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EFTS: CONSUMER PROTECTION UNDER THE UCC

Historically, the payments system in the United States has been based almost entirely upon the use of cash, checks, or credit.¹ In recent years, however, a growing concern over the volume of processed checks has led many commercial banks to develop electronic funds transfer systems (EFTS).² These systems are designed to increase the speed of processing while significantly reducing transaction costs. Basically, EFTS's apply computer technology to the processing of financial transactions.³ EFTS's in use include check verification and guarantee systems, automated teller machines (ATM's), and point of sale (POS) terminals.⁴ Demand on the part of banks for these systems is increasing rapidly.⁵

In view of the economic significance of the payments system,⁶ the laws governing it must be equitable and comprehensive. The development of the commercial law applicable to EFTS's, however, currently lags behind the growth of these systems. Threats to the integrity of EFTS's stem from lost, stolen, or forged access cards, illegal taps into communication lines, physical impairment of the equipment, or improper programming. The legal rights and liabilities of consumers where the integrity of an EFTS has been breached remains unclear, in part because the status of EFTS's under current law is uncertain.⁷ The rights of the parties involved in an EFTS transaction must be clearly delineated while the EFTS is in the developmental stage in order to avoid exposing the con-

¹ ARTHUR D. LITTLE, INC., THE CONSEQUENCES OF ELECTRONIC FUNDS TRANSFER 7 (1975) [hereinafter cited as LITTLE].

² Cox, *Developing an Electronic Funds Transfer System: Incentives and Obstacles*, in THE ECONOMICS OF A NATIONAL ELECTRONIC FUNDS TRANSFER SYSTEM 16 (1972).

³ LITTLE, *supra* note 1, at 242.

⁴ For a discussion of these systems, see notes 25-42 and accompanying text *infra*.

⁵ In a survey conducted by the Comptroller of the Currency, 95% of the responding banks indicated that EFTS would be part of their equipment by 1980. *EFTS Survey Released*, 9 COMPUTER 3 (Feb. 1976), cited in Note, *Electronic Funds Transfer Systems: A Need for New Law*, 12 NEW ENGLAND L.R. 111, 113 (1976). A survey conducted by Payment Systems Research Programs indicates 81% of commercial banks believe they will be participating in POS systems within the next five years. *News in Perspective-EFT: A Variety of Attitudes*, 22 DATAMATION 139, 140 (1976). See also *Major Events in Evolution of EFTS Are Occurring with Rising Frequency*, BANKING, May 1975, at 79.

⁶ See J. WHITE, BANKING LAW 1-34 (1976); LITTLE, *supra* note 1, at 47-59.

⁷ Shick, *Some Impacts of Electronic Funds Transfers on Consumer Transactions*, in THE ECONOMICS OF A NATIONAL ELECTRONIC FUNDS TRANSFER SYSTEM 165 (1974). See notes 66-111 and accompanying text *infra*.

sumer to undue financial risks and to promote the orderly and rational development of these systems.⁸ This article analyzes the applicability of present commercial law to EFTS transactions and suggests legal safeguards for consumer EFTS rights and liabilities within the context of the Uniform Commercial Code.

I. ELECTRONIC FUNDS TRANSFER SYSTEMS

A. Preauthorized Financial Transactions

EFTS has developed in two primary areas: preauthorized deposit and withdrawal transactions and off-premises banking.⁹ In a preauthorized transaction the user contractually authorizes his bank to make an automatic debit or credit to his account.¹⁰ Preauthorized deposits may encompass Social Security checks, dividend checks, and payrolls, while preauthorized withdrawals may include mortgage payments, installment loan payments, and utility bill payments.

Preauthorized financial transactions are processed through automated clearinghouses (ACH's), which are computerized facilities that receive, process, and distribute magnetic tape data received from participating financial institutions.¹¹ ACH's significantly reduce the volume of paperwork in check processing by substituting computer storage media for checks, deposits, and bills.¹² ACH's have organized into the National Automated Clearinghouse Association (NACHA), a national network with supervisory powers over ACH's which effectively defines the legal rights of consumers and merchants involved.¹³

NACHA operating rules assume that Article 4 of the Uniform Commercial Code on bank deposits and collections applies to preauthorized debits and credits,¹⁴ expressly providing that the U.C.C. § 4-104(g) definition of "item"¹⁵ includes such electronic

⁸ See notes 113-16 and accompanying text *infra*.

⁹ Lange & Kaplan, *Changing Face of Automation*, BANKING, Sept. 1975, at 32.

¹⁰ See generally Homrighausen, *One Large Step Toward Less-Check: The California Automated Clearing House System*, 28 BUS. LAW. 1143 (1973).

¹¹ Testimony before the National Committee on Electronic Funds Transfers by Paul E. Homrighausen (Oct. 27, 1976).

¹² LITTLE, *supra* note 1, at 319.

¹³ *Id.* at 320.

¹⁴ Homrighausen, *supra* note 11, See also Penney, *Questions Needing Answers—Effects of EFTS on the U.C.C.*, 37 U. PITT. L.R. 661, 666 (1976).

¹⁵ U.C.C. § 4-104(g) provides that "Item means any instrument for the payment of money even though it is not negotiable but does not include money."

transmissions.¹⁶ To offset the user's loss of control over the account resulting from the fact that the bank makes the preauthorized payments,¹⁷ the NACHA prescribes the incorporation of consumer protection provisions into the authorization contract.¹⁸ For example, if the amount to be debited differs by a stated maximum percentage from the authorized amount, then seven days prior to the debiting, the consumer is given written notice of the discrepancy.¹⁹ The consumer can thereby ensure that the account contains sufficient funds to make the payment, or he can revoke the bank's authority to pay the bill. The NACHA also expressly guarantees the right to stop payment within either 45 days from the debit entry or 15 days from the sending of the statement, whichever occurs first.²⁰ Accordingly, the burden of reconciling the account is removed from the consumer by forcing the merchant to seek payment of the disputed amount from the ACH.²¹

ACH's benefit the customer by eliminating the time and cost of writing checks, by facilitating the more timely deposit of paychecks, and by providing the added security of bypassing the use of the mails.²² Businesses also benefit from reduced payroll administration and distribution expenses, and from greater speed and certainty in bill payments.²³ Consumers lose much of their control, however, over the timing of bill payment, which is especially significant when payment of certain items must be deferred because of insufficient funds.²⁴

B. Off-Premises Banking

The banking industry has developed EFTS's that enable customers to bank at commercial establishments or automated branches.²⁵ These systems not only facilitate the use of checks or

¹⁶ Homrighausen, *One Large Step Toward Less-Check: The California Automated Clearing House System*, 28 BUS. LAW 1143, 1147-48 (1973).

¹⁷ *Id.*

¹⁸ Homrighausen, *supra* note 11.

¹⁹ *Id.*

²⁰ Testimony before the National Committee on Electronic Funds Transfer Systems by Mark Budnitz, Executive Director, National Consumer Law Center (Oct. 27, 1976).

²¹ Homrighausen, *supra* note 11.

²² LITTLE, *supra* note 1, at 226-28.

²³ *Id.* at 320.

²⁴ *Id.* See also Schuck, *Electronic Funds Transfer: A Technology in Search of a Market*, in THE ECONOMICS OF A NATIONAL ELECTRONIC FUNDS TRANSFER SYSTEM 156-63 (1974).

Additionally, the federal government is urging the preauthorized deposit of government checks, such as Social Security and welfare payments, in order to reduce losses caused by mail theft. Some consumer advocates, however, fear that such preauthorized deposits presage efforts to increase governmental control over the spending of welfare payments. Such control could be accomplished by requiring welfare recipients to preauthorize debits for rent, day care, or food bills, thereby channeling the funds distributed into "approved" categories. LITTLE, *supra* note 1, at 16-17.

²⁵ Lange & Kaplan, *supra* note 9, at 32.

credit by providing financial information, but also effectuate the transfer of funds between parties to a transaction.²⁶ The most elementary off-premises banking system is the check verification card, which enables a party accepting a check to verify the sufficiency of funds in the presenter's account.²⁷ Banks and retail stores generally offer check verification systems, issuing the plastic entry cards that activate the system. One method by which a system may verify a check is to ascertain whether the presenter has a prior record of insufficient funds checks. Alternatively, a system may have direct access to a computer at the customer's bank, thereby enabling it to determine whether there is a sufficient balance in the customer's account.²⁸ In a check guarantee system, the owner of the system guarantees each check for a small fee per check.²⁹

The automated teller machine (ATM) is the most common type of EFTS.³⁰ ATM's may be located on the bank's premises or at some point off-premises, such as a shopping center or a completely automated branch bank. ATM's are broadly classified as either "on-line" or "off-line."³¹ An "off-line" system records all transactions made at the ATM on tapes that are transferred to the bank daily for processing. An "off-line" machine is only capable of giving an account balance as of the last update, which is generally the previous day. Thus, an off-line machine is susceptible to overdrafts on an account when withdrawals occur on the same banking day or over a weekend.³² In contrast, an "on-line" machine is connected directly to the bank's computer. It completes all trans-

²⁶ LITTLE, *supra* note 1, at 242.

²⁷ *Id.* at 72-73.

²⁸ The Comptroller of the Currency has issued guidelines for national bank EFTS's in which he has emphasized the importance of preserving the confidentiality of a customer account. "Accordingly, no account balance, specific overdraft information, or similar specific dollar amount information should be transmitted to a terminal operator other than a duly authorized bank employee or the customer." *Electronic Funds Transfer Systems Guidelines*, 6 BANK. L. REP. (CCH) ¶ 96,843 (1976) [hereinafter cited as *EFTS Guidelines*].

²⁹ LITTLE, *supra* note 1, at 72-73. A check guarantee system guards against the possibility that the customer may withdraw the funds before a check clears the bank.

³⁰ *Id.* at 9. For a survey of the extent and distribution of EFTS, see *EFTS Survey Released*, 9 COMPUTER 3 (Feb. 1976), cited in Note, *Electronic Funds Transfer Systems: A Need for New Law*, 12 NEW ENGLAND L.R. 111 (1976).

³¹ LITTLE, *supra* note 1, at 65-67.

³² For example, consider the problem in the context of a bank with ATM's at several branches. Since the tapes are collected only once a day and only on weekdays, a user may withdraw an amount up to the monetary limit per day at each of the branches and thus may overdraw his account. A single ATM is protected against repeated daily uses by a memory of the previous "X" transactions. Depending upon the computer program, however, the memory varies in length from two to several hundred prior transactions. Thus, if a customer is the first user of the day and also the "X + 1" user, the computer does not "remember" the first use. In this way, "X + 1" cards, used to make withdrawals serially, can empty a machine of its cash, because the memory will not "remember" the first use of the card when it is again used to withdraw funds. Testimony before the National Commission on Electronic Funds Transfers by Earl Ward (Oct. 26, 1976).

actions at the bank as they are made at the terminal, thus maintaining a continuously updated record of all account activity.³³

The insertion of a plastic entry card and the entry of a personal identification number (PIN) into the terminal activates the ATM.³⁴ The simplicity of ATM activation causes serious security problems. Since the PIN is the principal safeguard against fraudulent use of stolen cards, consumers are instructed not to carry a copy of their PIN with their entry card.³⁵ In spite of this warning, it is estimated that most users carry both together, commonly in a wallet or purse.³⁶ Moreover, the entry card may be vulnerable to misuse through decoding of the PIN and duplication of the cards since the PIN is encoded on a magnetic strip on cards used in off-line machines.³⁷ Cards used with on-line machines are not vulnerable to decoding because the PIN is not encoded on the card, but instead, the "keyed in" PIN is verified against the computer's master file at the bank. Since almost all ATM's operate off-line for at least a portion of the day, however, the PIN is generally encoded on the entry card.³⁸

Point of sale (POS) terminals are the most complex type of EFTS.³⁹ A POS may be located wherever goods or services are

³³ *Id.* The Comptroller has recommended that off-line ATM's can be converted to an on-line basis as soon as economically feasible because continuous updates effectively prevent overdrafts of customers' accounts. *EFTS Guidelines, supra* note 28.

³⁴ The PIN is encoded on a magnetic strip on the back of the card. A copy of the PIN is sent to the user under separate cover from the card to prevent theft of both from the mail. For discussion of the recommended security measures for the issuance of PIN's and entry cards, see *EFTS Guidelines, supra* note 28.

³⁵ *EFTS Guidelines, supra* note 28.

³⁶ LITTLE, *supra* note 1, at 65. Little's survey estimated that 70 percent of EFTS users carry both their card and a copy of the PIN.

³⁷ The use of the PIN as the only check on the user's identification has been criticized as too vulnerable to misuse. "No matter what can be done to a piece of plastic, decoding is conceivable." Hansen, *Security Specialists Hunt Ways to Plug Openings for Fraud Against EFTS*, AMERICAN BANKER, October 19, 1976, at 1.

Research aimed at preventing "skimming," the process by which PINs are decoded from the strip, led to the use of reflector implants. This technique involves implanting small infrared reflectors either on or within the card. The distance between randomly placed reflectors or holes placed in the reflectors is measured to validate the card. These reflectors can be encoded with the information presently on magnetic strips used to activate the terminal. Regardless of the sophistication of an encoding device, however, "the PIN only validates the card; it cannot validate the user of the card." *FDIC and Comptroller's Office Issue Guidelines on How Banks Should Protect Against EFT Fraud*, BANKING, January 1977, at 37, 86.

³⁸ *EFTS Guidelines, supra* note 28. The Comptroller has recommended that all ATM's which operate off-line at anytime should contain a file of all bad cards that can access the ATM. These files should be updated each day. Records should be maintained of all completed and attempted transactions for a bank's entire EFTS. Checks should be made to determine if any customers have obtained access to the system with a greater frequency than might reasonably be expected. The Comptroller also suggests that where losses from the theft of the entry cards and corresponding PIN's leads to significant losses, a bank might consider the installation of a camera system to photograph each user. For a description of such a surveillance system, see *Surveillance System Works with ATMs*, BANKING, January 1977, at 70. For a general survey of EFTS security issues, see Nycum, *Security for Electronic Funds Transfer Systems*, 37 U. PITT. L.R. 709 (1976).

³⁹ LITTLE, *supra* note 1, at 10.

purchased. Using the same entry system as an ATM,⁴⁰ a POS effects an immediate transfer of funds from the purchaser's account to that of the vendor.⁴¹ Functionally, the POS terminal replaces the cash register. In addition to effecting an instantaneous debit, it can also be programmed to complete a sale for cash or credit.⁴²

II. STATE EFTS ENABLING ACTS

Banks are strictly regulated and may exercise enumerated powers authorized by statute.⁴³ Banks are only granted those powers which are considered necessary to the business of banking, or which are incidental to the exercise of the primary powers granted.⁴⁴ Presently, twenty-six states have enacted enabling acts which authorize the use of EFTS's as within a state bank's enumerated powers.⁴⁵ Only Kansas, Iowa, and Florida, however, have included consumer protection provisions in their enabling acts.⁴⁶

The Iowa statute is broadly defined to apply to electronic facilities and electronic transfers of funds by financial institutions.⁴⁷ The statute protects customer freedom of choice concerning banking methods by prohibiting a bank from discriminating

⁴⁰ See note 34 and accompanying text *supra*.

⁴¹ LITTLE, *supra* note 1, at 68-72. This transfer is called an "instantaneous debit."

⁴² *Id.* The computer of a POS terminal may be used to keep records of all sales and to handle a merchant's monthly billing. Unlike a complete POS system, this use does not require the elaborate communication connections with the local banks' computers.

⁴³ For example, the National Bank Act, as amended, 12 U.S.C. §§ 1-200 (1970), in § 24(7) authorized national banks to exercise only those powers expressly granted by federal statute. "The measure of powers of national banks is the statutory grant, and powers not conferred by Congress are denied." *City of Yonkers v. Downey* 309 U.S. 590, 596 (1940).

National banks' enumerated powers include "all such incidental powers as shall be necessary to carry on the business of banking; by discounting and negotiating promissory notes, . . . by receiving deposits; . . . by loaning money on personal property" 12 U.S.C. § 24(7) (1970).

⁴⁴ See 12 U.S.C. § 24(7) (1970).

⁴⁵ CONN. GEN. STAT. ANN. § 36-193 (West 1975); FLA. STAT. § 659.062 (1975); GA. CODE § 13-203.2 (1975); IOWA CODE § 524.803(1) (1975); KAN. U.C.C. ANN. § 9-1111 (Vernon 1975); ME. REV. STAT. tit. 9-B, § 334 (1975); MD. ANN. CODE art. 11, § 105 (1975); MASS. GEN. LAWS ANN. ch. 1147, § 64 (West 1973); NEB. REV. STAT. §§ 8-157 and 8-355 (1976); N.J. STAT. ANN. § 17:9A-19 (West 1975); N.Y. BANKING LAW § 105-a (McKinney 1975); N.C. GEN. STAT. § 53-62 (1975); N.D. CENT. CODE § 6-03-02(8) (1975); OKLA. STAT. ANN. § 422 (West 1976); OR. REV. STAT. § 706.005 (1975); R.I. GEN. LAWS § 19-29-1 (1975); S.D. COMPILED LAWS ANN. § 51-20A (1976); WASH. REV. CODE §§ 30.43.010 to .050 (1974).

The following states authorize EFTS through regulation by the appropriate state banking agency: Alabama, Louisiana, New Hampshire and Virginia. Jolly, *But States are Laying the Groundwork*, BANKING, May 1976, at 33. Commissions to investigate EFTS were established in Utah and Illinois. *Id.*

⁴⁶ See FLA. STAT. § 659.062 (1975); IOWA CODE § 524.803(1) (1975); KAN. U.C.C. ANN. § 9-1111 (Vernon 1975).

⁴⁷ IOWA CODE § 524.803 (1975).

against customers who choose not to use EFTS.⁴⁸ No customer may be required to use the system in lieu of writing checks, nor may an "extraordinary charge" be imposed upon check-writing customers.⁴⁹ A "humanly readable" record of transactions at off-premise facilities must be produced for the customer.⁵⁰

The Iowa statute expressly covers liability for losses to the customer's account. "A bank shall be liable to each of its customers for all losses incurred by such customer as a result of the transmission or recording of electronic impulses as a part of the transaction not authorized by such customer or to which the customer was not a party"⁵¹ Liability for loss is placed entirely upon the bank for any unauthorized transactions where no lost or stolen instrument is involved, and customer liability for lost or stolen cards is limited to losses over fifty dollars which occur before the customer notifies the bank of the loss or theft of the card.⁵²

In contrast to Iowa's statute, the Kansas statute applies only to "remote service units," which are defined to include both "on-line" and "off-line" machines.⁵³ Furthermore, the liability provisions apply only to lost or stolen cards, and establish a fifty dollar ceiling on liability for the customer.⁵⁴ The statute neither specifies whether the liability is limited to losses occurring before the customer notifies the bank of the loss or theft, nor considers the effect of a customer's negligence on the liability.⁵⁵ The Kansas statute does not deal with losses caused by means other than lost or stolen cards, such as counterfeit cards or employee fraud. In this respect it differs from the Iowa statute, which clearly imposes liability on the bank for all such losses.⁵⁶

Unlike Iowa and Kansas, Florida incorporates the U.C.C. into its EFTS enabling act.⁵⁷ The Florida statute amends the U.C.C. definition of "item" contained in section 4-104,⁵⁸ which determines the applicability of Article 4 to financial transactions, to include an "electronically recorded, stored or transmitted message."⁵⁹ The enabling act also requires every owner of "remote

⁴⁸ *Id.* § 524.803.4.2 (1975).

⁴⁹ *Id.*

⁵⁰ *Id.* § 524.803.11 (1975).

⁵¹ *Id.* § 524.803.14 (1975).

⁵² *Id.* For an evaluation of the Iowa statute see notes 129-32 and accompanying text *infra*.

⁵³ KAN. U.C.C. ANN. § 9-111(h) (Vernon 1975).

⁵⁴ *Id.* § 9-111.2 (Vernon 1975).

⁵⁵ *See Id.*

⁵⁶ *See* note 51 and accompanying text *supra*.

⁵⁷ FLA. STAT. § 659.062 (1975).

⁵⁸ *See* note 15 *supra*.

⁵⁹ FLA. STAT. § 674.104(1)(g) (1975):

"Item" means any instrument or electronically recorded, stored or transmitted message for the payment of money even though it is not negotiable, but does not

financial service units" to adopt and to maintain safeguards to insure the security of the funds and information collected.⁶⁰ The Federal Bank Protection Act's minimum requirements are specified as the standard for banks to follow.⁶¹ The Florida statute also requires that each bank maintain "reasonable" procedures to minimize customer losses caused by unauthorized withdrawals.⁶² Failure to maintain such procedures renders the bank liable for the amount lost as a result thereof, as well as for interest on that amount, unless the customer's negligence contributes to the unauthorized withdrawal.⁶³ The statute neither defines the "reasonable procedures" which a bank must follow, nor specifies what conduct constitutes negligence on the part of the customer. An unauthorized withdrawal is defined, however, as "a withdrawal by a person other than the customer who does not have actual, implied, or apparent authority for such withdrawal and from which withdrawal the customer receives no benefit."⁶⁴ Banks are required to inform each EFTS user of his rights and liabilities with respect to consumer protection and disclosure of confidential information.⁶⁵

III. EFTS AND COMMERCIAL STATUTES

A. *Uniform Commercial Code*

The EFTS enabling acts do not specifically delineate the legal

include money, and a photographic or other similar reproduction of an item may be treated in all respects as the original item by any payor bank or non-bank payor of the item being furnished with an affidavit that the original item has been lost or destroyed, and upon being furnished with security satisfactory." (Emphasis added).

⁶⁰ FLA. STAT. § 659.062(10) (1975).

⁶¹ *Id.* Bank Protection Act of 1968, 12 U.S.C. §§ 1729, 1881-1884 (1970). The Act requires each federal supervisory agency to establish by rule minimum standards "with respect to the installation, maintenance, and operation of security devices and procedures, reasonable in cost, to discourage robberies, burglaries, and larcenies and to assist in the identification and apprehension of persons who commit such acts." 12 U.S.C. § 1882(a) (1970).

⁶² The statute requires that "[e]ach bank and each savings and loan association shall maintain reasonable procedures to minimize losses to its customers from unauthorized withdrawals from its customers' accounts by use of a remote financial service unit" FLA. STAT. § 659.062(13)(a) (1975).

⁶³ *Id.* § 659.062(12)(a):

Any bank or savings and loan association failing to maintain such reasonable procedures shall be liable to its customer for the amount of any unauthorized withdrawal plus any interest lost on the unauthorized drawn amount directly resulting from the failure to maintain such reasonable procedures unless the customer by his negligence contributes to such unauthorized withdrawal.

The Florida statute also authorizes civil action against violators of the consumer rights provisions, providing for statutory minimum damages of \$500 plus costs and attorney fees. *Id.* § 659.062(13)(d).

⁶⁴ *Id.* § 659.062(13)(a).

⁶⁵ *Id.* § 659.062(11). The statute requires each bank to report annually to the legislature its experience with misuse of the entry cards and customer complaints. *Id.* § 659.062(12)(d) and

rights and liabilities of the parties involved in EFTS transactions.⁶⁶ The crux of the problem is an inability to classify an EFTS transaction within the framework of existing commercial law. An EFTS is both a communications system and a payments system.⁶⁷ EFTS computer technology and complex communication networks are common to all EFTS transactions from simple deposits at an ATM to instantaneous debits at a POS. The form of the transaction alone cannot determine its illegal status, since the plastic entry card is used in all transactions. An EFTS can perform financial transactions normally executed by check, such as deposit and withdrawal of funds and payment of bills. An EFTS can also effect traditional credit transactions, including purchases on credit and overdraft privileges. Certain innovative aspects of an EFTS, however, have no traditional counterpart: instantaneous debiting of an account to complete a purchase, and withdrawals of cash on demand from a savings account. Thus, differentiating EFTS transactions requires focusing on the financial result of each transaction.

EFTS's combination of traditionally disparate financial activities leads to the application of inconsistent legal standards. The rights and liabilities of parties to a check transaction are defined in Articles 3 and 4 of the U.C.C.⁶⁸ Credit transactions, however, are subject to numerous laws. The Consumer Credit Protection Act, which includes the Truth in Lending (TIL) Act, is the comprehensive federal act that regulates credit.⁶⁹ States have consumer credit statutes which vary greatly,⁷⁰ except for the states which have

(e). For an evaluation of consumer protection provisions see notes 129-32 and accompanying text *infra*.

⁶⁶ See notes 45-65 and accompanying text *supra*.

⁶⁷ The separation of EFTS and its financial and communication components acknowledges the trend in the payments system whereby the actual transfer of funds is becoming separated from the flow of supporting information. Mitchell, *Agendas for Action on the Payments Mechanism*, in *THE ECONOMICS OF A NATIONAL ELECTRONIC FUNDS TRANSFER SYSTEM* 11 (1974).

Carol S. Greenwald, Massachusetts Commissioner of Banks, testified before the National Commission on EFTS (Oct. 27, 1976) as follows:

[i]t seems appropriate to characterize EFT systems as communications facilities primarily, and banking facilities only incidentally. This view explains the recent interest in EFT on the part of the White House Office of Telecommunications

The FTC would apparently have regulatory jurisdiction over a system linking automated clearing houses, and its policies on permissible interconnections with local telephone circuits are obviously important.

Attempts to characterize EFTS as a financial or communications system arise in considering the proper regulatory structure for the system. For an analysis of EFTS and antitrust problems, see Baker, *Competition, Monopoly and Electronic Banking*, in *THE ECONOMICS OF A NATIONAL ELECTRONIC FUNDS TRANSFER SYSTEM* 47 (1974).

⁶⁸ Article 3 governs commercial paper transactions, and Article 4 controls bank deposits and collections.

⁶⁹ Consumer Credit Protection Act, 15 U.S.C. §§ 1601-1681(t) (1970). The Act is implemented by the Truth in Lending Regulations (Reg. Z). 12 CFR § 226.1-249 (1976).

⁷⁰ The drafters of the U.C.C.C. characterized existing state law as a "crazy quilt, patch-work welter of prior laws. . . ." Prefatory Note, Consumer Credit Code, 1974 Edition.

adopted the Uniform Consumer Credit Code (U.C.C.C.).⁷¹ In addition to a lack of law, the issue in EFTS situations is a multiplicity of legal standards, none of which are entirely satisfactory.

The threshold question in determining the impact of the U.C.C. on EFTS's is whether Article 4's provisions concerning bank deposits and collections are applicable.⁷² Article 4 applies to an EFTS transaction if the transaction satisfies the section 4-104(g) definition of an "item." According to that section, an "item" is "any instrument for the payment of money even though it is not negotiable but does not include money."⁷³ The instrument in an EFTS transaction may be viewed as the combination of the PIN and the entry card. Alternatively, the PIN and entry card may be viewed solely as the activating device for the EFTS which serves to identify the user.⁷⁴ The instrument conveying the information necessary for the transaction would then be the electronic impulse and the magnetic tape upon which the information is recorded.

Article 4 does not define "instrument," but Article 9 defines "instrument" as including negotiable instruments, securities' and "any other writing which evidences a right to the payment of money."⁷⁵ It has been argued tht this definition applies to an Article 4 transaction and that an instrument may be equated with a "writing,"⁷⁶ which the Code defines as "any other intentional reduction to tangible form."⁷⁷ The tangibility requirement can be fulfilled whether the PIN and card or the electronic impulse tape are viewed as the instrument. If it applies, the Article 9 definition is met since the transaction both evidences a right to payment and is transferable by delivery of the card and PIN.⁷⁸

⁷¹ COLO. REV. STAT. §§ 5-1-101 to -103 (1971); IDAHO CODE §§ 28-31-101 to -39-108 (1971); IND. CODE §§ 24.4.5-1-101 to -6-203 (1971); IOWA CODE ANN. §§ 537.1101 to .7103 (West 1974); KAN. STAT. §§ 16a-1-101 to -9-102 (1973). ME. REV. STAT. ANN. §§ 1-101 to 6-415 (1974); OKLA. STAT. ANN. tit. 14a, §§ 1-101 to 9-103 (West 1969); S.C. CODE §§ 8-800.101 to .541 (1974); UTAH CODE ANN. §§ 70B-1-101 to -11-105 (1969); WIS. STAT. ANN. §§ 421.101 to 427.105 (West 1972); WYO. STAT. §§ 40-1-101 to -9-103 (1971).

⁷² In case of a conflict among Articles 3, 4 and 8, Article 4 will govern. U.C.C. § 4-102.

⁷³ U.C.C. § 4-104(g).

⁷⁴ Hock, *EFTS or EVE*, in *THE ECONOMICS OF A NATIONAL ELECTRONIC FUNDS TRANSFER SYSTEM* 65, 68 (1974).

⁷⁵ U.C.C. § 9-105(i):

"Instrument" means a negotiable instrument . . . , or a security . . . or any other writing which evidences a right to the payment of money and is not itself a security agreement or lease and is of a type which is in ordinary course of business transferred by delivery with any necessary indorsement or assignment . . .

⁷⁶ Clarke, *An Item is an Item is an Item: Article 4 of the UCC and the Electronic Age*, 25 *BUS. LAW*, 109 (1969).

⁷⁷ U.C.C. § 1-201(46).

⁷⁸ While the entry card and PIN can satisfy the literal requirements of section 9-105(i)'s definition of "instrument," the use of that definition may strain the purpose of the section. Article 9 applies to secured transactions which have no relationship to EFTS. The definition of instrument refers to negotiable instruments, securities, or "any other writing which is . . .

If an EFTS transaction satisfies the Article 3 definition of a negotiable instrument, it would also be within Article 4.⁷⁹ The combination of the entry card and the PIN arguably satisfies the conditions of a negotiable instrument as set out in section 3-104(1).⁸⁰ The PIN constitutes the signature of the maker or drawer. The Code defines signature in section 3-401 as including ". . . any word or mark used in lieu of a written signature." A comment to section 1-201 directs courts to consider whether the symbol evidenced a "present intention to authenticate the writing."⁸¹ The entry of a PIN into an ATM or POS evidences the necessary intent to validate required by the signature requirements of the U.C.C. The requirement of an unconditional promise or order to pay a sum certain is satisfied in an ATM transaction by analogizing to a one-party check where the drawer and payee are the same person. A POS transaction effects a transfer of funds to a third party from the drawer's account. The instrument is payable on demand, since it is paid when the card and PIN are presented. In an ATM transaction, the instrument is payable to the bearer of the card and PIN, whereas in a POS situation, the instrument is payable to the order of the merchant.

Section 3-104 acknowledges the possibility that future commercial practices may lead to new forms of commercial paper, which statutes or judicial decisions may recognize as negotiable.⁸² The courts have considered the legal status of EFTS transactions only in the context of branch banking, but these decisions may be illustrative.⁸³ A finding that a check is cashed at an ATM classifies the ATM as a branch bank under the McFadden Act.⁸⁴ Some

in the ordinary course of business transferred by delivery" U.C.C. § 9-105(i). EFTS transactions do not include the delivery of entry cards, indorsed or assigned within the normal course of business. Section 9-105(i)'s definition circumscribes parameters for an Article 9 instrument; the inclusion of EFTS entry cards within that definition was unintended by the drafters.

⁷⁹ U.C.C. § 4-102(1).

⁸⁰ U.C.C. § 3-104(1).

⁸¹ U.C.C. § 1-201, comment 39: "No catalog of possible authentications can be complete and the court must use common sense and commercial experience in passing upon these matters."

⁸² U.S.C. § 3-104, comment 1.

⁸³ See *Illinois ex rel. Lignoul v. Continental Ill. Nat'l Bank & Trust Co.*, 409 F. Supp. 1167 (N.D. Ill. 1975), *rev'd in part*, 536 F.2d 176 (7th Cir.), *cert. denied*, 45 U.S.L.W. 3254 (1976); *Oklahoma ex rel. State Banking Bd. v. Utica Nat'l Bank & Trust Co.*, 409 F. Supp. 71 (N.D. Okla. 1975), notice of appeal filed, 10th Cir., Feb. 23, 1976; *Missouri ex rel. Kostman v. First Nat'l Bank*, 405 F. Supp. 733 (E.D. Mo. 1975), *aff'd*, 538 F.2d 219 (8th Cir. 1976); *Independent Bankers Ass'n v. Smith*, 402 F. Supp. 207 (D.D.C. 1975), *aff'd*, 534 F.2d 921 (D.C. Cir. 1976); *Colorado ex rel. State Banking Bd. v. First Nat'l Bank*, 394 F. Supp. 979 (D. Colo. 1975), *rev'd in part*, 540 F.2d 497 (10th Cir.), *cert. denied*, 45 U.S.L.W. 3562 (1976).

⁸⁴ The power of a bank to establish branches is regulated to varying degrees in all states. Regulations range from the absolute prohibition of branch banking to the placing of geographic limits on the location of branches vis-a-vis the main bank. J. WHITE, *BANKING LAW* 471-78 (1976). The Banking Act of 1933, 12 U.S.C. § 36(c) (1970), permits national banks to establish branches in the states to the extent that state law permits branching.

courts have held that the plastic card constitutes a check in view of its functional equivalence to a paper check.⁸⁵ Admitting that "it would be difficult to fit under the U.C.C. definition, or the standard dictionary definition, of 'check' anything involved in . . . [an ATM] withdrawal transaction," the courts have found no "significant difference" between paper checks and plastic entry cards.⁸⁶ EFTS cards effect a routine banking transaction and thus merely represent a new way for a customer to give an order to a bank. Hence, the circuit court decisions, perceiving EFTS cards as merely a new form for a traditional banking function, have expanded the concept of a check to include EFTS cards.⁸⁷

An Article 4 item must not only be an instrument, but must also be "for the payment of money."⁸⁸ If the instrument is viewed as the combination of the card and PIN,⁸⁹ then arguably it is merely an access device used to activate the system and therefore does not represent a particular transaction effecting the payment of funds. However, if the electronic impulse and the record created at the EFTS are considered the instrument,⁹⁰ then the instrument is unique for each transaction and effects a payment of money to the user.

The potential implications of including EFTS within Article 4 illustrate the Article's unsuitability with respect to such transactions even if they can be brought within the definition of "item." Under section 4-401, a bank may charge a customer's account only for items "properly payable." By implication, charging items that are not "properly payable" violates the bank's duties and requires recrediting the amount charged to the customer's account.⁹¹ This raises the question whether an unauthorized withdrawal using a lost or stolen card is "properly payable." The unauthorized use of a stolen or lost card and PIN to withdraw funds is analogous to cashing a check with a forged signature, which is not properly

The Banking Act defines a "branch" as a place of business where "deposits are received, or checks paid, or money lent." 12 U.S.C. § 36(f) (1970). If any of these transactions occur at an EFTS, the terminals would constitute a branch and would be subject to branching restrictions. The definition of "branch" has been broadly construed by the courts in order to effectuate the Congressional policy of competitive equality. *First Nat'l Bank v. Dickinson*, 396 U.S. 122, 134 (1969). The objective underlying this broad construction, however, limits the precedential value of branching cases in other factual situations.

⁸⁵ See cases cited in note 83 *supra*.

⁸⁶ 534 F.2d 921, at 942 (D.C. Cir. 1976).

⁸⁷ See Wellman, *Discussion*, in *THE ECONOMICS OF A NATIONAL ELECTRONIC FUNDS TRANSFER SYSTEM* 95 (1974): "An electronic signal, denuded of all its grandeur and exotic mystery is nothing more than a technologically acceptable substitute for a check."

⁸⁸ U.C.C. § 4-104(g).

⁸⁹ See note 74 and accompanying text *supra*.

⁹⁰ *Id.*

⁹¹ J. WHITE & R. SUMMERS, *UNIFORM COMMERCIAL CODE* 598 (1972).

payable.⁹² Significantly, in such situations, the bank would be liable where it is unable to verify the customer's identity at the ATM and is, thus, unable to prevent the loss.

Another problem with Article 4's application to EFTS transactions is that unauthorized uses can only be detected by a customer's review of his monthly statement. Section 4-406 imposes on the customer a duty to use reasonable care and promptness in reviewing his returned checks and statement. Since there are no returned items with EFTS's, however, the customer must exercise more diligence in maintaining his own records so as to detect fraudulent uses. The cross-check now possible between the statement and returned checks is not available.

Courts may be willing to apply Article 3's provisions to EFTS transactions, either because the transaction can be brought within the definition of negotiable instrument,⁹³ or by analogy because of the similarity of the transaction to more traditional Article 3 applications.⁹⁴ A customer's signature, his PIN,⁹⁵ is presumed to be valid by section 3-307, thus shifting the burden to him to prove that he was not the user and that the signature is not genuine.⁹⁶ Requiring the consumer to prove the unauthorized use is more difficult than requiring the bank to prove that the customer authorized the use.⁹⁷ Moreover, reliance upon section 3-406 enables a bank to argue that the customer was negligent in allowing both the card and the PIN to be stolen or lost and subsequently used in an EFTS transaction.⁹⁸ Under section 3-406 establishing the customer's negligence would preclude him from asserting the lack of authority against the bank, thus leaving the loss on the customer.⁹⁹

Any application of Articles 3 and 4 to EFTS transactions would be fortuitous because the drafters contemplated a paper payment system, not an electronic one. Additionally, in the EFTS context, the liability provisions place unrealistic burdens on both banks and customers by imposing responsibility for actions that neither party

⁹² *Id.* at 599.

⁹³ Suggested substitutes for the returned check include a monthly statement itemizing each transaction's payee, amount debited, and information as to the goods purchased. Alternatively, customers may choose to maintain a separate ledger, much like the present checkbook record. LITTLE, *supra* note 1, at 227.

⁹⁴ See note 82 and accompanying text *supra*.

⁹⁵ See note 81 and accompanying text *supra*.

⁹⁶ U.C.C. § 3-307(1) reads: "Unless specifically denied in the pleadings each signature on an instrument is admitted. When the effectiveness of a signature is put in issue (a) the burden of establishing it is on the party claiming under the signature. . . ."

⁹⁷ In contrast, the Consumer Credit Protection Act places the burden of proof upon the card issuer to show that the use was authorized. 15 U.S.C. §§ 1601-1681(t), § 1643(b) (1970).

⁹⁸ An example of possible negligence is the customer's writing of his PIN on the entry card. See notes 35-36 and accompanying text *supra*.

⁹⁹ Contributory negligence on the part of the bank will negate the effect of the customer's negligence. J. WHITE & R. SUMMERS, *supra* note 91, at 539.

can prevent. Unlike cases involving forged signatures, neither the bank nor the customer can determine when the originator of a PIN entry is acting fraudulently. Thus, bringing EFTS under Articles 3 and 4 as they are presently drafted does not ensure equitable distribution of the liability for misuse of entry cards and PINs.

B. Consumer Credit

An EFTS can be programmed to complete financial transactions by means of credit, checks, or cash.¹⁰⁰ Illustratively, a payment for goods can be completed by a charge to an open-ended credit account or by a withdrawal from a checking account in excess of the balance, if overdraft privileges are allowed. Using an EFTS in this manner is simply an extension of credit; the entry card operates as the functional equivalent of a credit card. An unresolved legal question is whether the entry card may be considered both a check and a credit card.

The Consumer Credit Protection Act¹⁰¹ defines a credit card as "any card, plate, coupon book or other credit device existing for the purpose of obtaining money, property, labor, or services on credit."¹⁰² The primary purpose of the Act is to ensure that significant credit terms are disclosed to consumers.¹⁰³ If an EFTS entry card were to be deemed a credit card, the Consumer Credit Protection Act would affect banking operations with respect to such cards. For example, the Act's prohibition of the distribution of unsolicited cards¹⁰⁴ would limit marketing procedures available for EFTS cards which allow overdrafts. Furthermore, the Act provides that the liability of any cardholder for unauthorized use of lost or stolen cards is limited to fifty dollars or the amount obtained by the unauthorized use prior to notification, whichever is less.¹⁰⁵ For the use to be unauthorized, there must be no actual, implied, or inherent authority, and the cardholder must have received no benefit from the transaction. The burden of proof is placed on the issuer to show that the use was authorized.¹⁰⁶

Concern over the extent of their liability for unauthorized use of entry cards led national banks to request the Comptroller of the

¹⁰⁰ See notes 39-42 and accompanying text *supra*.

¹⁰¹ Consumer Credit Protection Act, 15 U.S.C. § 1602(k) (1970).

¹⁰² *Id.*

¹⁰³ 15 U.S.C. § 1601 (1970).

¹⁰⁴ 15 U.S.C. § 1642 (1970). While mass mailings of EFTS cards are not prohibited, the Comptroller recommends, "Where selective unsolicited mailings of debit or asset cards are undertaken, the mailing will be only to existing bank customers. . . ." *EFTS Guidelines*, *supra* note 28.

¹⁰⁵ 15 U.S.C. § 1643(b) (1970).

¹⁰⁶ *Id.*

Currency to rule on the relationship of the entry cards to the consumer credit laws. The Comptroller ruled that cards which do not permit an overdraft on an account, either through previous agreement with the bank or through an open-ended credit account, are outside the definition of a credit card.¹⁰⁷ The U.C.C. provisions on unauthorized signatures would apply to those entry cards.¹⁰⁸ A bank must treat overdrafts by means of such cards as insufficient funds checks, or it will be viewed as extending credit and will be subject to Truth in Lending regulations.¹⁰⁹ The Comptroller did not recommend that Truth in Lending regulations govern all uses of entry cards. Instead, only the withdrawals that actually involve an extension of credit should cause the underlying transaction to be treated as one involving credit.¹¹⁰ Thus, an entry card is a debit card when it is used to debit an account and a credit card when it is used to obtain funds through a prearranged credit mechanism.

The analysis of the Comptroller, however, presents conceptual and practical difficulties. It is a common banking practice to issue one entry card which is a debit card issued by the bank on one side and a national credit card on the other.¹¹¹ In terms of the Comptroller's analysis, this single instrument is both an "item" under the U.C.C. and a credit card. The form of the instrument is viewed as irrelevant for purposes of determining its legal significance; instead, only the function of the instrument is relevant. Furthermore, the difficulty of ascertaining which transactions during the billing period involved extensions of credit and of applying TIL provisions only to those transactions poses practical problems of proof and recordkeeping.¹¹²

IV. EFTS AMENDMENTS TO THE U.C.C.

The inadequacy of existing commercial law to regulate EFTS transactions is widely recognized.¹¹³ Rather than recommending

¹⁰⁷ CONSUMER CREDIT GUIDE (CCH) § 31,094. A check guarantee card is not a credit card, because it merely verifies the check upon which the transaction is based. *Id.* at § 31.144.

¹⁰⁸ *Id.* § 31,118. See notes 95-96 and accompanying text *supra*.

¹⁰⁹ *Id.*

¹¹⁰ *Id.* The Comptroller noted, "[I]t may indeed be difficult in many situations to determine which among several of the debit and sales drafts triggered an overdraft extension of credit. . . . The staff believes that this section [§ 226.13(1)] only applies to those transactions by which an extension of credit was in fact triggered." *Id.*

¹¹¹ Cox & Klein, *Developing Your Own EFTS Strategy*, BANKING, September 1975, at 34, 54.

¹¹² One difficulty arises when the entry card is a debit-credit card and is stolen. The single physical instrument could be subject to two standards of liability: the \$50 ceiling for credit charges and an undetermined amount for the debit charges.

¹¹³ See, e.g., Clarke, *The Bank-Customer Relationship in an Electronic Credit Transfer System*, 2 RUTGERS J. COMPUTER L. 1 (1971); Dunne, *Variations on a Theme by Parkinson*

federal legislation on EFTS, the U.C.C. Editorial Board has decided to amend Articles 3 and 4 to deal with the developments in electronic data processing.¹¹⁴ The U.C.C. is the appropriate vehicle for reform, because it is a well-developed body of law that has been adopted by 49 states and the District of Columbia.¹¹⁵ Modifying the U.C.C. would be "cleaner, simpler and perhaps quicker than uprooting existing state law by a comprehensive federal statute."¹¹⁶ In light of the widespread acceptance of the U.C.C., consumer protection amendments to the Code would undoubtedly influence EFTS development.

The absence of clearly defined legal rights and liabilities in EFTS transactions invites banks and consumers to resolve disputes involving such transactions on an ad hoc basis.¹¹⁷ For example, the banking industry presently lacks a consistent policy with regard to losses from unauthorized uses of entry cards. Hence, the customer's liability may range from the entire loss prior to notification of the bank to a limited fifty dollar maximum.

Amending Article 4 of the U.C.C. to provide explicit rights and liabilities for consumers would encourage EFTS development by eliminating legal ambiguities. Specific statutory solutions are needed for the following situations: loss or theft of the entry card leading to unauthorized use; fraudulent entry into an account; physical damage to the system leading to customer loss; discrepancies in the amount of sale through use of POS; stop payment remedies; loss of float; and proof of payment problems.¹¹⁸

The theft of an entry card exposes the owner to the possibility of the depletion of his bank accounts. In the Consumer Credit Protection Act,¹¹⁹ Congress imposed a fifty dollar ceiling on consumer

or Some Prospects for the UCC and the Checkless Society, 75 YALE L.J. 788 (1966); Dunne, *The Checkless Society and Articles 3 and 4*, 24 BUS. LAW. 127 (1968); Penney, *Bank Statements, Cancelled Checks and Article Four in the Electronic Age*, 65 MICH. L. REV. 1341 (1967); Survey, *Toward a Less-Check Society*, 47 NOTRE DAME LAW. 1163 (1972).

¹¹⁴ Penney, *Questions Needing Answers—Effects of EFTS on the U.C.C.* 37 U. PITT. L. REV. 661 (1976).

¹¹⁵ 1 Uniform Laws Annotated, Uniform Commercial Code III (1976).

¹¹⁶ Robert Haydock, Jr., Chairman of 348 Committee of the U.C.C., testimony before the National Comm. on EFTS, Oct. 26, 1976.

¹¹⁷ Testimony before the National Committee of EFTS by Robert Wieloszynski, Director of Consumer Affairs, Syracuse, New York (Oct. 26, 1976), illustrates the inadequacy of a consumer "remedy" of which consumers are unaware:

The bankers I've talked to suggest that it is their policy to make up all losses to EFT debit card holders. But when I suggest that they should tell people they have this kind of protection the bankers tell me they can't do that . . . because then some customers may try to take improper advantage of this protection.

¹¹⁸ For a discussion of consumer issues, see generally Shick, *Some Impacts of Electronic Funds Transfers on Consumer Transactions*, in THE ECONOMICS OF A NATIONAL ELECTRONIC FUNDS TRANSFER SYSTEM 165 (1974); Schuck, *Electronic Funds Transfer: A Technology in Search of a Market*, 35 MD. L. REV. 74 (1975).

¹¹⁹ Consumer Credit Protection Act, 15 U.S.C. §§ 1601-1681(t) (1970).

liability for lost credit cards.¹²⁰ This provision reflected a judgment that the issuing companies, rather than the individual consumer, should spread the risk of loss from illegal usages either by imposing a service charge on each credit card transaction or through reducing profits.¹²¹ Given the analogous economic position of banks and credit card companies with respect to consumers, the rationale of the Consumer Credit Protection Act concerning credit card losses should be applied to losses resulting from unauthorized uses of EFTS cards. Thus, the bank, not the consumer, should initially bear the risk of losses that are greater than fifty dollars. Concomitantly, in order to reduce opportunities for the theft of EFTS entry cards and PINs, the mailing of unsolicited entry cards should be prohibited, as Congress has done with respect to credit cards.¹²² Prohibiting the mailing of unsolicited cards would ensure that consumers voluntarily decide to use EFTS's, thereby increasing the prospects for responsible consumer handling of EFTS transactions.

The possibility that customer accounts can be depleted as a result of physical damage to or fraudulent uses of a system is a serious EFTS security problem.¹²³ An EFT computer system must contain physical safeguards, such as locks and fire and water protection, to prevent damage to the equipment and to its associated information. Also, communication lines between the terminals and the main computer must be secure from tapping, message insertion, modification of message content, and surveillance.¹²⁴ Message encryption of the transmitted data ensures the security of the communication lines, and prevents a computer embezzler from illicitly deciphering account information.¹²⁵ Furthermore, like other computer systems, EFTS is vulnerable to fraudulent programming.¹²⁶ Accordingly, comprehensive audit trails¹²⁷ must be incorporated into the system in order to detect

¹²⁰ 15 U.S.C. § 1643(a) (1970).

¹²¹ *Plastic Jungle: Hearings on H.R. 13244 and H.R. 14346 Before the Subcomm. on Postal Operation of the House Post Office & Civil Service Comm.*, 91st Cong., 2d Sess. (1970); *Unsolicited Credit Cards: Hearings on S. 721 Before the Subcomm. on Financial Institutions of the Senate Comm. on Banking & Currency*, 91st Cong., 1st Sess. (1969).

¹²² Cf. *EFTS Guidelines*, *supra* note 28 (recommending that banks not distribute unsolicited cards). An alternative approach is to allow banks to mail entry cards to established bank customers, requiring that the PIN be picked up personally at the bank to insure the user's identity. GOVERNOR'S ADVISORY COMM. ON THE REGULATION OF FINANCIAL INSTITUTIONS, INTERIM REPORT, 57 (Mich. March 1977).

¹²³ See generally notes 37 and 38 and accompanying text *supra*.

¹²⁴ See generally Turn & Ware, *Privacy and Security Issues in Information Systems*, A Rand Corporation paper presented to the National Commission on EFTS (Oct. 26, 1976).

¹²⁵ *Id.*

¹²⁶ *Id.*

¹²⁷ The security of computer software depends in part on auditing procedures aimed at detecting fraudulent uses of the system. These procedures include records of all jobs handled and any exceptional conditions which might indicate irregular usages such as

extraordinary use patterns. Similarly, to minimize opportunities for a wholesale reprogramming of the system, employee duties within the computer center must be under dual control such that no one person controls an entire step in the EFT system.¹²⁸

Since the responsibility and the power to maintain EFTS physical and systemic security lies solely with the bank, liability for losses arising from security breaches should be borne entirely by the bank. The Iowa statute accomplished this objective by making the bank liable for all losses resulting from any transactions that the customer did not authorize or to which he was not a party, while limiting consumer liability to fifty dollars in cases of lost or stolen entry cards.¹²⁹ By defining the liabilities of the parties in terms of consumer responsibilities for losses, the Iowa statute establishes a standard of care that consumers can understand. In contrast, the Florida statute holds the bank liable for all losses directly resulting from a failure to maintain "reasonable procedures to minimize loss," absent any customer negligence.¹³⁰ If the loss or theft of the card is the sole means of establishing customer negligence, the Florida statute may establish the same liability standard that the Iowa statute provides. The absence of clear standards of consumer responsibility in the Florida statute, however, is especially significant because the statute does not impose a fifty dollar ceiling on consumer liability.¹³¹ Therefore, the Iowa statute should be used as a model in apportioning EFTS loss liability.¹³²

A purchase effected through a POS terminal is completed with the finality of a cash transaction. The price is instantaneously debited from the customer's account and credited to the merchant's account. Unlike a cash transaction, however, there is no physical exchange of money which enables the parties to verify the amount paid. Therefore, documentation of a POS transaction should be required to authorize and to record the amounts involved. Documentation is needed because the merchant's employee who operates the POS terminal and "keys in" the transac-

incorrect passwords, unauthorized access to files, and identification of all users of on-line terminals. Turn and Ware, *supra* note 124.

¹²⁸ Computer security is a field under constant change and as such, the level of security required of banks utilizing EFTS is best handled by regulation and not by statute. This would insure the flexibility necessary to keep pace with developments in computer technology.

¹²⁹ IOWA CODE § 524.803.14 (West 1974).

¹³⁰ Because the Florida statute defines "item" to include EFTS transactions, the provisions of U.C.C. sections 3-406 and 4-406 apply to any transaction. These provisions, however, rely upon establishing customer negligence before they are applicable. See notes 57, 93-99 and accompanying text *supra*.

¹³¹ *Id.*

¹³² See notes 47-52 and accompanying text *supra*. Provision should be explicitly made, however, to include any loss of interest in the consumer's recovery. See notes 63 and accompanying text *supra*.

tion may commit an error, either by debiting the wrong amount or debiting or crediting the wrong account. The customer should be required to validate the amount of the transaction in writing after the transaction is completed. This authorization would preclude the customer from challenging the amount charged at a later date. The signature would also be available for evidentiary purposes if the entry card is discovered to have been stolen.

Additionally, the document would serve as a useful record for consumers in maintaining account balances by providing a means of verifying debits to the account.¹³³ A check also serves as evidence for proof of payment in tax proceedings and merchant billing disputes. Thus, the document printed out at the terminal should be accepted by courts as the evidentiary equivalent of a check in order to protect consumers. Given the increasing use of POS terminals, failure to establish such documentation of POS transactions as proof of payment will deny consumers legal proof of many of their financial transactions.¹³⁴

Depriving consumers of their stop payment right is another EFTS problem.¹³⁵ For example, instantaneous debiting under POS eliminates the time gap between the customer's purchase by check or credit and the receipt of payment by the merchant. Furthermore, POS systems enable merchants to realize savings through a reduction in the number of NSF checks received.¹³⁶ Accordingly, given the benefits that merchants receive under POS systems, the interests of merchants and consumers would be equitably balanced by a ten day "cooling off period,"¹³⁷ after each transaction. During this period, the transaction would be reversible at the customer's request contingent upon a valid return of the goods purchased.¹³⁸

Consumers view the loss of "float" as another serious problem under EFTS.¹³⁹ "Float," the period of time between the writing of a check and its clearance through the bank during which the customer may cover for insufficient funds,¹⁴⁰ is lost as a result of instantaneous debiting and crediting in an EFTS. The integration of credit cards into EFTSs duplicates the result of float by allowing

¹³³ The Comptroller recommends that periodic statements mailed to the consumer should contain descriptive statements or facsimile receipts of the transactions to facilitate recordkeeping. Also, banks should provide a procedure for handling consumer protests concerning any transaction and provide a resolution within 30 days. *EFTS Guidelines, supra* note 28.

¹³⁴ See note 5 and accompanying text *supra*.

¹³⁵ The ability to stop payment on a check, U.C.C. § 4-403, is a frequently used consumer technique for settling disputes with merchants. See LITTLE, *supra* note 1, at 285.

¹³⁶ *Id.* at 97.

¹³⁷ U.C.C. § 2.502 requires a three day cooling off period on door-to-door sales.

¹³⁸ When purchase is of an "unreturnable" item such as services or perishables, the consumer's only protection is the validation of the amount at the time of sale.

¹³⁹ LITTLE, *supra* note 1, at 197.

¹⁴⁰ *Id.*

withdrawals against a credit account. Credit, however, is subject to interest, whereas float involves no direct charge to the customer. It has been argued that EFTS should program "float" into the system by allowing overdraft privileges to all users without charge or, alternatively, by providing the option of delayed debiting.¹⁴¹ EFTSs should not, however, be required to preserve consumer benefits which developed because of the inadequacies of the previous payment system.¹⁴² Charging consumers interest for a delayed payment is a recognized commercial practice which EFTSs should not modify.

V. CONCLUSION

EFTSs will revolutionize banking and commercial practices. Existing legal frameworks, however, are inadequate for the purpose of equitably defining the rights and liabilities of the parties to EFTS transactions. Rather than distort existing commercial law in order to accommodate EFTS transactions, the law must respond to the technological innovation of EFTS in a creative manner. Specifically, it is suggested that Article 4 of the U.C.C. be amended to encompass EFTS, taking into account the federal credit card legislation and the Iowa EFTS statute as it applies to lost or stolen cards. If the law does not adequately protect consumer interests in EFTS, then the consumer may emerge as a victim, not a beneficiary, of the EFTS revolution.

—Susan E. Jinnett

¹⁴¹ Testimony before the National Commission on Electronic Funds Transfers by Mark Budnitz, Executive Director, National Consumer Law Center (Oct. 27, 1976).

¹⁴² Reistand, *The Coming Cashless Society*, 10 BUS. HORIZONS 23, 29 (1967), foresaw this effect: "[R]ising financial sophistication, ongoing elaboration of financial relationships, ever increasing volume spreading computer technology—factors which when taken together will eventually eliminate the time-lag between purchase and payment or permit that interval to be explicitly structured and priced as a credit transaction."