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Electronic GIRO for the United States

by JAMES V. VERGARI*

INTRODUCTION

Cash and checks are used to settle the vast majority of financial transactions in the United States today. Cash is used primarily for small transactions. The dollar value of such transactions accounts for only about five percent of the total value of all transactions. Almost all other payments and transfers of funds are made by check, historically a draft drawn on a demand deposit account held by a commercial bank, though today being expanded to include negotiable orders of withdrawal (NOWs) in New England and New York, and credit union share drafts.

In 1978 there were about thirty-two billion check transactions in the United States.¹ A study for the National Science Foundation² estimated that individuals wrote about fifty percent and received about thirty-four percent of all checks issued; businesses wrote forty-three percent (of which about two-thirds were payroll checks) and were recipients of sixty-three percent of all checks written.³ The average size check is for \$420. Nearly all checks for amounts in excess of \$500 and over eighty percent of those between \$75 and \$500 were written by businesses. Individuals wrote slightly more than half of the checks for less than \$75.⁴

These statistics are important in evaluating the potential impact

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1. See *The Payment System in the United States* (paper prepared by the staff of the Board of Governors, Federal Reserve System for the Central Bank Automation Week Symp., sponsored by the Bank for International Settlements, Sept. 14, 1978).

2. See NAT'L SCIENCE FOUNDATION, *THE CONSEQUENCES OF ELECTRONIC FUND TRANSFERS*, table 4-2, at 51 (1975).

3. *Id.* State and federal governments accounted for the remaining seven and three percent of the check volume, respectively.

4. *Id.* See note 1 *supra*.

that an electronic "Giro" system⁵ could have on the volume of checks and other items issued, if it were intensively utilized for individual-to-business payments and for business-to-business transactions. The check collection mechanism primarily handles high-volume, low-dollar value items. If half of the checks issued by individuals and received by businesses were replaced by electronic Giro, there would be a reduction in check volume of 6.9 billion items. Use of the Giro system for business-to-business payments has the potential for reducing the number of checks and payable-through items by 4.8 billion.

This article describes Giro and proposes a tentative legal framework for its operation in the United States—an interim division for paperless entries in Article 4 of the Uniform Commercial Code.

I. ELECTRONIC GIRO PAYMENTS

Giro payments follow a different route from checks, since funds are transferred from one's own account to the party being paid under the control of the initiator. In a transaction involving a check, on the other hand, the actual transfer of funds is initiated by the person or corporation who receives the check at the time that it is cashed or deposited. In Giro, the payor/remitter initiates the funds transfer by ordering a payment to be made from his account. The instruction to charge the remitter's account is usually in writing, though it can be made by telephone. When the remitter receives a pre-encoded, machine-readable invoice or statement from the seller/recipient, with bank and account number codes for both the remitter and recipient, he signs and sends the form to his bank, or communicates the information by telephone. These instructions are entered directly into the electronic transfer system by the payor bank, and the payment message moves from the remitter's bank to the recipient's financial institution.⁶

In an electronic Giro system, the funds and payment instruc-

5. "Giro" is a term used to identify those payment credit transfers that a customer initiates and controls. Giro is not an acronym, but is taken from the Greek root "gyros," meaning to revolve, and describes payment systems in many European countries in which consumers and businesses initiate payments from their own financial accounts. Electronic Giro is the processing and execution of remittance and payment orders initiated through telephone, automated teller machines, machine readable bills or statements, or other documents in an electronic payment environment.

6. This is essentially the same process corporate treasurers use to make large money transfers for corporate transactions through mechanisms such as the Federal Reserve System's wire network. See Trotter, *Is Corporate EFT Coming of Age?*, 2 *COMPUTER/L.J.* 87 (1980).

tions move from the remitter to the recipient through telecommunication, and without the physical movement of negotiable instruments. Unlike check truncation,⁷ which merely continues the check collection process (debit transfer) to the payor/drawee bank in electronic form, the Giro entry is a *credit* transfer moving funds from the remitter's financial institution to the recipient's designated financial institution on the specified payment date. To receive a Giro payment, the recipient company must identify its bank and deposit account to which the funds are to be transferred.

When the remitter's financial institution is not the recipient institution of the Giro payment or transfer of funds, the electronic processing and communication of the paperless entry begins. The automated clearing house (ACH) network⁸ can be used to transmit payment data and transfer funds provided that the recipient's account identification is known. Undue delay or excessive time lapses in the transfer of credit is of importance primarily to the remitter, who may have a deadline for the payment to reach the recipient. Delay by the remitter's financial institution in transmitting the Giro payment will give it longer use of the funds (float), as will the failure to give timely credit to the payee by the recipient institution. This may also result in penalties or a loss of a discount to the remitter.

Telephone bill-paying services are an example of a non-electronic Giro system with inherent delays in communication and payment to the billing corporation. There are indications that some consumers are not continuing the use of telephone bill-payment services because of the slowness of some payments and the resultant float gained by the financial institutions.⁹ Practically none of the 185 financial institutions offering telephone bill-payment serv-

7. Check truncation is a concept whereby the first bank receiving the item for deposit or collection will hold the check or payment order, microfilm it and return or dispose of the item as agreed. The truncating bank will extract all of the necessary payment data from the item (serial number, payor bank, payor account number or code, payee, amount) and transmit this information, in an agreed upon format, electronically or otherwise, through normal clearing channels, most likely by Automated Clearing House facilities. For a review of check truncation, see White, *Legal Guidelines for Check Truncation*, 2 *COMPUTER/L.J.* 115 (1980).

8. An Automated Clearing House (ACH) is a clearance and settlement facility for financial institutions which enables them to exchange electronic or paperless debit and credit entries among themselves. In the ACH facility, magnetic tapes or other computer-oriented storage media are substituted for the paper checks, deposits and paper trails that make a paper-based payments system so cumbersome. A national network of ACHs has been created by the Federal Reserve System with the National ACH overseeing the standards for network connections and use.

9. EFT: Corporate & Prospective Corporate Applications, Jan.-Feb. 1979, at 4 (Coopers & Lybrand Newsletter, Special Report).

ices have the capability to generate payment data in the ACH format, and therefore, must currently remit payments to corporations or make a deposit at the particular institution by check.¹⁰

II. PEP AND EFT

The following definitions are important in understanding the distinctions made in considering the applicability of the Electronic Funds Transfer Act¹¹ and in recognizing the need for an interim division of the Uniform Commercial Code.

A paperless entry is the computer-oriented transmission and processing of data and information needed to complete a financial transaction after the flow of the related paper document is terminated, *e.g.*, Giro, telephone bill-payment service, preauthorized payments, direct deposits, and check truncation plans.

Electronic transfer systems is a term loosely fashioned to include any infrastructure which uses a computer to communicate and to process data and information for any part of a financial transaction. The two interbank networks for the electronic transfer of funds, the Federal Reserve communication system (Fed Wire) and the Payment and Telecommunication Services Corporation (Bank Wire) System which is operated by a group of commercial banks, are examples of electronic transfer systems.

As defined by the EFT Act, an electronic fund transfer is:

any transfer of funds, other than a transaction originated by check, draft, or similar paper instrument, which is initiated through an electronic terminal, telephonic instrument, or computer or magnetic tape so as to order, instruct, or authorize a financial institution to debit or credit an account. Such term includes, but is not limited to, point-of-sale transfers, automated teller machine transactions, direct deposits or withdrawals of funds, and transfers initiated by telephone. . . .¹²

A paperless entry payment (PEP) differs from an electronic fund transfer in that the transaction is initiated by a paper instrument, but the subsequent data and account entries needed to complete the transaction are performed by an electronic transfer system.

10. The Greater New York Savings Bank and Hollywood, Florida Savings & Loan Association are exceptions in that both can generate ACH-format payments, which are presently used for payments to J. C. Penney, Equitable Life Assurance Society, and to concentration accounts at Chase Manhattan Bank.

11. 15 U.S.C. §§ 1693 *et seq.* (1978) [hereinafter cited as the EFT ACT].

12. *Id.* § 1693a(6).

III. APPLICABILITY OF THE ELECTRONIC FUND TRANSFER ACT

The EFT Act focuses on the consumer-financial institution relationship, particularly by imposing limitations on a consumer's liability for unauthorized transfers. Since an electronic funds transfer is defined as "any transfer of funds, other than a transaction originated by check, draft or similar instrument. . . .,"¹³ an electronic Giro payment, or remittance transactions initiated by written instructions but processed electronically, would probably not be considered an electronic fund transfer.

The motivation for a fraudulent electronic Giro transaction is currently minimal since there is presently little benefit to the wrongdoer, and no endorser or third party is involved.¹⁴ If the electronic Giro payment or remittance is determined to be within the EFT Act, a consumer transaction would generally be subject to a flat limitation of \$50, or \$500 if the individual does not act promptly.¹⁵ An electronic Giro transaction initiated by a business or other non-consumer would not be within the coverage of the EFT Act.

IV. APPLICABILITY OF THE UNIFORM COMMERCIAL CODE

To function effectively, a payment system must have a legal framework that assigns fair and equitable rights, liabilities and responsibilities to the participants. Article 4 of the Uniform Commercial Code, entitled "Bank Deposits and Collections," is based on previous statutory law, court decisions and business practices, and governs the traditional flow of paper involved in bank deposits and check collections.¹⁶ Electronic Giro entries would not qualify as "items" in the process of collection under the Code as they involve paperless entry payments facilitated electronically.¹⁷ Even though the Giro instruction is written, it is not an order to pay the bearer or a designated payee, but is an instruction to the remitter's bank to transfer funds to a designated party. The result of this is a dilemma—a Giro transaction is not presently an "item," covered by

13. *Id.*

14. The motivation will increase substantially once restrictions on the range of payees are lifted.

15. 15 U.S.C. § 1693g(a) (1978); see also Greguras, *The Allocation of Risk in Electronic Fund Transfer Systems for Losses Caused by Unauthorized Transactions*, 13 U.S.F.L. REV. 405 (1979).

16. See Official Comment to U.C.C. § 4-101. The Uniform Commercial Code will sometimes be referred to hereinafter as "U.C.C."

17. Under U.C.C. § 4-104(1)(g), an "[i]tem means any instrument for the payment of money even though it is not negotiable but does not include money" Cf. § 4-201.

the Uniform Commercial Code, and it is probably not an electronic fund transfer under the EFT Act either.

The check is a conditional payment, which resurrects the obligation for which it was issued upon dishonor of the instrument.¹⁸ In Giro transactions, the transfer of credits among financial institutions affects what the users of the system will regard as a payment. The formal, conditional liability of the drawer or customer initiating the Giro payment order is not necessary. Though there is a delay between the time the payor initiates the remittance or payment order and the time the payment information is received by the payee's designated financial institution, each payment is received in "good funds." Insufficient funds transactions will not arise, since the paying party, rather than the party being paid, initiates the funds and information transfer flow. A transaction order could be "dishonored" by the paying party's financial institution only if its record-keeping is faulty.

The check was designed to circulate like money among third and subsequent parties who have acquired an interest in the funds represented. Giro, on the other hand, impacts only immediate parties to the transaction by transferring the funds from the remitter to the designated beneficiary or creditor's financial institution. Thus, the U.C.C. provisions concerning third-party interests¹⁹ are not applicable to Giro.

U.C.C. Article 3 does not define negligence, but it does protect a party who took reasonable precautions and observed the standards of its business in issuing the negotiable instrument. A customer bears liability on the negotiable instrument only if his conduct is determined to be negligent and it substantially contributes to the material alteration or unauthorized signature on the instrument.²⁰ The specific beneficiaries of this duty of care are the drawee/payor bank, other payors, and the holders in due course of the instrument. This principle could be applied to Giro payments. A bank has the duty to demonstrate that it exercised ordinary care on a disputed item.²¹

18. *Id.* § 3-802(1)(b).

19. *See, e.g., id.* §§ 3-414 to 417, 3-501 to 511, 3-803, 4-210.

20. Any person who by his negligence substantially contributes to a material alteration of the instrument or to the making of an unauthorized signature is precluded from asserting the alteration or lack of authority against a holder in due course or against a drawee or other payor who pays the instrument in good faith and in accordance with the reasonable commercial standards of the drawee's or payor's business.

Id. § 3-406.

21. *Id. Cf. id.* § 4-103(3).

V. NEW INTERIM EFT/PEP DIVISION FOR U.C.C. ARTICLE 4

The legal structure for electronic Giro and other PEP transactions is presently articulated by a network of private agreements between banks and their customers, association contracts between financial institutions, and the operating rules of participating ACHs.²² These contracts and rules allocate risks for the various events that might take place in a given transaction, such as fraud or error.²³ Pragmatism calls for a new interim division for U.C.C. Article 4 to govern paperless entry transactions, non-consumer electronic funds transfers and the completion of the collection processing for truncated checks and other items. It should build upon the quarter of a century of experience under Article 4. The applicability of U.C.C. Articles 3 and 4 should not turn upon conceptual considerations, extraneous agreements or loose analogies.²⁴

The Uniform Commercial Code rests on the foundation of a paper-based system. People are looking at, writing upon, and handling pieces of paper in making payments or transfers of funds.²⁵ Human readable components will not play a significant role in the processing of payments and transfer of funds in EFT and PEP systems, where transactions are accomplished by means of electronic communication networks.

The central issue has been the fitting of electronic Giro, check truncation, and other electronically facilitated services under the provisions of Article 4, and especially into the definition of an "item."²⁶ Some of the legal problems that will be encountered over the next decade during the transition from paper to paperless pay-

22. ACH rules govern the interregional exchange and settlement of automated clearinghouse transactions, cover the rights and obligations of participating depository financial institutions (originating and receiving), including the payment and settlement of entries, return of credit and debit entries, errors and adjustments, exchange and processing schedule time limits, and warranties. The rules also cover the rights and obligations of companies. See OPERATING RULES OF THE NATIONAL AUTOMATED CLEARING HOUSE ASSOCIATION (NACHA) [hereinafter cited as NACHA OPERATING RULES]. To the extent that Federal Reserve banks operate ACH facilities for clearing paperless entries, such payments and credits are also subject to Federal Reserve Regulation J, Subpart B (Transfer of Funds). 12 C.F.R. §§ 210.50 *et seq.* (1979).

23. *Id.*

24. See Dunne, *The Checkless Society and Articles 3 and 4*, 24 BUS. LAW. 127 (1968).

25. See, e.g., U.C.C. §§ 3-104, 3-201, 3-302. MICR characters and other encoded information on checks can also be read visually.

26. See Clarke, *An Item Is an Item Is an Item: Article 4 of the U.C.C. and the Electronic Age*, 25 BUS. LAW. 109 (1969); Dunne, *Variations on a Theme by Parkinson or Some Proposals for the Uniform Commercial Code and the Checkless Society*, 75 YALE L.J. 788 (1966). See also note 17 *supra*.

ments may be resolved by agreements between the parties, and appropriate changes in relevant Federal Reserve regulations and ACH rules. However, with amendments, the Uniform Commercial Code can be effectively used as the rules for processing paperless entries, such as Giro-type payments initiated by written instructions, direct transfer agreements or truncated checks, and other items where the payment data and other transfer information are communicated and the transaction completed through transfer systems and probably ACHs.²⁷

A. Scope

The interim division of the U.C.C. should apply to all individuals, businesses, and other users of electronic Giro payment and transfer systems, not just consumers.

B. Freedom of Contract

Though the remitter-financial institution relationship in an electronic Giro transaction should be primarily contractual in nature, the interim division should establish governing principles for the rights and responsibilities of the parties.

Variations of the provisions should be allowed by agreement of the parties, Federal Reserve regulations and clearinghouse rules, with some specific exceptions, *e.g.*, due care and good faith, which are the cornerstones of U.C.C. Article 4. Similar variations from the provisions of the new interim division should be permitted, except that limitations on the consumer's liability under applicable state or federal law could not be waived.²⁸

C. Federal Law Preemption

The interim division would be an adjunct to U.C.C. Article 4, which would have to be adopted by the states. An alternative would be for Congress to enact the official text of U.C.C. Articles 3 and 4 and the proposed interim division as federal legislation. Since these U.C.C. articles are uniform with only minor deviations in all states, few questions of federal law preemption should arise.²⁹

27. See Vergari, UCC Articles 3 and 4 in an EFT Environment (to be published in the San Diego Law Review in 1980).

28. Unlike the provisions of the U.C.C., consumer rights provided in the EFT Act are minimum rights which may not be varied or waived by agreement. See U.C.C. § 4-103; 15 U.S.C. § 1693i (1978).

29. The EFT Act, which establishes consumer rights and responsibilities, is intended to preempt state law only to the extent that the protection provided to the consumer under federal law is greater than that afforded by state law. *Id.* § 1693q.

D. Item

The definition of "item" in U.C.C. § 4-104(1)(g)³⁰ should be broadened to include any payment or transfer instruction issued, transmitted or recorded in any approved medium.³¹ Paperless entries should be deemed items under Article 4. For the purposes of Article 4, electronic or other telecommunication of pertinent accounting, transfer of funds orders, payment data and other information pertaining to an item or paperless entry, which was originated by a written instruction or order, should be considered the same as a transfer of the item, and as the item itself.

E. Warranties

The warranties of U.C.C. § 4-207³² should be applied, where fea-

30. See note 17 *supra*.

31. See 12 C.F.R. § 210.52 (1979).

32. (1) Each customer or collecting bank who obtains payment or acceptance of an item and each prior customer and collecting bank warrants to the payor bank or other payor who in good faith pays or accepts the item that

(a) he has a good title to the item or is authorized to obtain payment or acceptance on behalf of one who has a good title; and

(b) he has no knowledge that the signature of the maker or drawer is unauthorized, except that this warranty is not given by any customer or collecting bank that is a holder in due course and acts in good faith

(i) to a maker with respect to the maker's own signature; or

(ii) to a drawer with respect to the drawer's own signature, whether or not the drawer is also the drawee; or

(iii) to an acceptor of an item if the holder in due course took the item after the acceptance or obtained the acceptance without knowledge that the drawer's signature was unauthorized; and

(c) the item has not been materially altered, except that this warranty is not given by any customer or collecting bank that is a holder in due course and acts in good faith

(i) to the maker of a note; or

(ii) to the drawer of a draft whether or not the drawer is also the drawee; or

(iii) to the acceptor of an item with respect to an alteration made prior to the acceptance if the holder in due course took the item after the acceptance, even though the acceptance provided 'payable as originally drawn' or equivalent terms; or

(iv) to the acceptor of an item with respect to an alteration made after acceptance.

(2) Each customer and collecting bank who transfers an item and receives a settlement or other consideration for it warrants to his transferee and to any subsequent collecting bank who takes the item in good faith that

(a) he has a good title to the item or is authorized to obtain payment or acceptance on behalf of one who has a good title and the transfer is otherwise rightful; and

(b) all signatures are genuine or authorized; and

(c) the item has not been materially altered; and

(d) no defense of any party is good against him; and

(e) he has no knowledge of any insolvency proceeding instituted with respect to the maker or acceptor or the drawer of an unaccepted item.

sible, to paperless entries. In addition, each originating bank, remitter, customer and company should warrant to each receiving financial institution, automated clearinghouse and payor that the entry is valid, and the transmission timely and in accordance with the necessary authorizations for the related item or paperless entry.³³

All of the warranties for paper-based, U.C.C. Article 4 transactions need not be in the interim division, as there would not be any holders or transferees between the payor/remitter financial institution and the recipient/beneficiary financial institution. Intervening parties or service organizations, *e.g.*, sending banks or receiving banks, and automated clearinghouses which facilitate the completion of the PEP transaction, would not be holders of an interest in the item or financial transaction, but only conveyors or processors of the data and information necessary to the functioning of the system.

F. Fraudulent and Error Transactions

Fraud and error guidelines should be included in the allocation of risk rules. The U.C.C. principles which allocate the risk of loss should be continued.³⁴

Fraudulent transactions are those in which a third party gains access by unauthorized means to transfer funds out of the customer's account.³⁵ This would be analogous to a forged drawer's signature on a check or other instrument, but would also encompass a breach of the system's security by an intruder. The customer issuing the PEP instruction to transfer funds would be insulated against all liability for unauthorized transfers, except where his negligence contributed to the unauthorized transfer, or was the result of the action of a person to whom the customer gave authority to initiate the payment transfer.³⁶

Error transactions are inaccurate, incomplete or untimely authorized transactions resulting from terminal operator mistakes or communication network or computer system failures by which, *inter alia*, a debit or credit to the payor's or recipient's account is too large or too small or the wrong account is debited or credited. A maximum response time for resolving inquiries should be specified,

In addition each customer and collecting bank so transferring an item and receiving a settlement or other consideration engages that upon dishonor and any necessary notice of dishonor and protest he will take up the item.

U.C.C. § 4-207 (1) & (2).

33. See NACHA OPERATING RULES § IV(A).

34. See U.C.C. §§ 3-305, 3-306, 3-406 (note 20 *supra*), 3-417, 4-401, 4-207 (note 32 *supra*).

35. See 15 U.S.C. § 1693a(11) (1978).

36. *Cf. id.*

and the customer should be given recourse against the party responsible for the error.

G. Stop Payment Rights

U.C.C. Article 4 gives a customer the right to stop payment on any item payable by a bank, provided the stop payment order is received in time for the financial institution to have a reasonable opportunity to act on it,³⁷ and before the bank has finally paid the item in cash, certified it, completed the process of posting, or has otherwise become accountable for it.³⁸ The EFT Act does not contain a general reversibility provision, but a stop payment right is provided for preauthorized transfers by consumers.³⁹ Typically, a stop payment order is made when checks are lost or stolen or as a result of a dispute pertaining to the merchandise purchased or services rendered for which the check was issued. Since only a dispute or error situation would be relevant to electronic Giro, a statutory right of reversibility does not appear necessary for Giro transactions.

H. Failure to Comply with a Proper Order

The rules should permit financial institutions to charge the customer's account when properly formatted and authenticated messages are received. The financial institution should warrant and agree that the customer's instructions will be executed and transmitted timely and accurately. Except as provided by federal or state consumer laws, the liability of a payor or depository financial institution which has used ordinary care in accordance with the reasonable commercial standards of its business should not exceed the direct damages proximately caused by the failure to follow the customer's proper order or its dishonor.⁴⁰

I. Returns

A receiving financial institution shall return all credit entries received that are not credited or otherwise made available to its depositors' accounts for withdrawal by midnight of the banking day following the banking day of receipt.⁴¹

37. U.C.C. § 4-403(1).

38. *Id.* § 4-303(1).

39. 15 U.S.C. § 1693e(a) (1978).

40. *Cf.* U.C.C. §§ 3-406 (note 20 *supra*), 4-402.

41. *Cf. id.* § 4-202(2), 4-412, 4-301.

J. Receipts and Account Statements

To require that the customer be given a receipt for each transaction or a notice of any credit to the account would be extremely onerous and burdensome, and would destroy much of the efficiency and cost effectiveness inherent in PEP/EFT systems, without any significant benefit to the customer. Financial institutions, however, should be required to issue a periodic, descriptive account statement which identifies account activities in order to permit account holders to discover unauthorized or altered debits or credits.⁴² The customer should examine the periodic statement and promptly report any unauthorized charges or entries.

VI. CONCLUSION

EFT and PEP payment systems are a set of services that can be used by individuals, businesses and governments. Cash as a payment medium is highly vulnerable to theft. Losses through the use of bad checks and fraudulent use of credit cards are considerable. The electronic Giro payment and remittance system using telecommunications and computer data processing may be less susceptible to theft and fraud because it is a credit transfer that is payor-initiated and moves directly to the creditor/payee's recipient institution without intervening holders or transferees.

Implementation of the electronic Giro concept is an inevitable step in improving the cost effectiveness of the nation's payment system, because of its convenience for consumers, farmers, businesses and government. An efficient and effective electronic Giro capability requires cooperation between financial institutions and businesses. Effective and fair rules and regulations are needed to shape relationships, especially during the transition period from paper to paperless payments and electronic transfers of funds. The Uniform Commercial Code, while not directly applicable, can be the basis for bridging the gap, particularly for hybrid transactions. It can be incorporated and adapted in the agreements of the parties and by administrative rules to cover electronic Giro and other new payment alternatives. The proposed interim division rules would supplement the new EFT Act and would also cover all customers.

A new division in U.C.C. Article 4 containing a set of minimum standards and rules covering paperless entries and electronic transfers would provide an interim, clearly defined, legal framework to govern the functional relationships of the parties. The proposal of an all-embracing, comprehensive payment code that would consoli-

42. *Cf. id.* § 4-406; 15 U.S.C. § 1693d(c) (1978).

date and merge the rules for all payment funds transfer transactions (paper, paperless, electronic, credit card and other alternative payment forms), and would scrap U.C.C. Articles 3 and 4 is to be avoided.⁴³ Such new rules would disturb established practices and routines and would bring chaotic conditions to a vital element of the economic system of the United States—payments and financial transfers involving billions of transactions and trillions of dollars.

43. Such an approach was proposed in H. Scott, *New Payment Systems: A Report to the 3-4-8 Committee of the Permanent Editorial of the Uniform Commercial Code* (1976); see also Haydock, *The 348 Committee—An Interim Report*, 2 *COMPUTER/L.J.* 27 (1980).

