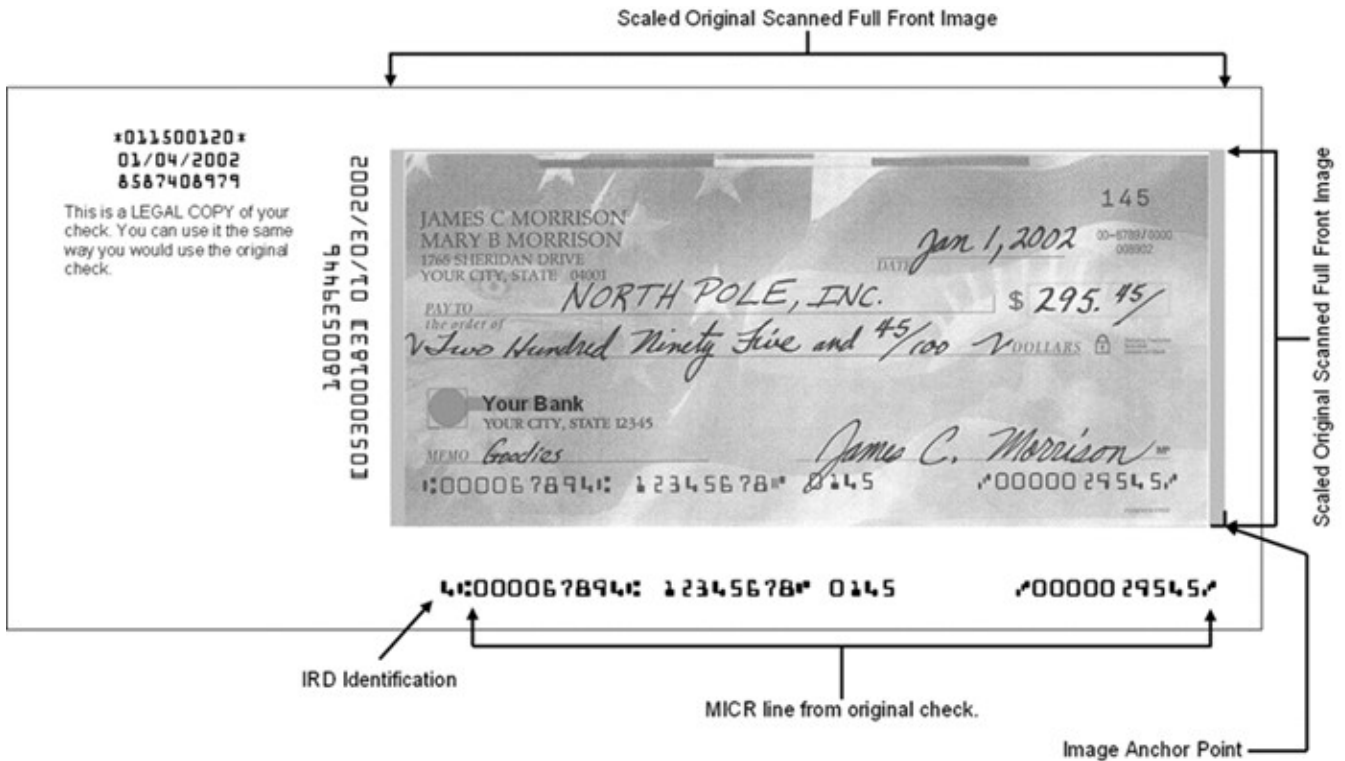
Sponsor

R Hart, Melissa [R-PA4]

32 Co-sponsors

R Sessions, Pete [R-TX32]	R Royce, Edward "Ed" [R-CA40]
R Bachus, Spencer [R-AL6]	R Toomey, Patrick "Pat" [R-PA15]
D Boswell, Leonard [D-IA3]	R Alexander, Rodney [R-LA5]
D Crowley, Joseph "Joe" [D-NY7]	D Clay, Lacy [D-MO1]
R Ferguson, Michael "Mike" [R-NJ7]	R Harris, Katherine [R-FL13]
D Ford, Harold E. [D-TN9]	R Hensarling, Jeb [R-TX5]
R Gillmor, Paul [R-OH5]	D Maloney, Carolyn [D-NY14]
D Hinojosa, Rubén [D-TX15]	D Moore, Dennis [D-KS3]
R Jones, Walter B. [R-NC3]	R Ney, Robert "Bob" [R-OH18]
R Kelly, Sue [R-NY19]	R Pryce, Deborah [R-OH15]
D Lucas, Kenneth "Ken" [D-KY4]	R Shays, Christopher [R-CT4]
D McCarthy, Carolyn [D-NY4]	R Cunningham, Randall "Duke" [R-CA50]
D McIntyre, Mike [D-NC7]	R Kennedy, Mark [R-MN6]
D Norton, Eleanor [D-DC]	R King, Peter "Pete" [R-NY3]
R Oxley, Michael [R-OH4]	R Murphy, Tim [R-PA18]
D Ross, Mike [D-AR4]	D Rodriguez, Ciro [D-TX28]

Appendix 5 - Sample Substitute Check



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Appendix 6 - Transcript of David Walker's Testimony

September 25, 2002

Mr. Chairman, Chairman Oxley, Ranking Member Waters, Ranking Member LaFalce, and members of the Subcommittee, my name is David Walker. I am the President of the Electronic Check Clearing House Organization, known as "ECCHO."

I am very pleased to be here today on behalf of ECCHO to discuss The Check Clearing for the 21st Century Act.

ECCHO applauds Congressmen Ferguson and Ford for introducing the Act. We also commend Chairman Bachus and this Subcommittee for holding a hearing to consider this important legislation.

I would first like to provide some information about ECCHO and our role in the check-clearing process. ECCHO is a non-profit nationwide bank clearing house. Our member financial institutions hold approximately 60% of the total U.S. deposits.

ECCHO has developed an extensive set of clearinghouse rules. These rules cover multiple check electronification scenarios, including Electronic Check Presentment and check image programs.

During 2001, ECCHO member institutions exchanged approximately 2 billion checks totaling approximately 3 trillion dollars under one of the various check electronification programs supported by the ECCHO Rules. In addition, the Federal Reserve also provides check electronification services. The Fed used these services to process about 37% of the 17 billion or so checks they collected in 2001.

Because of our involvement with electronic check programs, ECCHO has been working with our members and other interested parties on issues relating to Substitute Checks since the Federal Reserve first introduced the concept a few years ago. For example, we have for some time been working with the standard-setting organizations to develop technical and operational standards for Substitute Checks.

As I indicated a few moments ago, check electronification and check imaging are in wide use today. However, check images can be exchanged only if the bank on which the check is drawn and its customer have agreed to accept the image, instead of the original check. Accordingly, banks today must support two check collection processes. They need one process for checks they send to banks and their customers who have agreed to check imaging. And they need another process for checks they send to banks and customers who have not yet agreed to check imaging.

The act will encourage even more check electronification. Banks will be able, if they so choose, to convert all of their paper checks to images, and deliver Substitute Checks only when necessary. In short, the act will help bridge the gap to a fully electronic check collection system.

As a result, the act will significantly benefit all stakeholders in the check collection process. These benefits include:

- Exciting new products and services for customers;
- A significant reduction in the cost of check collection; and

- Better insulation of the nation's payment system from disruptions to the air transportation network, such as occurred after September 11th.

ECCHO supports the act as it has been introduced by Congressmen Ferguson and Ford. We do have concerns with a few of the provisions of the act, and we have provided a detailed discussion of these concerns in our written statement.

There is one significant concern with the act that I would like to address here today—the January 1st, 2006, effective date. There is no need for delayed implementation. Sending banks will create Substitute Checks only when they are ready to do so. Receipt of the Substitute Check also will have no adverse impact on the receiving bank or its customer. This is because the Substitute Check can be processed just like a paper check and because the act provides that the Substitute Check is the legal equivalent of the paper check.

The financial services industry will shortly be ready to go with Substitute Checks. The industry standards for Substitute Checks have already been under development for over a year. We anticipate that they will be ready for use within the next few months.

A delay in the effective day until January 1st, 2006, will only delay the many benefits that the act provides to banks, their customers and the nation's payment system.

ECCHO appreciates this opportunity to present our views to the Subcommittee on the Check Clearing for the 21st Century Act.

I would be pleased to answer any questions the Subcommittee may have.

Appendix 7 - Transcript of Vice-Chair Ferguson's Testimony

April 8, 2003

STATEMENT OF HON. ROGER W. FERGUSON, VICE CHAIRMAN, BOARD OF
GOVERNORS OF THE FEDERAL RESERVE SYSTEM

Thank you very much, Mr. Chairman. I would also like to thank the subcommittee for inviting me to discuss the Check Clearing for the 21st Century Act, or Check 21, and for holding hearings on this very important legislative initiative.

This bill, which is similar to a proposal that the Board forwarded to Congress in late 2001, removes legal barriers to the use of new technology in check processing. It accomplishes this essentially by allowing banks to replace one piece of paper during the check collection or return process, the original check, with another piece of paper that contains the same payment information--a Substitute Check as you have already said. This simple change holds the promise of a more efficient check collection system.

Today, consumers, businesses and the government write about 40 billion checks annually. Over the years, banks, thrifts and credit unions, which in the rest of this testimony I will refer to collectively as banks, have applied a variety of electronic technologies to automate check processing, which involves handling and sorting checks so that they can be physically shipped to their destinations.

A typical check is processed several times before it is eventually paid. First, it is processed by the bank at which it is deposited. Then, it may be shipped for processing to one or more intermediaries, and finally it is shipped for processing and payment to the bank on which it is drawn. While most checks are currently processed in this fashion, some checks are removed from the collection process, and the payment information on the checks is captured and delivered electronically to the banks on which they are drawn. This process, which is commonly referred to as check truncation, reduces the number of times the checks must be physically processed and shipped. As a result, check truncation is generally more efficient, more cost-effective, and less prone to processing errors.

The check system's legal framework, however, has not kept pace with technological advances and is now constraining the efforts of many banks to use new electronic technologies such as digital check imaging to improve check processing efficiency and to provide improved services to customers. Today, check truncation can occur only by agreement of the banks involved, because existing law requires original paper checks to be physically presented or returned in the absence of an agreement to the contrary. Given the thousands of banks in the United States, it is not feasible for any one bank to obtain check truncation agreements from all other banks or even a large portion of them. Therefore, legal changes are needed to foster the use of new electronic technologies to improve check processing and reduce the need for physical transportation in the check collection process.

Check 21 facilitates check truncation early in the check collection or return process without mandating that banks accept checks in electronic form. The act accomplishes this by creating a new negotiable instrument called a Substitute Check that banks could use in place of an original check. Under the act, banks would be able to truncate original checks, process check information electronically, and deliver Substitute Checks to other banks and bank customers that want to continue receiving paper checks. As a result, banks could handle much of their check processing electronically without needing to obtain legal agreements from thousands of other banks to truncate checks.

A Substitute Check, as you have already seen, would be the legal equivalent of the original check and could be used by both banks and their customers just as if it were the original check. As you know, it would look like a regular check. It would carry an image of both the front and the back of the original check and could be processed on existing check processing equipment. Under the act, a bank could still demand to receive paper checks, although it would likely receive a mix of original checks and Substitute Checks. Because Substitute Checks could be processed just like original checks, the bank would not need to invest in any new technology or otherwise change its current check processing operations. Further, bank customers that receive canceled checks with their monthly statements would continue to receive canceled checks, only some would be the original checks and some would be Substitute Checks. Bank customers would be able to use the Substitute Checks in exactly the same way they would use the originals.

While allowing banks to replace one piece of paper with another might seem like a small change, eliminating the need to deliver original checks would allow banks to speed up the process, a technological transformation in check clearing that is already under way. By adopting a market-based approach that permits each bank to decide when and how to use Substitute Checks, the act should result in the use of technology to provide a more efficient and flexible check collection system.

The act would also help address the risks to the check collection system from its extensive reliance on air transportation that was highlighted immediately after the September 11 tragedy. One effect of air transportation being grounded was that the flow of checks slowed dramatically. During the week of the attacks, the Federal Reserve Bank's daily check float ballooned to over \$47 billion, which is more than 100 times its normal level. Had the act been in effect at that time and had banks been using a more robust electronic infrastructure for check collection, banks would have been able to collect many more checks by transmitting electronic check information across the country and presenting Substitute Checks to Paying banks.

The act might also enable banks to provide new and improved services to their customers. For example, banks might allow some business customers to transmit their deposits electronically. Further, if banks begin to transmit check images from the point of deposit to their operations centers for processing, they might be able to establish branches or ATMs in more remote locations and provide later deposit cut-off hours to their customers. Later deposit cut-off times could result in some checks being credited one day earlier and interest accruing one day earlier for some checks deposited in interest-bearing accounts.

Because the act will likely encourage greater investments in image technology, banks might also be able to expand their customers' access to enhanced account information and check images through the Internet. In addition, banks might be able to resolve customer inquiries more easily and quickly than they do today by accessing check images. Further, as banks reduce their operating costs, the savings will be passed on through a combination of lower fees to their customers and higher returns to their shareholders. Banks have indicated that they expect cost savings to be substantial. While there is a fairly broad consensus on the desirability of the act's underlying concepts that permit the use of Substitute Checks, the issue of customer protection has been the subject of much debate. The Board has had an opportunity to further reflect on the views that have been expressed by both consumer advocates and the banking industry, and it has concluded that expedited re-credit provisions are not necessary for the successful implementation of the act. We recognize that the issue of customer protections is the most challenging policy issue in the act, and that Congress might arrive at a different conclusion as it considers whether to include expedited re-credit provisions.

I would like to discuss briefly consumers'; rights under existing check law, additional rights granted under the act's new warranty and indemnity provisions, and why we believe that expedited re-credit provisions are not needed. The act extends the protection of existing check law, including the UCC, the

Uniform Commercial Code, and the Federal Reserve Board's Reg CC, to Substitute Checks as though they were original checks. Long-established check law protects bank customers if checks are improperly charged to their accounts. While it is true that the UCC does not provide a specific time frame within which a bank must act, the UCC's provisions give the bank a significant financial incentive to resolve problems on a timely basis. Specifically, a bank generally would be liable to its customer for the amount of an unauthorized charge. Moreover, if a bank bounces a customer's check that would have been paid were it not for the unauthorized charge, the bank may also have to reimburse its customer for consequential damages. The only way a bank can limit its liability is by resolving its customers'; claims as quickly as possible. This incentive appears to have worked well for many decades.

In addition to the protections provided in the current check law, the act requires banks to provide new warranties for Substitute Checks and to indemnify customers for losses resulting from the receipt of a Substitute Check instead of the original check. Customers whose checks have been converted to Substitute Checks receive a warranty that the Substitute Checks are legally equivalent to the original checks and that a check will not be paid more than once from a customer's account. Banks must also indemnify customers for losses they incur due to the receipt of Substitute Checks rather than the original checks. Taken together, these warranty and indemnity provisions provide customers with additional protections against losses related to the use of Substitute Checks.

The use of a Substitute Check is not expected to result in problems different from those that are routinely addressed in today's environment, and existing law already encourages the prompt redress of consumer complaints. Therefore, the Board believes that the significant compliance burdens imposed by the expedited re-credit provisions on the banks that receive Substitute Checks would outweigh the small incremental benefits that the provisions would provide to consumers. Nonetheless, Congress may conclude that expedited re-credit provisions for consumers should be included in the legislation. In that case, we believe any expedited re-credit provision should be consistent with the act's basic purpose and should not go beyond the provisions originally proposed by the Board in 2001. In the unlikely event that additional consumer protections are needed for Substitute Checks, the act grants the Board authority to adopt such protections by regulation.

In conclusion, although an increasing number of payments are being made electronically, it is clear that checks will continue to play an important role in the nation's payment system for the foreseeable future. The Board believes that, over the long run, the concepts embodied in Check 21 will spur the use of new technologies to improve the efficiency and flexibility of the nation's check collection system and provide better services to bank customers. The act accomplishes this by simply permitting banks to replace one piece of paper, the original check, with another piece of paper, the Substitute Check, both of which contain exactly the same payment information. Because the act should result in substantial cost savings, it would also be desirable to begin obtaining these savings as quickly as possible.

We look forward to working with the subcommittee as it further considers this legislation. Thank you, Mr. Chairman and members of the subcommittee for your attention and your time. I would be happy to answer your questions.

Appendix 8 - Transcript of Grant Cole's Testimony

April 8, 2003

STATEMENT OF GRANT COLE, SENIOR VICE PRESIDENT AND SENIOR CHANGE
MANAGEMENT EXECUTIVE, TRANSACTION SERVICES, BANK OF AMERICA, ON BEHALF
OF AMERICAN BANKERS ASSOCIATION, CONSUMER BANKERS ASSOCIATION, THE
ELECTRONIC CHECK CLEARING HOUSE ORGANIZATION, AND THE FINANCIAL SERVICES
ROUNDTABLE

Thank you for inviting me to appear today on behalf of the Electronic Check Clearing House Organization, the Financial Services Roundtable, the American Bankers Association and the Community Bankers of America. My name is Grant Cole. I am a Senior Vice President at Bank of America in the Transaction processing division.

The organizations I represent thank Representatives Hart, Ford and Ferguson for introducing H.R. 1474, the Check Clearing for the 21st Century Act. While we would like to see some improvements to the Check 21 bill, we believe that this legislation will serve as an excellent basis for final check modernization legislation that will benefit consumers, businesses, financial institutions and the economy as a whole.

The check payment system relies heavily on an extensive network of physical check transportation. The Federal Reserve, depository institutions and third party vendors run multiple processing facilities throughout the country. This system is remarkably efficient given the large volumes and reliance on physical transportation of paper documents. However, I believe we are at a crossroads. For the 27 million Bank of America customers, checks are second only to cash as the most popular choice for making payments. However, Federal Reserve data indicates that the number of checks being written is declining, while the number of electronic payments is increasing. If this trend continues without check clearing modernization, it will dramatically change the cost structure of payments processing as checks will become more expensive to process. Promptly passing check modernization legislation is critical to protect the check payment system and allow those customers who choose to write checks to continue to do so. Substitute Checks, which are image copies of checks, give customers more information than they get from one or two lines of information shown on their statements for Reg E type of conversions.

The legislation will benefit consumers and businesses in many ways. First, the legislation will lead to streamlining of the collection and return processes. Consumers and business depositors will have information about fraudulent and NSF checks sooner. As a result, depositors will be better positioned to reduce the losses that they sometimes experience from bad checks.

With check imaging, customers can view checks just hours after the checks enter our banking system. Customers do not have to wait until the end of the month to see their paper checks, when they are returned to them in the mail. This helps customers and bankers identify and combat fraud. I should point out that the technology to provide check images to customers and to exchange the images between banks is highly secure. We use highly sophisticated firewalls and cryptology to deter hackers or other unauthorized persons from accessing customers' confidential check information. New fraud detection devices are being developed which will flag questionable items for further review as well.

This legislation will lead to even better customer service. Imaging allows banks to respond to customer inquiries more quickly. By providing a new value proposition for imaging, this legislation will make imaging more common, which will increase the reach of this consumer-friendly technology. Another

consumer benefit is that customers will have more deposit options or extended deposit cut-off hours. For example, a greater number of remote ATMs will offer deposit-taking because electronic processing will allow banks to wait longer between physical pick-ups of those checks. This would be particularly beneficial in rural areas where frequent collection of paper checks is quite difficult.

While we support the concepts of H.R. 1474, we would like to point out several areas where we think this bill could be improved. First, we believe that the special re-credit rights included in section six are not necessary. Current check law, including Reg CC and the Uniform Commercial Code, already provide consumers with appropriate protections in the relatively few cases where consumers have problems with their checks. In the event that the committee and Congress leave the expedited re-credit section in the bill, it could be improved by lowering the amount of the re-credit from \$2,500 per check to \$1,500 per day. While most consumer checks are written for amounts well below \$1,500, persons intending to commit fraud would be very aware of the maximum re-credit amount and take advantage of that.

Also, we strongly encourage the committee to change the definition of Substitute Checks to the definition in last year's bill. The addition of the language bears a MICR-line containing all the information appearing on the MICR-line of the original check would have the unintended effect of making it technologically impractical to process Substitute Checks. Our final suggestion would be to shorten the effective date of the bill from 18 months to one year. Having an effective date that is too long will unnecessarily delay the benefits the act provides.

Our final suggestion, we strongly oppose expanding the scope of the act to impose protections or requirements on other check electronic programs that do not involve Substitute Checks. The special protections for Substitute Checks in the act should only apply to situations where the customer actually receives a Substitute Check.

Mr. Chairman and Ranking Member Sanders, thank you for inviting me to participate here today and allowing me to share my views and those of the views of the associations that I represent. Once again, I applaud the work of Representatives Hart, Ford and Ferguson and we look forward to working with the committee to enact this bill as soon as practical. I look forward to answering any questions that the committee may have.

Appendix 9 - Transcripts of Voicemails

Friday, October 24, 2003

Brant Imperatore

“David, Brant Imperatore I’ve got great news. I hope that you are not busy Tuesday afternoon because you should be expecting a call from the White House and you are invited to attend the signing ceremony, which I think is pretty cool. It is just you, Zions, Bank of America and NCR, and the members of Congress. So congratulations and I will try to get in touch with you. Call me on my cell if you need me. They should have the details and I will give you more as I can.”

Katy Hayes

“Hi Mr. Walker, my name is Katy Hayes I am calling from the White House Office of Public Liaison. It is Friday afternoon and I was calling because the President is signing the Check 21 Bill on Tuesday in the Oval Office, and we wanted to invite you to be a part of that ceremony. It is Tuesday at 1:30 and if you could make it here, you would need to be at the Northwest Gate at 1:00. So, if you could call me back.”

Appendix 10 - Check 21 Minimum Requirements

The minimum requirements for Check 21 for all banks included:

- Check Capture - Ensure the bank's capture system will not reject checks with a character in the EPC field of a check (see [Chapter 8](#) on standards).
- Customer Service/Training/Education - Training of bank personnel to minimize customer concern.
- Consumer Awareness - The act and the updated Reg CC require a consumer awareness process. The Fed developed a safe harbor notification for banks' statements.
- Expedited Recredit Procedures for Consumers were required by the act and Fed regulation.
- Expedited Recredit Procedures for Banks - This was the only aspect of the law that could be modified by agreement. The expedited recredit procedure for banks was incorporated in the ECCHO Rules as defined by the law.
- Returns - Outgoing qualified returns of Substitute Checks must have a "5" in the EPC field to avoid additional IRD shrinkage. Incoming returns need to be sorted to identify either a "2" or a "5" in EPC field to be identified as a return.
- Customer Creation of Substitute Checks - It is possible for customers to create an IRD, but only a bank can make Check 21 warranties. Banks need to be protected from unknown customer deposits of Substitute Checks by updating their deposit agreements; otherwise, the bank would assume Check 21 liabilities.
- Identifying Duplicate Checks - Banks need to be able to identify the receipt of duplicates as well as to prevent the creation of duplicates.
- Statement Rendering - Since IRDs are business size checks and most consumer checks are smaller checks, different sized checks could cause problems in statement rendering.
- Repair - Banks performing full field repair on a Substitute Check must include the value in the EPC field.
- Business Customers - Some business customer products require a matching of the MICR line. This matching must be exact. With the addition of the "4" in the EPC field, the match would not be exact. Other business products may be looking for certain information in certain areas of the check. With the Substitute Check containing a shrunken picture of the original check, the data would not necessarily be the same size and in the same location as was previously the case.

Appendix 11 - Songs by Steve Ledford

Clearin' on the IRD

(tune of "Ridin on the MTA")

I was payin' my bills,
But they still cut off my phone
Lordy! What a pain in the neck
And when I looked to my bank
For proof of payment
What they gave me
Was a substitute check.

And it will never return
No it will never return
My check will never return
It was shredded and replaced by the
Bank of deposit
It's the check that never returned.

2004 by Steve Ledford



IRD

(tune of "Cabaret")

What use is sitting
on three days of float
Over the holiday
Send them an IRD old chum
Send them an IRD

No need to worry
'Bout missing the plane
Clear that check anyway
Send them an IRD my friend
Send them an IRD

Capture it here
And print it there
Its your solution made to order
Who cares if it costs a quarter

One day we all can
use image exchange
But what can you do today
Send them an IRD old chum
Send them an I-R-D...

2004 by Steve Ledford





Check 21 Medley

Go Ask Phyllis

(tune of "White Rabbit")

It says "This copy...is legal"
But is the image, way too small,
And the ones, you put in statements,
Don't do anything at all.
Go ask Phyllis ... She knows it all.

And with X9.37
and 100-140 too
Do you have to, use the dashes.
Or will just the numbers do.
Go ask Phyllis ... she has a clue

And if you have to recredit
And you don't know where to go
Cause the IRD came after
The check cleared S-V-P-Co
Go ask Phyllis ... I think she'll know.

2004 by Steve Ledford

Appendix 12 - Check 21 Myths

The amount of misinformation about the law was incredible. Everyone from elected officials, to vendors, to bankers to reporters got it wrong. Phyllis included a list of these myths in her speeches, and at the time identified the individual/organization quoted. After all these years we have chosen to eliminate the attributions to protect the guilty, but the myths are still amusing to those of us who really know the law. Every quote misstating the law was from a notable, public source. Here are some of those myths.

What is Check 21? – The Myths – All Wrong!

- “The Check Clearing for the 21st Century Act, or Check 21, would improve the efficiency of the check payments system by allowing banks to exchange checks electronically.”
- “Check Clearing for the 21st Century in the House would grant check images the same legal status as paper checks for purposes of clearing and settlement.”
- “It is my understanding that this proposal would require the destruction of the physical check at the bank the check is deposited.”
- “...the Check Truncation Act provides the legal framework to allow banks to clear paper-based transactions as either a) the physical check b) an image of the check c) a reproduction of a digitalized image of the check (called an Image Replacement Document or IRD)”
- “...would improve the efficiency of the check payments system by allowing banks to exchange checks electronically.....to give electronic versions of checks the same legal validity as paper checks...”
- “Check 21 allows electronic information exchange without supporting paper documentation.”
- "The Bill we are considering today would permit financial institutions to clear checks electronically rather than having to forward the original paper check."
- "The "4" in position 44 is only for items that could not be electronically exchanged. It has nothing to do with identifying the item as an IRD. Anyway, I heard the whole thing with the "4" has been scrapped."
- “The law, which was passed last year, requires banks to process checks with electronic imaging systems.”

Appendix 13 - “Check It Out: New Banking Law Soaks Consumers” by Suze Orman

Yahoo Finance, 2004

How the New Check 21 Law Affects You

Check It Out: New Banking Law Soaks Consumers

By Suze Orman

Any civics teacher looking for a glaring real-life example of Congress listening to lobbyists and forgetting about we the people need look no further than the new "Check 21" law that kicked into action in late October.

In a big fat wet kiss to the banking industry, Congress has authorized electronic processing of all the personal checks you and I write, meaning banks no longer have to physically exchange checks with each other before they take the money out of our accounts. That cuts the processing time down from a few days to as little as a few hours. One industry group estimates the faster processing will save banks \$2 billion a year in administrative costs. It's a lot cheaper to zap checks electronically to each other than to deliver them by train, plane, and truck.

I'm all for efficiency, but surprise, surprise, there's absolutely no provision that requires one penny of that savings to be shared with consumers in the form of lower fees. Worse, there's a good chance this new bill is going to end up costing a lot of us a bunch of money. Because our checks are clearing so much faster, consumer watchdogs predict that there is also going to be a barrage of bounced checks flying through the system, further boosting the bottom line of the banks at the expense of our wallets.

Let me explain.

Say Goodbye to Float

A Suze Orman exclusive

We are a nation of master floaters. You know what I am talking about: you write your checks on Monday to pay the rent, cable, and utility bills—even though you aren't getting paid until Wednesday. No worries, you figure, because by the time the checks have cleared through the banking system your paycheck will have arrived in your account. Congratulations, you've played the float. But that's not gonna work with the new system; any checks you write will now typically clear within one day. So if your paycheck doesn't get deposited for two days, you've just bounced a bunch of checks. Consumers Union

estimates that this new twist could cause 7 million more bounced checks a month, generating \$170 million in bounced-check fees for the banks.

Which you might say amounts to \$170 million stripped from unsuspecting customers. You'd think, while handing out such a boon for the bankers, that our representatives in Congress would have at least kept an eye out for the little guy by, say, requiring banks to conduct an educational campaign to notify customers about the switch, or, heaven forbid, insisting on a brief phase—in period where banks would waive the fees for bounced checks under the new system.

You know, just something to give consumers a heads up.

Fat chance.

Check your statement this month; you may be in for a bouncing shock.

And It Gets Worse...

When Congress took away consumers' ability to play the float, however, it didn't bother to take away the banks' float as well. Congress didn't touch how long banks can hold onto our deposits before making the money available to us. So they get to keep playing the float on deposits, while squeezing us out of the same game on the checks we write.

Here's the deal: While paycheck direct deposits and government checks are typically available within one day, all other deposits can take between two days (for local checks) and five days (for out-of-town checks) to clear. And any amount above \$5,000 can take up to 11 days to clear. So checks you write are going to clear super-fast, but deposits you make are still going to be tied up in the banks' systems for a couple of days-days when you can't touch the money but the bank can earn interest on it.

Oh sure, there's a provision in the new law that requires the Federal Reserve to take a look at this issue-in 30 months. And just what does the wonderful provision call for exactly? Well, believe it or not, it says that the Fed can consider shortening the hold period on our deposits if, in its examination of the issue, it finds that banks are voluntarily shortening the holds anyway. Now there's some proactive consumer protection! Shorten the hold period if the banks are already doing it themselves. Hello, what if the banks aren't? And what about the next 30 months anyway? Almost makes me want to invest in bank stocks; this new float game is bound to produce a pretty sweet revenue stream for the banks.

Bouncing All the Way to the Banks' Bottom Lines

And of course right when more consumers could unwittingly start bouncing checks, the banking industry has figured out a clever way to maximize its fees from our missteps. Some banks now offer "automatic" overdraft coverage when you write a bad check. If

one of your checks—or a debit card transaction—is big enough to trigger a bounce, these oh-so-helpful banks nevertheless enable the transaction go through by using their own dough to make up the difference.

I'm not talking here about old-fashioned standard overdraft coverage, where you pay an annual fee to enroll in a program so the bank will automatically take money out of your savings account to cover bounces in your checking account. That's an overdraft plan you choose to participate in. This new courtesy plan isn't anything you sign up for, or even pay for upfront. It's just a nice little service the bank provides. It fronts the money out of its own pocket to cover your bad check.

I hope you aren't foolish enough to think it's really as chivalrous as it sounds. What happens is that when the bank steps in and covers a bad check for you, they will then hit you with a \$25 to \$30 fee per bounce. Then there's the matter of having to pay the bank back for the amount of the shortfall. You could get hit with a daily fee of \$5 or so until you pay back the money. Just another easy score for the banks' bottom lines.

And again, don't expect the bank to stop after one bounced check. They will keep covering your bad checks up to a set dollar limit of \$1,000 or so, rather than give you a call and tell you to get some money into the account ASAP.

The Check is Not in the Mail

The new law also allows banks to stop sending back original checks to customers. To be honest, that's not such a big deal since most of us haven't been getting the originals back for years. But under the new law if we have a dispute over a check we have written, and need to produce evidence of it, we'll now need to get a "substitute" check rather than the typical photocopy available through many banking websites. And there's nothing keeping the bank from charging to produce that Substitute Check

Rules to Bank On

A [Suze Orman](#) exclusive

Okay, if Washington won't look out for you, let me offer up some ways to protect yourself.

- **Take Responsibility.** Look, as consumer-unfriendly as the new law is, the bottom line is that you, the consumer, are in complete control of avoiding any checking problems. The banks are just capitalizing on you being lazy or sloppy. That's gotta stop; the new law has effectively put some big penalties on consumers who try to cut corners.
- **Use Online Bill Pay.** The best way to make sure you don't bounce a check is to balance your checkbook. Using your bank's online bill pay is a great way to get the bank to do the

balancing for you. Right on the computer screen you can see updated account balance info—so before you push the button to pay a bill you will know you have the money available to cover it.

- **Know, Don't Guess.** If for some reason you don't want to use online bill pay, you are never to write a check unless you are 100 percent certain you have money in the bank to cover it. Remember, the issue is not whether you deposited the money; that's irrelevant here. What you need to be sure of is that the deposit has cleared and the money is available for you to use. So keep your bank's toll-free customer service number handy; you can use the automated service to hear exactly how much money in your account is "available."
- **Opt out of Courtesy Overdraft Coverage.** Contact your bank and ask if you are enrolled in any automatic overdraft program. If you are, please opt out ASAP. And get the bank to send you written confirmation that you are not to be "covered" by this plan.
- **Sign up for legit Overdraft Coverage.** Ideally, you should have a strong enough grip on your finances that you never bounce a check. But I am going to be realistic and assume that for some of you money is so tight you sometimes do run into cash flow problems. If that's your M.O., then sign up for a regular overdraft plan where you pay an annual fee of about \$20 to insure that if you don't have enough money in your checking account to cover a payment, your bank will automatically go fish the necessary funds out of your savings account.

Finally, you might also want to dash a quick note off to your Congressional delegation and tell them you are none too thrilled that in passing this pro-bank legislation they dropped the ball in protecting consumers. You can also sign this [online petition](#) sponsored by the non-profit Consumers Union, which asks for pro-consumer reforms of this new law.

Appendix 14 - Letter to Suze Orman from U.S. House Committee on Financial Services

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U.S. House of Representatives
Committee on Financial Services
2129 Rayburn House Office Building
Washington, DC 20515

December 16, 2004

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ROBERT U. FOSTER III
STAFF DIRECTOR

Ms. Suze Orman
C/O Amanda Urban
ICM
40 West 57th St.
New York, NY 10019

Dear Ms. Orman:

We are writing in response to your comments on the implementation of the Check Clearing for the 21st Century Act of 2003 (Check 21). In your column which is posted on the Yahoo Finance webpage, you state that Check 21 is a gift to the banking industry and has no benefit to consumers. We respectfully disagree.

Since we share your goals of financial literacy and financial responsibility on the part of all Americans, it is important to clarify that Check 21 holds many benefits for consumers.

In the confusing days after America was attacked on September 11, 2001, it was apparent that while our nation's financial system withstood the blow, there were vulnerabilities in that system that needed to be evaluated and addressed. One such problem was that the transportation of paper checks came to a grinding halt. This created an undue burden on consumers who needed those checks to be cleared in time to meet payment deadlines.

Check 21 addresses the antiquated and wasteful system of transporting paper checks around the country with the added benefit of cutting down on fraud by eliminating the possibility that a paper check could fall into the wrong hands while being transported. The current system uses the equivalent of the pony express, when technology allows for a quick and secure electronic system. This law will bring the check payment system into the 21st Century. Additionally, it will prevent future problems by updating banking laws to give electronic versions of checks the same legal validity as paper checks.

As you are well aware, a majority of consumers around the world have embraced the advent of ATMs and check cards. Most would agree that these products have added a great deal of convenience and benefit to people's lives. Consumers use these

Ms. Suze Orman
Page 2


tools with the awareness that there must be funds in their accounts and that they incur automatic drafts from their accounts. Check 21 simply brings paper checks in line with other services offered by all financial institutions. I think we can agree that a withdrawal, no matter what the mechanism for making it, should mean something. Also, consumers will benefit from easier record-keeping as they do when using an ATM or check card.


We understand and have responded to concerns about deposit hold times. Section 603 of the Expedited Funds Availability Act mandates that the Federal Reserve Board shall reduce the time periods for check holds to as short a time as possible for a bank to learn of non-payment. Furthermore, Section 16 of Check 21 requires the Federal Reserve Board to study the issues relating to check holds under the Expedited Funds Availability Act.

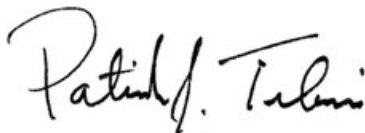
We recently wrote to banking industry representatives and to the Federal Reserve to express our view that holds on deposits for the purpose of generating interest income for financial institutions at their customers' expense will not be tolerated.

Responsible financial management means that neither consumers nor financial institutions should rely on the float. Check 21, which passed the House on bipartisan vote of 405-0, benefits both consumers and our national check-clearing system.

Yours truly,


Michael G. Oxley
Chairman

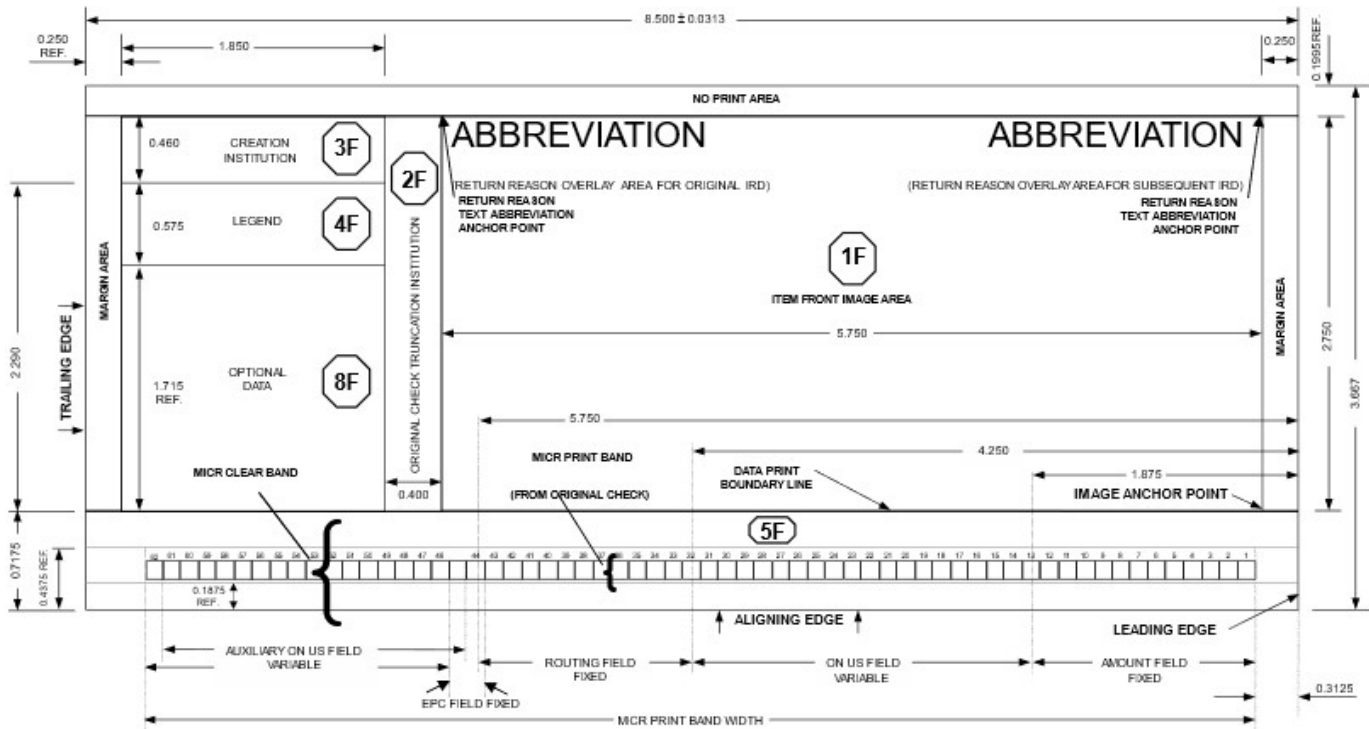

Spencer T. Bachus
Chairman
Subcommittee on
Financial Institutions
and Consumer Credit


Patrick J. Tiberi


Melissa A. Hart

Appendix 15 - Master Layout of Image Replacement Document

Illustrates the permissible size range for an IRD and its regions, locates the MICR clear bands and print bands, and identifies the reference edges. All dimensions are in inches.

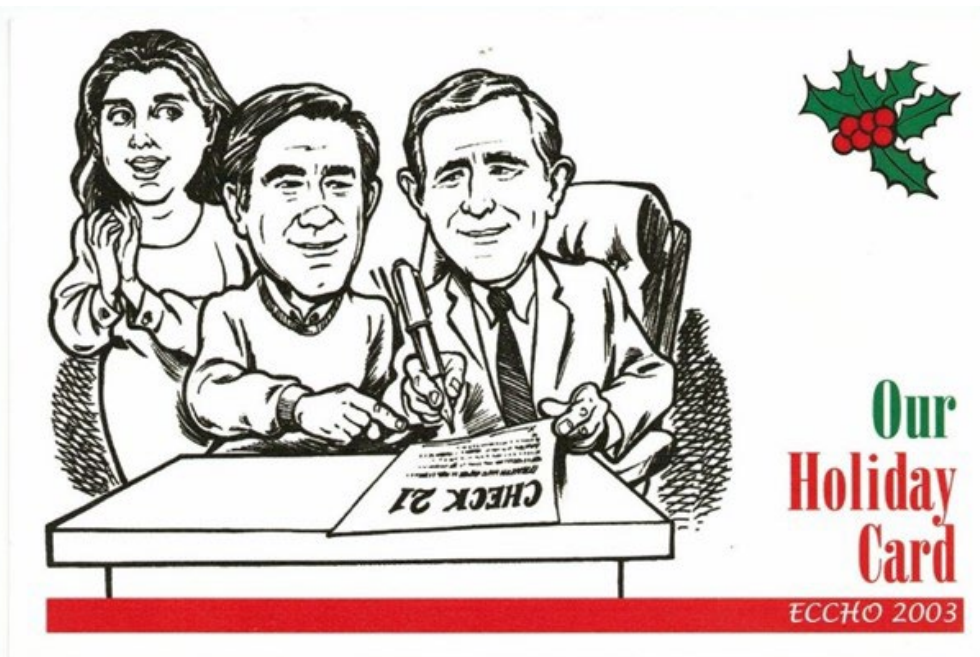


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Appendix 16 - ECCHO Holiday Cards

ECCHO worked closely with many individuals and organizations across the United States and Canada to promote a more efficient check payment system. In looking for a way to express its appreciation for those relationships, ECCHO initiated an annual ritual of caricature holiday cards. This tradition started at an SVPCO reception at a banking conference in New Orleans. SVPCO had a caricaturist, Gail Pomes, a palm reader, and other entertainers for their guests. Phyllis, Susan Holly, ECCHO's Office Manager, and David decided to have a group drawing by the caricaturist. After returning to the office, they pondered what to do with it. It became the basis for the first ECCHO caricature Holiday Card.

The 2003 card¹⁴⁷ showed President Bush signing Check 21 with David looking over his shoulder and Phyllis standing in the background.



147 The artist (not Gail) had not previously drawn President Bush, so he was focused on Bush and some people thought he drew two versions of Bush.

The 2004 card reflected the educational video that Phyllis and David did on Check 21 with Phyllis telling David, "You're wrong!" which was cut from the final video. Elizabeth is shown on David's left.



In 2006, the holiday card showed growth in the volume of check image exchanges and introduced the ECCHO goat. By 2006 the ECCHO staff had grown to include, from left to right, Scott Miller, Elizabeth Westbrook, Stephanie Morrow (now Porter), David, Ellen Heffner and Phyllis.



Glossary

ACH

The ACH (Automated Clearing House) includes both debit and credit payments under rules of the National Automated Clearing House Association (NACHA Operating Rules and NACHA Operating Guidelines) or rules established by the Federal Reserve in its Operating Circular 4 on automated clearinghouse items. The ACH is best known for direct deposit of payroll or direct debits to the accounts of bank customers.

American Banker

The American Banker is a daily newspaper that focuses on banking news. The banking industry's C-suites engage with the American Banker daily and throughout the day, online, in print, and at live events, generating more than 850,000 end-user interactions each year.

ASC

The Accredited Standards Committee X9 (ASC X9, Inc.) is an ANSI (American National Standards Institute) accredited standards organization, responsible for developing voluntary open consensus standards for the financial services industry in the United States. X9 creates standards for the banking industry.

Bank

The term bank or banks is used generically throughout this book to include all types of financial institutions including commercial banks, credit unions, bankers' banks, corporate credit unions, savings banks, and thrift institutions.

Bankers' Banks

Bankers' banks provide banking services only to community banks and not consumers or businesses. Typically, community banks will use the services of bankers' banks for investments, check clearing, and other services.

Blockbuster

Blockbuster was a retail store that rented home movies on VHS and Betamax tapes, as well as electronic games. Blockbuster URL - <https://bendblockbuster.com/>.

Canceled Check

A canceled check is a check that has been paid or cleared by the bank on which it is drawn. The check is "canceled" after it has been used or paid so that the check cannot be used again.

Cash Letters

A group of checks sent by a bank or its agents to another bank, a clearinghouse, or a Fed office. A cash letter contains a number of negotiable items, usually checks, accompanied by a transmittal letter that lists the dollar totals of the checks. *Published with permission of Accredited Standards Committee (ASC) X9.*

Check Clearing for the 21st Century Act (Check 21)

Check Clearing for the 21st Century Act. <https://www.congress.gov/108/plaws/publ100/PLAW-108publ100.htm>.

Check Conversion

Check conversion replaces a payment initiated by a paper check into an electronic (ACH) payment. Under the NACHA rules, there are multiple applications of check conversion, including ARC, POP, and BOC.

Check Truncation

In its simplest form, check truncation is the replacement of the paper check with an electronic record of the check or a Substitute Check after the check is deposited.

Collectability

When collectability is in doubt, within reason, Reg CC allows the bank to place a longer hold on the funds. For example, for a bank customer who frequently overdraws his account, the bank's ability to collect the check might be in doubt.

Collecting Bank

Any bank that handles a check for forward collection, except the paying bank.

Collection Float

There are many types of "float". Collection float refers to the time from when a check is deposited with the depository bank until it is paid by the paying bank and financially settled between the banks.

Corporate Credit Unions

Corporate credit unions, unlike what the name implies, provide banking services only to credit unions. Typically, credit unions will use the services of corporate credit unions for investments, check clearing, and other services.

Depository Bank

The depository bank is the first bank with which a check is deposited. Also known as the Bank of First Deposit (BOFD). Customer A writes a check to Customer B who deposits the check in its bank, Bank B. Bank B is the depository bank.

EFAA – Expedited Funds Availability Act

EFAA regulates the hold periods that commercial banks can make on deposits. It states that to improve the check processing system, the Fed Board shall consider requiring, by regulation, provisions to expedite and automate the return of checks and provide for check truncation.

ECCHO (Electronic Check Clearing House Organization)

ECCHO was created in 1990 as a bank-owned, clearinghouse under the Uniform Commercial Code. ECCHO created the interbank exchange rules for ECP and later for check image exchange. ECCHO coordinated the industry's efforts to pass Check 21. December 31, 2017, ECCHO as an organization was dissolved and its assets were purchased by TCH and became a business line of The Clearing House Payments Company L.L.C.

ECP – Electronic Check Presentment

ECP is a two-prong process involving the transmission of data from the MICR line of a check directly from the depository bank to the paying bank followed later that same day or soon after midnight by the physical delivery of the paper check to the paying bank.

EPC

EPC (external processing code) in the MICR line is a digit (also known as Position 44) that conveys special information regarding the correct handling or routing of a check or check data to financial institutions and other processors. For substitute checks the code “4” for forward items and “5” for return items was assigned. *Published with permission of Accredited Standards Committee (ACS) X9.*

Federal Reserve’s Retail Products Office

The Fed’s Retail Products Office is responsible for developing, providing, and pricing check services (products) to financial institutions, and providing Fed transportation services.

Federal Home Loan Mortgage Corporation

The Federal Home Loan Mortgage Corporation, commonly known as Freddie Mac, is a publicly traded, government-sponsored enterprise, headquartered in Tysons Corner, Virginia.

Fedwire

Fedwire is an online, real-time system operated by the Fed that moves monies between banks through their accounts with the Fed. These monies are immediately final and irrevocable. Fedwire, at the time of this writing, does not operate on Saturdays, Sundays, or federal holidays.

Float Managers

Float managers analyze check capture trend data to determine the most expeditious interbank clearing schemes. They collaborate with internal retail and commercial groups to define pricing and availability models for different bank products and typically manage the transportation of checks.

Forward Collection

Forward collection is the process of transporting deposited checks from depository banks to paying banks.

GDP – Gross Domestic Product

GDP is the total value of all goods and services produced in the US. It is calculated based on the final sale of goods and services. Because there can be multiple payments in the process of producing and selling goods and services, the value of all the payments involved in those multiple steps can total, as does the value of checks, more than GDP.

ICBA

The Independent Community Bankers of America (ICBA) is the primary trade group for small U.S. banks. According to the ICBA’s website, it represents approximately 5,000 small and mid-sized financial institutions that are commonly known as community banks.

Intermediary Bank

An Intermediary Bank is any financial institution other than the depository or paying bank that facilitates check exchanges between two banks.

IQA (Image Quality Analysis)

IQA (image quality analysis) is the process of examining the quality of the images to ensure compliance with accepted standards.

IRD - Image Replacement Document – Two Definitions

- 1) Before-Check 21 IRDs – Ted Umhoefer’s IRD was a reprint of an image of a check that was intended as a replacement for an unpaid, returned check.

- 2) X9 IRDs - An Image Replacement Document (IRD) is a paper-item substitute for an original paper check or previous IRD and contains a machine readable MICR line and images of the original check item or images clipped from a previous IRD item. An IRD conforming to X9.100-140 may be used as a Substitute Check. An IRD that meets the requirements of a Substitute Check within Reg CC can be considered the practical and legal equivalent of the original paper check or of a previous IRD. *Printed with permission of Accredited Standards Committee (ASC) X9.*

Leading and Trailing Edges of Checks

Leading and trailing edges refer to the orientation of paper checks as they are processed through reader/sorters, face up, and from right to left. The leading edge is the edge that first passes through the sorter and the trailing edge likewise is the last edge. Leading edge is the right edge of a document when its face is viewed. The trailing edge is the left edge of the document when its face is viewed.

Local Time

Check deadlines are based on the time local to each of the banks. For example, Pacific Time for West Coast banks and Eastern Time for East Coast banks for the same check. Deadlines for electronic payments, by contrast, are based on Eastern Time.

Local Banks

Local banks are banks within a single Federal Reserve Bank area. Later, once the Fed consolidated all check processing into a single national region, all banks became local banks.

Lockbox

A deposit service provided to business customers. Under the service, the payments to those customers are mailed to a special post office box (lockbox) instead of directly to the company.

Lockbox Processors

Lockbox processors include both banks and non-banks.

Mark Up

“Mark Up” is the term used when changes are made, “marked,” to draft legislation.

MICR – Magnetic Ink Character Recognition

MICR is comprised of numbers and symbols printed in magnetic ink at the bottom of a physical check that can be recognized at high speed by automated processing equipment.

MICR Ink

MICR characters printed in magnetic ink allows checks to be machine-read with excellent accuracy, greatly expanding the capacity to process checks.

NACHA

NACHA, National Automated Clearing House Association, (dba Nacha), is the organization that develops and maintains the exchange rules and formats for ACH payments and manages the ACH network.

Non-Local

Non-local refers to returns between two banks in different Federal Reserve Banks’ jurisdictions. For example, one in the Dallas Fed area and one in the Atlanta Fed area.

Notice of Non-Payment

In 2018 the Fed updated Reg CC. It changed the Notice of Non-Payment requirement from \$2,500 to \$5,000. It changed the time this Notice and the return must be received by the depository bank from 4:00 p.m. to 2:00 p.m.

Panels – Congressional Panels

Typically, individuals scheduled to testify are organized into “panels,” which can be a single person or multiple persons. When a panel’s time arrives on the agenda, the entire panel is normally seated at the same time.

Paying Bank

Paying banks are the banks on which checks are written (drawn). Customer A writes a check on its account at Bank A. Bank A is the paying bank.

Peg Balances

Peg balances are the amounts that business customers wish to maintain in their accounts at all times. These balances are used to meet the customers’ liquidity requirements and to pay for bank services.

Photo-In-Lieu

A photo-in-lieu may be used in cases where the original item cannot be found or is unusable. It is a legible paper copy of the front and back of the related physical check that contains a legend, signed by the bank that creates the photo-in-lieu that guarantees the validity of the copy.

Presentment

Presentment is a legal term but is also used in this book to describe an operational process of moving checks and check-related data to the paying bank.

Qualified Return

Qualified returned check means a returned check that is prepared for automated return to the depository bank by attaching a strip of paper to the bottom of the check and then encoding the strip with an EPC digit, the routing number of the depository bank and the amount of the return.

Regulation CC (Reg CC)

Regulation CC implemented the provisions of the EFAA (Expedited Funds Availability Act) of 1987 and the Check Clearing for the 21st Century Act (Check 21).

Regulation E

Regulation E is a consumer protection regulation that implemented the provisions of the EFTA (Electronic Funds Transfer Act) of 1978. It establishes the rights, liabilities, and responsibilities of parties in electronic funds transfers and protects consumers when they use EFT systems.

Re-presentment

Re-presentment is the subsequent submission of an item (check payment) that has been presented, dishonored, and returned; also known as re-clear or re-deposit.

Routing Transit Number

All banks have an identifying number that distinguishes them from each other. The routing transit number is nine digits in length and can be found at the bottom of every check. This number is sometimes also referred to as the ABA number.

Settle – Settlement

Settlement is the term used when the paying bank pays the depository bank for the checks the depository bank delivers to the paying bank. Settlement also occurs when the depository bank pays the paying bank for unpaid items (returns). Settlement normally occurs via the Fedwire.

Substitute Checks

Reg CC describes a Substitute Check as a paper reproduction of an original check that: (1) contains an image of the front and back of the original check; (2) bears a MICR line that, except as provided under ANS X9.100-140, contains all the information appearing on the MICR line of the original check at the time the original check was issued and any additional information that was encoded on the original check's MICR line before an image of the original check was captured; (3) conforms in paper stock, dimension, and otherwise with ANS X9.100-140; and (4) is suitable for automated processing in the same manner as the original check.

Tail Numbers

These unique alphanumeric codes, between two and six characters in length, are painted on all planes and are used to identify specific airplanes.

Tolerance

Tolerance is the total amount a dimension may vary and is the difference between the upper (maximum) and lower (minimum) limits. For example, the width of an IRD is defined as 8.5 inches but can vary by ± 0.0313 as the tolerance.

Truncation

Truncation removes an original check from the forward collection or return processes and by agreement replaces it with electronic data from the MICR line. Later under Check 21, the truncated original check could be replaced with a Substitute Check.

UCD – Universal Companion Document

The UCD formalizes the industry standard for check image exchange implementation using the ANSI X9.100-187 standard format. It is now managed by X9 as ASC X9 TR47 Universal Companion Document Industry Adoption of X9.100-187.

Unencoded Work

Checks for which the amount field has not been printed on the MICR line of the check. Encoded work includes the amount on the MICR line of the check. Companies with a large volume of checks will encode their own deposits, and banks will charge less in fees for processing those checks.

Uniform Commercial Code (UCC)

The Uniform Commercial Code (UCC) is a uniform set of state laws adopted by each state individually and is one of the primary laws governing check payments. Reg CC is a federal regulation that supplements the UCC.

Y2K

Y2K (Year 2000) concerns involved the date formats commonly used in computer systems. Because storage space was expensive in the early days of computer systems, dates in programs used only two digits for the year; 47 instead of 1947, for example. There was concern that on January 1, 2000, some systems might be confused about which century was being referenced resulting in miscalculations.

About the Authors

Phyllis Meyerson

Phyllis is happily retired after 45 years in financial services and is now a payments system consultant working a little (key word 'little').

Phyllis spent more than 25 years at ECCHO, where she was Executive Vice President, concentrating on payments systems and check image exchange. She conducted research and established the ECCHO Rules, where she developed consensus from all management levels at large and small banks. She created and worked on standards associated with check image exchange which she continues to do. She identified and resolved check image exchange implementation issues and acted as a clearing house of information for the ECCHO members. She was instrumental in building industry collaboration on what became Check 21, its implementing regulations, and then educating the industry.

Prior to joining ECCHO, Phyllis held key positions at Carreker Corporation (now Fiserv), RepublicBank Dallas (now Bank of America), and Manufacturers Hanover Trust (now JPMorgan Chase). At Republic Bank Dallas she was the product manager for electronic banking. She has been active in the ACH since the 1970s, serving on various committees in the New York ACH during its formation, SWACHA (Southwest Automated Clearing House Association) and NACHA. She was a former President of SWACHA.

Phyllis holds an MBA in marketing from the University of North Texas, an MS in Computer Science from Pratt Institute and a BS in mathematics from Brooklyn College. She is a permanent Certified Cash Manager (CCM), and a permanent Accredited ACH Professional (AAP). Phyllis was awarded a National Check Professional (NCP). She was not eligible to take the exam since she served on the initial NCP Editorial Board who wrote the questions for the exam. She has been a frequent speaker throughout the banking industry.

In her retirement Phyllis continues to do volunteer work. She creates beautiful origami ornaments for Paper For Water (<https://paperforwater.org>) a water charity. She is an active member of Altrusa International of Dallas Texas, Inc. (www.altrusadallas.org), a 100+ year old international service organization volunteering at local charities including Patriot Paws, Dallas Children's Advocacy Center, Scottish Rite Hospital for Children and many others. She believes we all need to give back, there is too much need in the world.

Phyllis was born and raised in Brooklyn, NY. She now resides in the very small (population 3,000, which is less than the number of students in her high school in Brooklyn) town of Double Oak, TX (just northwest of Dallas), where she serves as chair of the Board of Adjustments. She lives with her cats in a house full of toys. Most of her time is spent on her bicycle; she rode 7,700 miles in 2020, and she likes to say there was nothing else to do in 2020. She continues to ride many, many miles each year and sometimes falls off her bike.

David Walker

David is a native Texan born in Houston, Texas. Early in life he lived in Cleveland, Texas and then in Nacogdoches, Texas where he went to high school. He and his wife, Suzanne lived in Austin, Texas; Dallas, Texas; Staten Island, New York; Irvine, California; Marietta, Georgia; and now reside in Waxahachie, Texas.

He is a sailor and has a 40-year-old sailboat. He lives in a house that is more than 100 years old. Between maintaining an old boat and an old house, his ongoing to do list is extensive. Typically, his day begins with coffee, the newspaper and a Sudoku puzzle.

David has performed volunteer work for the Ellis County Museum for many years and served as a Board Trustee for the Waxahachie Independent School District for nine years. He also volunteers as an election worker for his county election office.

He is the owner and President of Tiller Endeavors LLC, a consulting firm that specializes in payment systems. He has more than 40 years' experience in banking. He and Phyllis began working together in 1981 when he was the manager of Wire Transfer, and she was a product manager in Cash Management at RepublicBank Dallas.

Prior to 2018, David was President and CEO of ECCHO (Electronic Check Clearing House Organization) for 17 years and was a consultant to ECCHO prior to that for 12 years.

He held senior management positions with RepublicBank Dallas (now Bank of America) and Carreker Corporation (now Fiserv), is a graduate of the Southwestern Graduate School of Banking and the University of Texas in Austin with a BA in Economics and was among the first group to take and pass ECCHO's National Check Professional (NCP) exam.

David has published articles in various publications and delivered many presentations to numerous audiences in the United States, Canada, and England. He was recognized in 2011 by Bank Systems and Technology as one of the top ten innovators of the decade.