

HOW BEST TO GUIDE THE EVOLUTION OF ELECTRONIC CURRENCY LAW

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INTRODUCTION

Money is the fundamental device by which modern industrial economies flourish. Practically speaking, without its existence, decentralized decision-making by autonomous individuals regarding their economic activities would not be possible. Functionally

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speaking, money is: (1) a medium of exchange; (2) a unit of measure of relative worth; and (3) a store of value of current earnings for spending in the future.¹ Throughout history,² money has taken many forms, evolving from shells, to precious metals, to stamped metals, to paper certificates redeemable for metals, to non-redeemable paper certificates or fiat money.³ To the extent that "electronic currency" may embody new forms of exchange, measurement, and storage, it is plausible to suggest that electronic currency could represent the next stage of monetary evolution.

At present, however, it is more accurate to describe the majority of the emerging technologies popularly labeled electronic currency as new configurations of the existing payment system. Payment systems are the means by which money is transferred between users and suppliers of funds.⁴ Currently, there are systems in which goods and services are exchanged for cash, paper checks, debit authorizations, credit authorizations, and wire transfers. In the banking and commercial communities, the term wire transfer applies primarily to large-dollar, commercial wire transfer systems that have been highly automated for several years.⁵ In contrast, our discussion of electronic currency focuses on the development of *retail* payment systems that involve electronic transactions initiated by consumers through the use of stored value products. Although stored value payment products have long existed as traveler's checks, gift certificates, and mass transit tokens, they now are being offered as magnetic-stripe cards,⁶ "smart" cards,⁷ and software-only digital

1. See THOMAS P. FITCH, *DICTIONARY OF BANKING TERMS* 391 (1990); EDUCATION POLICY & DEVELOPMENT, AMERICAN BANKERS ASSOCIATION, *BANKING TERMINOLOGY* 231 (3d ed. 1989); cf. U.C.C. § 1-201(24) (1990) (defining money more narrowly as "[a] medium of exchange authorized or adopted by a domestic or foreign government as part of its currency").

2. For a thoughtful discussion on the historical evolution of money, see E. VICTOR MORGAN, *A HISTORY OF MONEY* 9-79 (1965).

3. "Fiat money" is that which is backed only by the issuing government's decree that it is acceptable as legal tender for all debts. See FITCH, *supra* note 1, at 244.

4. See *id.* at 456.

5. See generally DONALD I. BAKER & ROLAND E. BRANDEL, *THE LAW OF ELECTRONIC FUND TRANSFER SYSTEMS* ¶ 1.03 (rev. ed. 1996). Commercial, or wholesale, wire transfer systems include Fedwire, Clearing House Interbank Payments Systems ("CHIPS"), Society for Worldwide Interbank Payments Systems ("SWIFT"), and Telex. See *id.* ¶ 1.032[9].

6. Magnetic stripe cards are traditional credit cards that provide limited read-only data in magnetic form.

7. The French banking industry first introduced smart cards, also known as chip cards, in the early 1980s as replacements for magnetic stripe cards. Armed with small microprocessors and memory, smart cards allow for exchange of data between the cards and electronic readers. Smart cards offer advantages such as ten times longer life than traditional magnetic stripe cards; they allow for greater security features, and they can be used more readily on the Internet because their memory can contain payment authorization as well as verification information. See generally Paul Taylor & Tom Forenski, *Smart Cards' Time Has Come*, THE FIN. POST, Oct. 26, 1996, at C20.

coins.⁸ Thus, for our purposes, electronic currency is any payment system in which exchanges for goods or services, or both, are initiated by consumers via electronic transmissions originating from a stored value product.⁹

It is apparent that existing banking, finance, and consumer protection laws may prove inadequate to regulate the many electorate currency systems currently under development. The Uniform Commercial Code (U.C.C.) provides for the rights and obligations of the participants in paper-based¹⁰ and wholesale wire transfer systems,¹¹ and for the issuers and holders of negotiable instruments,¹² letters of credit,¹³ securities,¹⁴ and warehouse receipts.¹⁵ The Electronic Funds Transfer Act of 1978 ("EFTA")¹⁶ and Regulation E¹⁷ represent the primary federal law governing consumer rights in electronic fund transfers ("EFT") transactions that involve a consumer asset account.¹⁸ Further, provisions of the Truth in Lending

8. Digital coins, also known as e-coins, constitute units of currency electronically downloaded to software on a computer hard drive. They provide security through password protection embodied in the software program, allow for anonymous purchases unlike traditional credit cards, and can be spent in small denominations, even fractions of a cent. Some see digital coins as a logical monetary unit for the Internet that will allow for anonymous purchasing as well as low-level access charges for web sites. See generally Gregg Keizer, *Digital Coins*, COMPUTER LIFE, Dec. 12, 1996, at 68.

9. This definition does not include PC home banking or electronic bill payment programs that simply involve the use of new devices to access traditional consumer deposit or credit accounts. Specific commercial payment systems that meet our definition of electronic currency include: Mondex, see *Mondex Int'l* (visited Feb. 11, 1996) <<http://www.mondex.com>> (on file with *The American University Law Review*); Visa Cash, see *Tomorrow* (visited Feb. 11, 1996) <<http://www.visa.com/cgi-bin/vee/sf/cashmain.html>> (on file with *The American University Law Review*); Digicash, see *Ecash Home Page* (visited Feb. 11, 1996) <<http://www.digicash.com/ecash/ecash-home.html>> (on file with *The American University Law Review*); Cybercash, see *Shoppers* (visited Feb. 11, 1996) <<http://www.cybercash.com/cybercash/shoppers/>> (on file with *The American University Law Review*); and Citicorp's Electronic Monetary System, see Jennifer Kingson Bloom, *Citicorp Sets Its Sights on a Virtual Greenback*, AM. BANKER, Mar. 18, 1996, at 10A, 12A.

10. Article 3 covers commercial paper and Article 4 covers bank deposits and collections. See generally BAKER & BRANDEL, *supra* note 5, ¶ 12.02[1].

11. See U.C.C. art. 4A (1990). Although the scope of Article 4A also extends to automated clearinghouse ("ACH") credit transfers, its primary purpose is to define the rights and obligations of parties to what the commercial community considers wholesale wire transfers. See BAKER & BRANDEL, *supra* note 5, ¶ 13.01.

12. See U.C.C. art. 3. This article expressly excludes from its coverage money, payment orders governed by Article 4A, and securities governed by Article 8. See *id.* § 3-102.

13. See *id.* art. 5.

14. See *id.* art. 7.

15. See *id.* §§ 7-501 to -509.

16. 15 U.S.C. § 1693 (1994). A number of states have enacted EFT laws that generally follow the federal act. See, e.g., IOWA CODE ch. 527 (1995); MICH. COMP. LAWS. § 23.1137 (1979); N.M. STAT. ANN. § 58-16 (Michie 1996).

17. 12 C.F.R. pt. 205 (1996).

18. An "account" for EFTA purposes is "a demand deposit (checking), savings, or other consumer asset account . . . held . . . by a financial institution and established primarily for personal, family, or household use." *Id.* § 205.2(b). See generally BAKER & BRANDEL, *supra* note 5, ¶ 12.04. For a detailed discussion of the EFTA and Regulation E, see *infra* notes 88-110 and

Act,¹⁹ the Equal Credit Opportunity Act,²⁰ the Fair Credit Reporting Act,²¹ the Privacy Act of 1974,²² the Right to Financial Privacy Act of 1978,²³ and the Electronic Communications Privacy Act,²⁴ govern certain aspects of retail EFT transactions. Nonetheless, this abundance of statutory and administrative law concerning retail banking and the electronic transfer of funds by or on behalf of consumers fails to provide answers to many pressing legal questions raised by the emergence of electronic currency.

Although the situation may appear problematic at first glance, powerful analytical models exist that can help both policy makers and electronic currency designers fill the gaps in the law revealed by this rapidly changing technological landscape, so as to permit electronic transactions to occur in a responsible, orderly, and reliable manner. When addressing electronic currency, policy makers must choose from two basic approaches: (1) attempt to superimpose a comprehensive legal scheme over electronic currency (either by creating a completely new system or by adapting an existing system); or (2) analogize to existing payment methods and commercial relationships and allow private parties to supplement as needed with contract terms specific to the situation. The former path is fraught with weaknesses—the most obvious difficulty being the inability of law makers and regulators to keep up with the current pace of technological innovation and commercial application. By the time laws or regulations can be written and implemented, they almost certainly will be behind the technological development curve. Regulatory micro-management simply presents too great a risk of either stifling development or unwittingly steering it in unwanted directions. By making analogies to existing payment methods, all interested parties—government, issuers, and users—will benefit from vast stores of knowledge and expectations gained from decades of experience. Further, private contract law is capable of supplementing existing analogues whenever electronic currency poses a unique problem.

Part I of this Article reviews several legal and regulatory issues for which contemporary legal policy makers appear poised to offer

accompanying text.

19. 15 U.S.C. §§ 1601-1667e.

20. *Id.* § 1691.

21. *Id.* §§ 1681-1681u.

22. 5 U.S.C. § 552a (1994).

23. 12 U.S.C. §§ 3401-3422 (1994).

24. Pub. L. No. 99-508, 100 Stat. 1848 (1986) (codified as amended in scattered sections of 18 U.S.C.).

industry-wide solutions. These are issues that traditionally have been addressed at an institutional, rather than a transactional, level. Concerns with the integrity of the payment system, the safety and soundness of financial services industry participants, and the common conduct and practices of these participants are most prominent in this category. In general, the policies adopted with regard to these issues will shape the regulatory and competitive environment of the electronic currency industry for the foreseeable future.

Part II of this Article examines several consumer-related issues that are driven by consumer protection concerns and that traditionally have been addressed with transactionally-focused solutions. When possible, Part II analyzes how the issues raised in this Article are being addressed or how it appears they will be addressed in the future. Where there is an absence of signals or guideposts, Part II offers insight into potential effects on industry participants.²⁵

Part III of this Article examines the origins of legal expectations for existing payment instruments, including cash, checks, automated teller machine ("ATM") cards, traveler's checks, and credit cards. Based on the insight gained from this analysis, this Article concludes by recommending a course of action consisting of: (1) a minimum amount of legal regulation, limited to protection of the existing payment system, the safety and soundness of issuers, and general consumer interests; and (2) a reliance on the strength of the common law and private contracts to supplement this basic legal superstructure when necessary.

I. INSTITUTION-RELATED ISSUES

A. *Authority to Issue Electronic Currency*

A threshold institution-related issue is whether the sale of electronic currency is paramount to a usurpation of the exclusive authority of the U.S. government to issue currency. For example, a literal reading of the Stamp Payments Act of 1862 ("SPA")²⁶ may lead some

25. Because this Article focuses on legal issues particular to electronic *currency*, it does not address issues that are applicable more generally to the entire field of electronic *commerce* (e.g., conflict of laws, statutes of frauds, digital signature legislation, encryption technology policy, sales and income taxation, intellectual property, and antitrust strategies for network industries).

26. 18 U.S.C. § 336. The Act provides:

Whoever makes, issues, circulates, or pays out any note, check, memorandum, token, or other obligation for a less sum than \$1, intended to circulate as money or to be received or used in lieu of lawful money of the United States, shall be fined under this title or imprisoned not more than six months, or both.

commentators to believe that the issuance of electronic currency potentially amounts to a federal crime punishable by fine or imprisonment, or both.²⁷ Outside the halls of academia, the proposition that electronic currency issuance comes dangerously close to violating this criminal prohibition is tenuous at best.

Single and limited-purpose electronic currencies are likely to be deemed beyond the scope of the SPA. There is no violation if a negotiable note, check, or draft is passed in payment of debt or in the purchase of goods in the course of a commercial transaction, unless it is intended for common circulation.²⁸ Electronic currency products that are redeemable for goods and services (but not for cash) are not intended for common circulation,²⁹ and therefore probably are not prohibited by the SPA.

The SPA may be inapplicable to all forms of electronic currency, because such currencies lack the physical characteristics of U.S. currency. Instruments that do not have the physical characteristics of U.S. coins or paper currency cannot be "intended to circulate as money."³⁰ No electronic currency products possess the physical properties of coins or paper currency. In fact, some forms of electronic currency, such as digital cash, have no tangible characteristics whatsoever. If faced with an ether-based payment system, however, a court may dismiss the relevance of distinctions based on physical attributes and instead may focus on similarities arising from non-physical properties, such as the rights and obligations of the holders.

27. By the start of the Civil War, the nation's banking and financial system was in disarray. There was a proliferation of private-issue currencies, much of which was propagated by entities subject to minimal government regulation and which tended to compete with government-issued currency. See Lewis D. Solomon, *Local Currency: A Legal and Policy Analysis*, 5 KAN. J.L. & PUB. POL'Y 59, 60-62 (1996). The Stamp Payment Act ("SPA") was one of the first attempts by Congress during this period to stabilize the national currency problem. Other measures soon followed, the most notable being the National Currency Act of 1863, also known as the National Bank Act of 1863, which created the Office of the Comptroller of the Currency and empowered the Comptroller to supervise the "issue and regulation of a national currency secured by United States bonds." 12 Stat. 665 (1863).

28. See *United States v. Van Auken*, 96 U.S. 366, 368 (1877); cf. *Stettinius v. United States*, 22 F. Cas. 1322, 1325 (C.C.D.C. 1839) (No. 13,387) (interpreting District of Columbia statute similar to SPA).

29. Cf. *Van Auken*, 96 U.S. at 368-69 (holding that notes payable in goods were intended to circulate only as goods and not as money); *United States v. Gellman*, 44 F. Supp. 360, 365 (D. Minn. 1942) (holding that statute was enacted more than 100 years ago and was "never framed to embrace the use of metal tokens [in vending machines] as a substitution for money"); *United States v. Monongahela Bridge Co.*, 26 F. Cas. 1292, 1293 (W.D. Pa. 1863) (No. 15,796) (holding that tickets issued by bridge company marked "good for one trip" were not violative of counterfeit laws, in part, because tickets contained no promise to pay money).

30. *United States v. Roussopulous*, 95 F. 977, 978 (D. Minn. 1899); accord *Monongahela Bridge Co.*, 26 F. Cas. at 1292.

In many cases, an analysis of non-physical attributes leads to the reasonable conclusion that even multi-purpose electronic currency, redeemable for goods, services, and cash, would not be prohibited by the SPA—as long as it was designed to resemble functionally an existing payment product. For example, paper-based, multi-purpose payment products have existed since 1891 in the form of traveler's checks.³¹ The century-long acquiescence of the federal government to the use of this device, and to similar payment instruments, strongly suggests that issuance of electronic variants of the same will not be thwarted via prosecution under this Civil War Era criminal prohibition. Indeed, a substantial body of common law has developed around instruments such as traveler's checks, as well as their contractual underpinnings, that can provide further models for differentiation from the proscriptions of the SPA. Thus, from a practical perspective, it is apparent that electronic currency developers should not be overly concerned with the threat of monetary fines or incarceration resulting from a charge of expropriating the federal government's exclusive power to issue currency.

Beyond questions arising from the federal government's exclusive right to issue currency is the related inquiry of whether electronic currency issuance amounts to the taking of deposits, which is within the exclusive province of fully-authorized financial institutions.³² The question of who will be permitted to issue electronic currency is important for policy makers, because restricting this authority represents an irresistibly simple solution to many difficult problems. For example, if issuance is limited to deposit-taking institutions: (1) there will be no question which government authority (i.e., financial or communications) possesses primary regulatory responsibility; (2) the existing regulatory agencies whose charge is to protect the safety and soundness of the payment system will have legitimate authority to monitor issuers; and (3) consumers and merchants will be able to rely on well-developed expectations regarding their relationships with financial institutions.

Despite the substantial administrative advantages to issuance restriction, U.S. policy makers have been, to this point, reluctant to

31. The American Express Company created the traveler's check in 1891 in response to the need for an instrument that provides the convenience and marketability of cash and the safety of a letter of credit. See William D. Hawkland, *American Traveler's Checks*, 15 BUFF. L. REV. 501, 501 (1966).

32. See Op. Tex. Att'y Gen. DM-329, 1995 WL 145055 at *2 (Mar. 9, 1995) (responding to questions of whether debit card programs are statutorily permissible, and whether entities such as state universities issuing debit cards to students and faculty act as banks, thus requiring such entities to obtain bank charter).

move in this direction for a fear of disrupting the nascent development of electronic currency. At the federal level, no legislative action has been proposed that would restrict electronic currency issuance,³³ and regulators have expressed little interest in imposing such restrictions.³⁴

Policy makers at the state level also have demonstrated reluctance to unduly restrict issuance rights of financial institutions. Florida, Texas, and Idaho have addressed whether university stored value card ("SVC") programs constitute unlawful engagement in the business of banking.³⁵ The Comptroller of Florida invalidated Florida State University's Seminole Access Program, concluding that the university paid checks by allowing cash withdrawals with the university-issued card at ATMs operated by a private bank.³⁶ The Texas Attorney General rejected such a conclusion primarily because: (1) although a cash withdrawal from an ATM may constitute payment of a check under the National Bank Act,³⁷ it does not necessarily constitute a check under the U.C.C.; and (2) the Texas university program did not permit cardholders to make cash withdrawals from their accounts, much less from ATMs operated by a private bank.³⁸ The Idaho legislature explicitly granted universities the authority to offer programs similar to those in Texas that permit payment cards to be used at campus locations to redeem goods or services but not for

33. Congress, however, currently is studying the issue of electronic money. See, e.g., *Hearings on the Future of Money Before the Subcomm. on Domestic and Int'l Monetary Pol'y of the Comm. on Banking and Fin. Servs.*, 104th Cong. (1996) [hereinafter *Future of Money Hearings*].

34. See, e.g., Alan Greenspan, Chairman, Board of Governors of the Federal Reserve System, Remarks at the United States Treasury Conference on Electronic Money & Banking: The Role of Government 5 (Sept. 19, 1996); Eugene A. Ludwig, Comptroller of the Currency, Remarks Before the Exchequer Club 4 (Jan. 24, 1996). But see Barbara A. Rehm, *Bank Rules Urged for Stored-Value Issuers*, AM. BANKER, July 30, 1996, at 2 (citing comments by R. Alton Gilbert, Vice President, Federal Reserve Bank of St. Louis, in which he advocated requiring all SVC issuers to obtain bank charters).

35. See Op. Tex. Att'y Gen., *supra* note 32, at *2; Op. Fla. Comptroller Gen. (Nov. 16, 1990) (on file with *The American University Law Review*); University Debit Card Act, IDAHO CODE ch. 30 (1996). Generally, a university adds a stored-value feature to student identification cards so that students can purchase items at campus cafeterias, bookstores, and vending machines. See Op. Tex. Att'y Gen., *supra* note 32, at *2.

36. Paying checks constitutes a banking activity because, by definition, a check must be drawn on a bank. See U.C.C. § 3-104(2)(b); Op. Tex. Att'y Gen., *supra* note 32, at *8.

37. 12 U.S.C. § 36(f) (1994).

38. See Op. Tex. Att'y Gen., *supra* note 32, at *8.

The Florida Comptroller relied, in part, on *Illinois ex rel. Lignoul v. Continental Illinois Nat'l Bank & Trust Co.*, 536 F.2d 176 (7th Cir. 1976), in which the court determined whether a cash withdrawal from an ATM constituted "branch banking" under the National Bank Act. The court held that off-premises electronic bank facilities were branch banks, and that functions carried on through such facilities including withdrawing cash and paying installment loans constituted branch banking. See *id.* at 176. *Lignoul* does not apply to the Texas opinion because the latter requires an interpretation of U.C.C. § 3-104(3) rather than of the National Bank Act.

cash.³⁹ At least for now, federal and state officials seem to be willing to allow nonbanks to issue single and limited-purpose products, but it remains unclear what legal or regulatory barriers lie ahead for nonbank issuers of multi-purpose electronic currency.

It appears that the European Commission, in contrast, is close to placing a limit on the issuance of electronic currency.⁴⁰ This decision—if made—will be due in large part to the general agreement among European policy analysts that issuing electronic currency is equivalent to taking bank deposits.⁴¹ It still is unclear, however, whether European authorities will: (1) restrict all electronic currency issuance to deposit-taking institutions; or (2) allow non-deposit-taking entities to issue single- and limited-purpose payment cards, but not multi-purpose payment cards.⁴² Regardless of its ultimate policy decision, the Commission's dialogue could lead decision makers in the United States to impose issuance restrictions in the future.⁴³

B. Prudential Supervision of Nonbank Issuers

For those who perceive a need to regulate the development and deployment of electronic currency, allowing nonbanks to issue electronic currency is like opening Pandora's Box. In a system devoid of legal barriers to entry, many issuers may lie beyond the ready grasp of banking regulators. Under current law, neither the Comptroller

39. See University Debit Card Act, IDAHO CODE §§ 26-3001 to -3004.

40. European policy initiatives are worthy of note because European firms' technological innovations and practical applications (of smart card technology in particular) have tended to out-pace those of U.S. firms. In general, European innovation was a necessity created by relatively high telecommunications costs and poor infrastructure for on-line authorization of card transactions. See BAKER & BRANDEL, *supra* note 5, ¶ 31.07[1].

41. See WORKING GROUP ON EU PAYMENT SYS., REPORT TO THE COUNCIL OF THE EUROPEAN MONETARY INST. ON PREPAID CARDS ¶ 31 (1994) [hereinafter PREPAID CARDS] (basing conclusion that issuing electronic currency is like taking deposits on an economic analysis of the underlying transaction); European Commission Directorate General XV, Commission Policy Concerning New Means of Payment 3 (June 21, 1996) (draft) [hereinafter Commission Policy] (basing conclusion that issuing electronic currency is like taking deposits on an analysis of the banking laws of European Union Member States). This policy decision also is driven, of course, by legitimate concerns about: (1) the integrity of the retail payments system; (2) consumer protection against the failure of issuers; (3) monetary policy; and (4) fair competition between issuing institutions. See PREPAID CARDS, *supra*, ¶ 9.

42. Compare Commission Policy, *supra* note 41, at 3 (leaving open question of whether all issuance should be restricted to fully authorized depository institutions), with PREPAID CARDS, *supra* note 41, ¶ 14 (explicitly excluding single- and limited-purpose payment cards from analysis).

43. The principal banking association in the United States also is urging restrictions on issuance of stored-value instruments to regulated depository institutions. See Payments System Task Force, American Bankers Association, *ABA Payments System Task Force Executive Summary* (visited Nov. 10, 1996) <<http://www.aba.com/payment.htm>> (on file with *The American University Law Review*).

of the Currency ("Comptroller"),⁴⁴ the Board of Governors of the Federal Reserve System ("FRB"),⁴⁵ nor the Federal Deposit Insurance Corporation ("FDIC"),⁴⁶ has authority over nonbanking corporations. Thus, the questions become: (1) Will nonbank issuers of electronic currency be supervised in order to ensure financial stability and adequate consumer protection?⁴⁷ and (2) Would it be appropriate to subject a nonbank to the same substantive or procedural rules that were created for depository institutions? A proposition that can be stated with relative certainty is that if nonbanks are permitted to issue electronic currency, they cannot be subject to all banking regulations.⁴⁸ This, in essence, would be paramount to restricting issuance to deposit-taking institutions.

Even if nonbank issuers of multi-purpose electronic currency lie beyond the grasp of financial institution regulatory authorities, they may be subject to heightened prudential supervision under state licensing laws. Several states have money transmitter licensing laws,⁴⁹ many of which might encompass entities that issue electronic currency products for use in obtaining goods, services, or cash.⁵⁰ Licensees

44. The Comptroller of the Currency is charged by the national banking laws with the execution of all laws of the United States relating to the organization, operation, regulation, and supervision of national banks and, in particular, with the execution of 12 U.S.C. § 24, which sets forth the corporate powers of national banks. See 12 C.F.R. § 1.1 (1996); see also 12 U.S.C. § 1 (1994) (establishing Office of Comptroller of the Currency); *id.* § 24 (promulgating duties and responsibilities of Office of Comptroller of the Currency and enumerating corporate powers of national banking associations).

45. The FRB's supervisory powers and duties include, *inter alia*, supervising and regulating the Federal Reserve Banks, bank holding companies, and state member banks of the Federal Reserve System. See FREDERIC SOLOMON ET AL., BANKING LAW § 77.03[2] (1996).

46. The FDIC has authority to: (1) examine state-chartered, nonmember, depository institutions; and (2) conduct special examinations of any depository institution for insurance purposes. See 12 U.S.C. § 1820(a)-(b). For a thorough discussion of the FDIC's principal supervisory powers, see SOLOMON, *supra* note 45, § 41.03.

47. Although the Federal Trade Commission has broad jurisdiction over many consumer protection matters, see 15 U.S.C. §§ 12-27 (1994) (monopolies and combinations); *id.* § 45 (unfair methods of competition); *id.* § 52 (dissemination of false advertising), it does not have the express authority, expertise, or enforcement instruments to protect the integrity of the payment system.

48. For example, national banks must comply with the following regulations: Investment Securities Regulation, 12 C.F.R. pt. 1 (1996); Minimum Capital Ratios, *id.* pt. 3; Minimum Security Devices and Procedures, Reports of Crimes and Suspected Crimes and Bank Secrecy Compliance, *id.* pt. 21; Community Reinvestment Act Regulations, *id.* pt. 25; and Safety and Soundness Standards, *id.* pt. 30.

49. See, e.g., ARIZ. REV. STAT. §§ 6-1201 to -1219 (Supp. 1996); CONN. GEN. STAT. §§ 36a-595 to -610 (1995); FLA. STAT. ch. 560 (1995); IDAHO CODE §§ 26-2901 to -2928 (Supp. 1996); 205 ILL. COMP. STAT. 657 (West Supp. 1996).

50. "Money transmitter" often is defined broadly to include, *inter alia*, an entity that: (1) "sells or issues payment instruments"; or (2) "engages in the business of receiving money for transmission or transmitting money." 205 ILL. COMP. STAT. 657/5; see also ARIZ. REV. STAT. § 6-1201.10. "Payment instrument" also is defined broadly enough to include many electronic currency products. See, e.g., 205 ILL. COMP. STAT. ANN. 657/5 ("Payment instrument" means a check, draft, money order, traveler's check, or other instrument or memorandum, written order

generally are subject to investment restrictions,⁵¹ bonding requirements,⁵² and other similar rules. Thus, applying state money transmitter laws to electronic currency would provide a policy option that addresses many institution-related concerns, without barring market entry by non-depository institutions.

C. Monetary Policy

The emergence of new forms of electronic currency will force the FRB to evaluate the technology's potential impact on monetary policy. The FRB implements monetary policy through: (1) open market operations, such as the buying and selling of U.S. securities;⁵³ (2) adjustments in the discount rate charged depository institutions when borrowing from the Federal Reserve System; and (3) the reserve requirement.⁵⁴ The proliferation of electronic currency could frustrate the implementation of monetary policy by complicating the calculation of the standard monetary aggregates.⁵⁵

Regardless of what future impact electronic currency has on monetary policy, it raises reserve-related questions for industry participants today. Under current law, depository institutions are required to maintain reserves against their "transaction accounts."⁵⁶

or written receipt for the transmission or payment of money sold or issued to one or more persons whether or not that instrument or order is negotiable."); ARIZ. REV. STAT. § 6-1201.12 ("Payment instrument" means a check, draft, money order, traveler's check or other instrument or order for the transmission or payment of money sold to one or more persons whether or not that instrument or order is negotiable.").

51. See, e.g., ARIZ. REV. STAT. § 6-1212 (imposing market value and net carrying value restrictions on licensees); 205 ILL. COMP. STAT. 657/50 (imposing aggregate market value restriction on licensees and listing "permissible investments").

52. See, e.g., ARIZ. REV. STAT. § 6-1205 (requiring applicants to post and licensees to maintain bond, the value of which varies according to number of authorized delegates and locations); 205 ILL. COMP. STAT. 657/30 (requiring applicants to post and licensees to maintain bond, ranging in value from \$100,000 to \$2,000,000).

53. The Federal Open Market Committee, of which the FRB comprises a majority, has the statutory authority to conduct open market operations. See SOLOMON, *supra* note 45, § 1.06[2][a].

54. See *id.*

55. Note, however, that the current FRB does not see significant issues arising in this area in the near future. See, e.g., *Greenspan Is Low-Key About E-Cash Impact on Payment System*, 15 BANKING POL'Y REP., Mar. 4-18, 1996, at 26, 27 ("In my judgment, some of the recent speculation about risks to monetary policy . . . has been a bit alarmist." (quoting FRB Chairman Alan Greenspan)); Edward W. Kelley, Jr., Member, Board of Governors of the Federal Reserve System, Remarks at the Digital Commerce Conference 4 (May 6, 1996). Mr. Kelley points out that, even if every person in the United States held \$150 in electronic currency, the total value would amount to less than \$50 billion, which is insignificant relative to the current M1 monetary aggregate of \$1 trillion. See *id.*

56. See 12 U.S.C. § 461(b)(2)(A) (1994); Regulation D, 12 C.F.R. § 204.1(b) (1996). A "transaction account" is a "deposit or account on which the depositor or account holder is permitted to make withdrawals by negotiable or transferable instrument, payment orders of withdrawal, telephone transfers, or other similar items, for the purpose of making payments or transfers to third persons or others." 12 U.S.C. § 461(b)(1)(C).

The FRB does not have authority to require *non*-depository institutions to maintain reserves for funds underlying electronic currency accounts.⁵⁷ This lack of authority creates a situation in which non-depository institutions could have an artificially-created competitive advantage over regulated financial institutions. Thus, issuers may have incentives to conduct their activities in non-depository institutions so they can maintain complete discretionary control over electronic currency funds.⁵⁸ This conclusion, however, assumes that regulated financial institutions and their customers will not be permitted to define their contractual relationships as anything other than a "transaction account." At this time, our conclusions necessarily are limited. If electronic currency funds are deemed to be held in transaction accounts, financial institutions may be significantly disadvantaged relative to non-depository institutions.⁵⁹

D. *Deposit Insurance*

A major concern of the electronic currency pioneers has been whether and to what extent the funds underlying SVCs constitute "deposits" within the meaning of the Federal Deposit Insurance Act, ("FDIA")⁶⁰ and thereby qualify for deposit insurance. In a recent legal opinion, the FDIC addressed this question with regard to funds held by insured depository institutions.⁶¹ The opinion states that the funds underlying SVCs: (1) *are* federally insured deposits if funds remain in the consumer's account until a vendor demands payment;⁶² (2) *are not* insured deposits if they are transferred to a general liability account;⁶³ (3) *are not* insured deposits of customers

57. See SOLOMON, *supra* note 45, § 77.03[2].

58. This Article recognizes that regulatory-created competitive imbalances between banks and non-banking corporations are likely to persist until the banking industry is significantly deregulated. Nonetheless, the potential results of specific regulatory policies are emphasized here because it is crucial that policy makers minimize market distortions in order to maximize the likelihood that individual electronic currency products succeed or fail primarily based on merit.

59. Including electronic currency in transaction accounts will not affect smaller depository institutions with transaction account balances below the minimum threshold for reserve requirements, but larger institutions will have to maintain 10% of these funds in reserve. See 12 C.F.R. § 204.9.

60. 12 U.S.C. §§ 1811-1835a. For the provision of the FDIA defining "deposit," see 12 U.S.C. § 1813(1).

61. See FDIC General Counsel's Opinion No. 8; Stored Value Cards, 61 Fed. Reg. 40,490 (1996).

62. See *id.* at 40,492.

63. See *id.*

if the bank is holding the funds for a third party temporarily;⁶⁴ and (4) are *not* insured deposits if the funds are received or held by a third party.⁶⁵ Given that the FDIC's analytical reasoning focuses on the location of the underlying funds, and that no distinctions are made based on technological factors,⁶⁶ it appears that this opinion also could apply to other forms of electronic currency.

A related issue is whether insurance qualification will be affected if the funds that support the value are held by a third party, such as a nonbank smart card issuer or an electronic currency network operator. The FDIC has concluded that deposit insurance would pass through to customers who have transferred funds to a facilitator of Internet payments, who in turn would deposit the funds in an "agency account" at an insured depository institution.⁶⁷ The FDIC further has concluded that a facilitator of Internet payments would not be a "deposit broker" under the FDIA⁶⁸ if the agency deposit account is established for the primary purpose of enabling customers to buy and sell goods and services over the Internet, rather than to obtain increased insurance coverage.⁶⁹ Thus, based on FDIC interpretive letters, it is possible for electronic currency issuers to obtain federal deposit insurance even if the funds are held in an agency account under the nonbank issuer's name.

Despite the important rulings already handed down by the FDIC, significant questions remain. First, if the value underlying electronic currency is not insured by the federal government, what disclosure requirements will be placed on issuers? Bank issuers may be required to make disclosures that parallel those required for the retail sale of

64. This transaction is analogous to a traditional traveler's check transaction, and thus, the funds may represent insured deposits of the *third party*. See *id.* at 40,491 (citing FDIC Staff Advisory Op. 93-55 (Aug. 6, 1993), which found that funds held for one business day by agent bank selling traveler's checks on behalf of company issuing traveler's checks are insured deposits until funds are forwarded to issuing company).

65. See *id.* at 40,494.

66. Compare the FDIC's approach with the FRB's proposed amendments to Regulation E, discussed *infra* notes 88-108 and accompanying text, which make coverage determinations for stored value systems based on technological factors, such as whether the system operates on- or off-line and whether the system results in extensive data capture and retention. For a discussion of the FRB's proposed categorization of SVCs, see Mark E. Budnitz, 46 AM. U. L. REV. 1027, 1040-45 (1997).

67. See Letter from Jeffrey M. Kopchik, Counsel, FDIC 4 (Oct. 20, 1995) (on file with *The American University Law Review*) (relying, in part, on 12 C.F.R. § 330.6(a), which states that funds owned by a principal and deposited in an insured institution in the name of an agent will be insured to the same extent as if they were deposited in the name of the principal).

68. 12 U.S.C. § 1831f(a) (1994) (prohibiting FDIC-insured depository institutions with insufficient capital from accepting funds obtained by or through "deposit broker").

69. See Letter from Joseph A. DiNuzzo, Acting Senior Counsel, FDIC 4 (Oct. 20, 1995) (on file with *The American University Law Review*).

other nondeposit investment products.⁷⁰ Second, will regulators implement a federal deposit-guarantee scheme that applies to nonbank issuers?⁷¹ At this time, this seems unlikely given: (1) the FDIC's position that it is possible and permissible to construct a product that is not tied to insurance;⁷² and (2) the existence of private insurance funds in the past⁷³ and present.⁷⁴ The resolution of these issues will have a significant impact on the electronic currency industry.

E. Escheatment

Every state has escheat laws that govern abandoned property,⁷⁵ but it is unclear whether these laws apply to the funds underlying electronic currency. The Uniform Unclaimed Property Act of 1981 ("1981 Act")⁷⁶ generally provides that "all intangible property . . . that is held, issued, or owing in the ordinary course of a holder's business and has remained unclaimed by the owner for more than five years . . . is presumed abandoned."⁷⁷ Property deemed abandoned then is subject to the custody of the state.⁷⁸ Thus, it appears initially that the general provision encompasses the funds underlying electronic currency, but the analysis is considerably more complex.

70. The four federal banking agencies—the FRB, the FDIC, the Comptroller, and the Office of Thrift Supervision ("OTS")—issued a statement in order to provide uniform guidance to depository institutions engaging in the retail sale of nondeposit investment products. See Interagency Statement on Retail Sales of Nondeposit Investment Products (Feb. 15, 1994).

71. The European Commission has raised the possibility that sufficient protection of deposits held by nonbank issuers could be assured by enlistment into a deposit-guarantee scheme, "without all of the additional regulatory requirements of credit institutions." Commission Policy, *supra* note 41, at 3.

72. See *supra* text accompanying notes 60-65 (discussing stored value cards).

73. Private deposit insurance, although never widespread, historically was utilized by many industrial banks. See Randy Welch, *Insurance Fund Woes Spur Run in Colorado; Crisis Seen Worsening at Tiny Industrial Banks*, AM. BANKER, Nov. 16, 1987, at 9. Industrial banks were designed to serve the needs of blue-collar workers and were authorized to offer savings but not checking accounts. See *id.* As part of its solution for the savings and loan crisis, Congress sought to discourage the use of such insurance with the passage of the Federal Deposit Insurance Corporation Improvement Act of 1991, Pub. L. No. 102-242, 105 Stat. 2236 (codified as amended in scattered sections of 12 U.S.C. and 15 U.S.C.).

74. In the brokerage industry, basic account insurance coverage is \$500,000. See Paul R. La Monica, *Fidelity Doubles Account Protection to \$100M*, AM. BANKER, Sept. 16, 1996, at 12. Recently, however, Fidelity Investments, the nation's largest mutual fund company, raised the protection of its brokerage account assets to \$100 million. See *id.*

75. See, e.g., ALASKA STAT. § 34.45.120 (Michie 1996); CAL. CIV. PROC. CODE § 1300 (West 1987 & Supp. 1997); CONN. GEN. STAT. § 3-61a (1996).

76. 8B U.L.A. 567 (1993). The 1981 Act has been adopted, in whole or in significant part, by 34 states. See UNIF. UNCLAIMED PROPERTY ACT OF 1981, 8B U.L.A. table of jurisdictions, at 92 (Supp. 1996). Its predecessors, the Uniform Disposition of Unclaimed Property Acts of 1954 and 1966, generally represent the law in eight states. See 8A U.L.A. table of jurisdictions, at 267 (1993 & Supp. 1996).

77. See *id.* § 2(a), 8B U.L.A. at 595.

78. See *id.* § 3, 8B U.L.A. at 598.

The application of escheat rules to electronic currency is frustrated by the existence of a number of rules devoted to specific types of intangible property. For example, the 1981 Act enumerates distinct rules for: (1) traveler's checks, money orders, or similar written instruments;⁷⁹ (2) checks or drafts issued or certified by banks;⁸⁰ (3) bank deposits;⁸¹ and (4) gift certificates and credit memos.⁸² If an electronic currency product fails to meet any of these definitions, it may fall within the catch-all provision enacted by several states.⁸³ On the other hand, some courts have found the funds underlying certain contractual relationships to be beyond the grasp of the state's custody powers.⁸⁴ Until an electronic currency provision is written, it will remain the issuer's task to attempt to structure the terms of the contract to select a specific rule effectively, or perhaps to avoid escheat altogether.

Furthermore, it is unclear what rule will control competing state claims to abandoned electronic currency funds. Congress has codified rules applicable only to money orders and traveler's checks.⁸⁵ For purposes of resolving competing state claims, sales of money orders and traveler's checks are similar to sales of electronic currency, given that the buyer's identity generally is unknown to the

79. *See id.* § 4, 8B U.L.A. at 602.

80. *See id.* § 5, 8B U.L.A. at 605.

81. *See id.* § 6, 8B U.L.A. at 606.

82. *See id.* § 14, 8B U.L.A. at 625.

83. *See, e.g.*, OR. REV. STAT. § 98.342 (1995) (using phrase "[a]ll other intangible personal property, not otherwise covered" to create catch-all provision); TENN. CODE ANN. § 66-29-111 (1993) (creating general provision for "all property . . . held by federal government"). Catch-all provisions have been interpreted to include such articles as pari-mutuel ticket winnings, *see Oregon Racing Comm'n v. Multnomah Kennel Club*, 411 P.2d 63, 67 (Or. 1963), and concert ticket refunds, *see Presley v. City of Memphis*, 769 S.W.2d 221, 224 (Tenn. Ct. App. 1988). *But see North Carolina State Treasurer v. City of Asheville*, 300 S.E.2d 283, 284 (N.C. Ct. App. 1983) (holding that unclaimed concert ticket refunds were not "abandoned" by holders, and therefore, not subject to possession by state).

84. *See, e.g.*, *New Jersey v. Western Union Tel. Co.*, 110 A.2d 115, 188 (N.J. 1954) (holding that unclaimed refunds of money orders belong to Western Union and not state, given that relationship between Western Union and its money order purchasers was that of debtor and creditor); *New Jersey v. Sperry & Hutchinson Co.*, 153 A.2d 691, 700 (N.J. Super. Ct. App. Div. 1959) (holding that proceeds from unredeemed trading stamps belong to company and not to state, given that stamp holders did not enforce their contractual rights within period of statute of limitations); *City of Asheville*, 300 S.E.2d at 285 (reflecting on nature of contract among ticket holder, auditorium, and performer). The court in *City of Asheville* stated:

If the contract is not performed, [the ticket holder] may rescind the agreement and demand a refund, but is not compelled to do so. Nor must the auditorium operator or performer refund the purchase price absent a demand . . . The auditorium is not a trustee of the unrefunded proceeds of the ticket sale; the auditorium is simply a party to an unperformed contract.

Id.

85. *See Disposition of Abandoned Money Orders and Traveler's Checks Act*, 12 U.S.C. §§ 2501-2503 (1994).

seller. On the other hand, for those electronic currency products that can be purchased "on-line" via the Internet, it probably would be incorrect to conclude that "a substantial majority" of the purchasers reside in the same states as the sellers.⁸⁶ Thus, the predictive value of existing federal legislation for the future resolution of interstate controversies concerning electronic currency funds is unclear.

II. CONSUMER PROTECTION-RELATED ISSUES

Despite the existence of broad-sweeping consumer protection statutes at the federal and state levels,⁸⁷ it is clear that together these statutes do not cover all of the unique issues raised by electronic currency. The EFTA⁸⁸ and Regulation E⁸⁹ represent the primary federal law in the area of retail EFT transactions. These rules clearly apply to any transaction in which the consumer's account is accessed, for example, by transferring funds from a deposit account to an SVC at an ATM.⁹⁰ The question of whether the rules apply to other transactions involving electronic currency, such as payments to merchants, however, is controversial and undecided.⁹¹ In a recent Proposed Rule and Solicitation of Comments, the FRB discussed the issue of Regulation E coverage of stored value systems.⁹² Its analysis was framed around the delineation of four categories of such systems: (1) off-line accountable,⁹³ (2) off-line unaccountable,⁹⁴ (3) on-

86. When enacting the Disposition of Abandoned Money Orders and Traveler's Checks Act, Congress concluded that "a substantial majority" of purchasers of such instruments reside in the states where the purchase is made, that is, the seller's state of residency. See S. 2705, 93d Cong. § 1(2) (1974).

87. See, e.g., 5 U.S.C. § 552a (1994); 12 U.S.C. §§ 3401-3422; 15 U.S.C. §§ 1601-1666j (1994); 15 U.S.C. §§ 1681-1681u; 15 U.S.C. §§ 1691-1691f; 15 U.S.C. §§ 1693-1693r; Pub. L. No. 99-508 (codified at various sections of 18 U.S.C., primarily at 18 U.S.C. §§ 2510-2518 (1994)); IOWA CODE §§ 527.1-.12 (1995); MICH. STAT. ANN. §§ 23.1137(1)-(31) (Law. Co-op. 1996); N.M. STAT. ANN. §§ 58-16-1 to -18 (Michie 1996).

88. Electronic Fund Transfers Act, 15 U.S.C. §§ 1693-1693r.

89. Electronic Fund Transfers (Regulation E), 12 C.F.R. pt. 205 (1996).

90. See Amendments to Regulation E, 61 Fed. Reg. 19,662, 19,669-70 (1996) (to be codified at 12 C.F.R. pt. 205) (explaining that rules apply to electronic fund transfers by financial institutions but do not include transactions by check, wire transfer, or securities and commodities); see also BAKER & BRANDEL, *supra* note 5, ¶ 12.04[4] (discussing application of EFTA and Regulation E to debit card transactions).

91. See Proposed Amendments to Regulation E, 61 Fed. Reg. 19,696, 19,696 (to be codified at 12 C.F.R. pt. 205) (proposed May 2, 1996).

92. See *id.* at 19,703 (opining that stored value products, such as prepaid debit cards, should be regulated by Regulation E in some circumstances, but should be exempt from "certain provisions" of the regulation).

93. The FRB believes that these systems involve an account for EFTA purposes, given that: (1) the balance of funds is recorded on the card and at a central data facility; (2) there is no authorization of transactions by communication with a database; and (3) transaction data are periodically transmitted to and maintained by a data facility. See *id.* at 19,699.

94. Under these circumstances, it is more difficult to conclude that an account exists for EFTA purposes, given that: (1) the balance of funds is maintained only on the card; (2)

line,⁹⁵ and (4) cards with a maximum value of \$100.⁹⁶ Although the suitability of making analytical distinctions based on technological or functional factors rather than on the underlying contractual relationships between issuers and users is questionable, this Article agrees with the logic of many of the FRB's conclusions originating from its chosen analytical framework.

Parts A and B below provide a brief outline of the FRB's attempts to apply Regulation E's provisions to certain electronic currency systems. Parts C and D discuss the impact of rules that govern the availability of customer funds and the duty of financial institutions to "know your customer." Finally, Part E examines consumer privacy protection laws that may tend to make distinctions between multi-unit organizations that include a depository institution and those that do not.

A. *Disclosure and Documentation Requirements*

The FRB's present position is that Regulation E's disclosure and documentation requirements apply (at least in modified forms) to off-line accountable and on-line stored value systems.⁹⁷ First, due to the relatively insignificant compliance costs that will result, institutions that provide either off-line accountable or on-line systems will be required to make certain relevant initial disclosures concerning transaction charges, such as risk of loss for lost or stolen cards.⁹⁸ Second, only providers of on-line systems will be required to provide consumers with change-in-terms notices⁹⁹ and transaction receipts.¹⁰⁰ Third, regardless of the type of system, issuers will not

transaction data are recorded on the card and captured and maintained at merchant terminals for a short period of time; and (3) only the aggregate amount of transactions for a given period is transmitted by the merchant to a data facility. *See id.* Consequently, the Board proposes to completely exempt such systems from Regulation E. *See id.* at 19,702.

95. The Board believes these systems meet the EFTA definition of an account, given that: (1) the balance of funds is maintained only at a central data facility; and (2) transactions are authorized and recorded via communication with the data facility. *See id.*

96. Due to the absence of risk of large losses by users of such cards, the Board proposes to create a de minimis exclusion for all such cards regardless of whether they operate on- or off-line or are accountable or not. *See id.* at 19,703.

97. *See id.* at 19,700 (discussing benefits of compelling compliance with Regulation E's disclosure and documentation requirements).

98. *See id.* (explaining that, without initial disclosure, consumers might confuse off-line accountable stored-value products and debit or credit cards).

99. Because many off-line accountable systems do not contemplate the creation of an ongoing relation between the issuer and the original purchaser, and because the value stored on the card is likely to be used within a short period, the FRB believes that the costs of compliance would outweigh consumer benefits. *See id.*

100. Off-line accountable systems will not be subject to transaction receipt requirements, because: (1) many consumers may not want or need a receipt for small transactions; and (2) many locations (e.g., vending machines) would have to be retrofitted with printers in order to

have to provide traditional periodic statements to consumers.¹⁰¹ If providers of on-line systems do not supply periodic statements, however, they will be required to supply the account balance and transaction history upon request.¹⁰²

B. *Error Resolution and Consumer Liability for Unauthorized Transfers*

The FRB's position with regard to error resolution and consumer liability limitations is similar to its position on disclosures. First, Regulation E requires financial institutions to investigate and resolve claims of error within certain time frames,¹⁰³ but the FRB is proposing to generally exempt off-line accountable systems from these requirements.¹⁰⁴ The only errors that issuers may be required to resolve are those that are completely within their control, such as malfunctioning SVCs or computer software.¹⁰⁵ Second, Regulation E generally limits to \$50 a consumer's losses for unauthorized EFT debits,¹⁰⁶ but the FRB is planning to exempt off-line accountable systems from this requirement as well.¹⁰⁷ In contrast, on-line systems would be subject to both error resolution requirements and consumer loss limitations.¹⁰⁸

C. *Availability of Funds*

It is unclear whether funds held by financial institutions in electronic currency accounts will be subject to rules governing availability. Regulation CC sets forth rules for financial institutions concerning the availability of consumer funds,¹⁰⁹ disclosure of funds

comply. *See id.*

101. Off-line accountable systems will be exempt because, in some of these systems, transaction data are collected in centralized data facilities, not by the card-issuing institution. Moreover, consumers may not need or want periodic documentation of small, commonly-made transactions. *See id.*

102. *See id.* at 19,702 (noting that alternative of sending annual reminder of error resolution procedures is not required for on-line stored-value systems).

103. *See* 12 C.F.R. § 205.11(c) (1996) (giving general guideline of no more than ten business days for claim resolution). Typical errors include unauthorized debits, debits in an incorrect amount, and failure to provide required identification of transactions. *See id.* § 205.11(a).

104. *See* 61 Fed. Reg. at 19,701 (commenting that compliance of off-line accountable stored-value systems would be difficult due to time and other procedural constraints).

105. *See id.* (noting that such errors are not unduly difficult to correct).

106. *See* 12 C.F.R. § 205.6(b).

107. The FRB's decision results from the following factors: (1) such systems generally will not require personal identification number ("PIN") protection; (2) the costs of transmitting and storing negative files at merchant locations would be prohibitive; and (3) the amount stored on SVCs may be substantially less than typically would be accessible through a traditional debit card. *See* 61 Fed. Reg. at 19,701.

108. On-line systems, however, would be exempt from the annual error resolution notice requirement. *See id.* at 19,702.

109. *See* 12 C.F.R. §§ 229.10-14.

available policies,¹¹⁰ and the expeditious collection and return of checks.¹¹¹ Just as they were with regard to reserve requirements,¹¹² non-depository institutions are beyond the reach of Regulation CC.¹¹³ Thus, if this regulation is applied to bank-issued electronic currency, it seems that the competitive structure of this nascent industry will be unbalanced further. Additionally, the decision's negative impact would be exacerbated by the regulation's failure to provide all purchasers of electronic currency with funds availability protection.

D. "Know Your Customer" Rules

"Know your customer" rules, as set forth under the Currency and Foreign Transactions Report Act,¹¹⁴ represent potential impediments to the use of electronic currency in large value transactions.¹¹⁵ Financial institutions generally are required to file a report of each transaction of more than \$10,000 that they process.¹¹⁶ Additionally, verification of the identity of the individual initiating the transaction must be made by "examination of a document, other than a bank signature card, that normally is acceptable within the banking community as a means of identification when cashing checks for nondepositors (e.g., a driver's license or credit card)."¹¹⁷ Banks, issuers, redeemers of traveler's checks or money orders, and persons engaged in the business of transmitting funds are subject to these reporting requirements.¹¹⁸ Thus, it appears that all issuers of electronic currency would be subject to these rules. It is further evident, however, that large value transactions via remote or on-line transactions would be impossible because the rules do not provide for an acceptable identity verification method under those circumstances.

110. *See id.* §§ 229.15-.18.

111. *See id.* §§ 229.30-42.

112. For a discussion of the application of reserve requirements to electronic currency issuers, see *supra* notes 56-59 and accompanying text.

113. Regulations CC's definition of "account" is based on Regulation D. *See* 12 C.F.R. § 229.2(a) (defining "account" as "transaction account"). Transaction account is defined in 12 C.F.R. 204.2(8).

114. 31 U.S.C. §§ 5311-5329 (1994); *see also* 31 C.F.R. pt. 103 (1996).

115. One could argue that because electronic currency products generally are intended to replace micropayments, "know your customer" rules will have no impact on their development. This Article proposes, however, that if neglected in today's discussions, these regulations may unnecessarily divert electronic currency development away from use in large value transactions.

116. *See* Financial Recordkeeping and Reporting of Currency and Foreign Transactions, 31 C.F.R. § 103.22(a)(1).

117. *Id.* § 103.28.

118. *See id.* § 103.11(n).

E. Consumer Privacy

Although the emergence of electronic currency may not be revolutionary, would-be issuers perceive an unprecedented opportunity to develop comprehensive financial services relationships with consumers. Within some electronic currency systems, it soon may be technologically and fiscally feasible to create consumer "profiles" that consolidate previously dispersed information, for example, banking, credit, medical, academic, employment, and purchasing habits.¹¹⁹ Such a possibility is, of course, alarming to consumer privacy advocates and civil libertarians and, as a result, privacy protection has become a major issue for policy makers.¹²⁰ Consumers want to know whether the law can assure the control of third party access to the information contained in their personal information "profile." Existing constitutional and statutory provisions place many restrictions on government access to confidential information,¹²¹ and a body of statutory and common law restricts private third party access to such information.¹²² However, current legislation that caters to the needs

119. The potential for privacy invasion is most prominent when this comprehensive customer "profile" is stored on a smart card, because: (1) a large quantity of sensitive data is maintained with the customer outside highly sophisticated, centralized databases and thus left unprotected by traditional security devices; and (2) if transaction information is generated and retained, individuals can be tracked much more easily in space and time. See Steven A. Bercu, *Smart Card Technologies: Novel Privacy Concerns and the Legal Response*, 10 J. PROPRIETARY RTS. 2, 2-3 (1995). Digital cash systems also have a unique privacy concern in that the system administrator has the ability to read files and mail and, thus, potentially to divert customers' funds. See generally *Future of Money Hearings*, *supra* note 33 (testimony of John J. Donegan, Vice President of Operations, First Virtual Holdings, Inc.).

120. See Art Dalglish, *Federal Regulators Targeting "E-Cash": Electronic Currency Poses Complex Issues*, ARIZ. REPUB., July 23, 1995, at E1 (noting rise in consumer use of electronic cash, but warning of security concerns); Jeffrey Kutler, *As the Technology Advances, Security Debate Still Rages*, 16 AM. BANKER, Dec. 23, 1996, at 6A (discussing consumers' concerns about privacy when banking on-line).

121. Informational privacy rights are protected under the First, Fourth, Fifth, and Fourteenth Amendments. See Bercu, *supra* note 119, at 3. Further, federal government access to personal financial records maintained by financial institutions is restricted statutorily by the Right to Financial Privacy Act, 12 U.S.C. §§ 3401-3422 (1994). Several states have enacted similar measures limiting state and local government access to such information. See, e.g., CAL. GOV'T CODE §§ 7460-7493 (West 1995); MINN. STAT. §§ 13A.02-04 (1995); MO. REV. STAT. §§ 408.675 to .700 (1995).

122. See, e.g., EFTA, 15 U.S.C. §§ 1693-1693r (1994) (requiring financial institutions to give notice to consumers of financial information disclosures made to third parties); Electronic Communications Privacy Act, Pub. L. No. 99-508, 100 Stat. 1851 (codified as amended in scattered sections of 18 U.S.C., primarily at 18 U.S.C. §§ 2510-2518) (protecting individuals against unauthorized interception of electronic communications); see also Communications Privacy and Consumer Empowerment Act, H.R. 3685, 104th Cong. (1996) (proposing to require companies to disclose what kind of information they collect about Web site visitors); 2 FOWLER V. HARPER ET AL., THE LAW OF TORTS § 9.6 (2d ed. 1986) (discussing privacy torts in general); 10 AM. JUR. 2D *Banks* § 332 (1963 & Supp. 1996) (discussing banks' implied contractual duty not to disclose customer financial information to third parties).

of the past does not address the privacy threats presented by electronic currency directly.¹²³

Given the scale and complexity of privacy-related issues, a full discussion of the application of existing federal and state privacy laws to electronic currency is beyond the scope of this Article.¹²⁴ A brief analysis of statutory, regulatory, and common law privacy provisions, however, reveals that consumers may be better protected against "profiling" by a multi-unit organization that contains a depository institution than one without a depository unit. If left unamended, these laws will disturb the competitive balance of the electronic currency industry unnecessarily and will fail to provide a uniform level of consumer protection against "profiling" activities.

Consumer privacy protection laws present additional situations in which non-depository issuers of electronic currency may receive significantly different treatment than depository institutions. The common law relationship between a bank and its depositor is that of debtor and creditor,¹²⁵ and generally a fiduciary or similar relationship is not recognized.¹²⁶ The legal reality, however, is that banks are held to a high standard of confidentiality in many jurisdictions. Various states prohibit by statute a financial institution's disclosure of a customer's financial records unless the customer expressly has consented to such disclosure.¹²⁷ Further, a number of courts have accepted the proposition that a bank has an implied contractual duty of confidentiality with regard to its depositors or customers.¹²⁸ On the other hand, one court has held that the information-processing activities of nonbank financial services providers will not be reviewed under heightened scrutiny.¹²⁹ Dissimilar regulation of the informa-

123. See Catherine M. Downey, *The High Price of a Cashless Society: Exchanging Privacy Rights for Digital Cash?*, 14 J. MARSHALL J. COMPUTER & INFO. L. 303, 317-20 (1996). *But cf.* Data Protection Directive, Council Directive 95/46/EC, 1995 O.J. (L 281) 31 (stating that effective 1998, each Member State of European Community must have in place comprehensive privacy protection program).

124. For thoughtful discussions of privacy and electronic banking and commerce, see Alan F. Westin, Discussion Paper for Meetings on Technology and Finance, sponsored by the New York Academy of Sciences, Feb.-Apr., 1996; Downey, *supra* note 123; Bercu, *supra* note 119.

125. See 9 C.J.S. *Banks and Banking* § 270 (1996).

126. See *id.* § 248.

127. See, e.g., 205 ILL. COMP. STAT. 5/48.1 (West 1996); MD. CODE ANN., FIN. INST. §§ 1-301 to -305 (1992 & Supp. 1995); N.D. CENT. CODE §§ 6-08.1-01 to -08 (1995).

128. See, e.g., *Peterson v. Idaho First Nat'l Bank*, 367 P.2d 284, 290 (Idaho 1961) ("It is implicit in the contract of the bank with its customer or depositor that no information may be disclosed . . . unless authorized by law or by the customer or depositor . . ."); *Indiana Nat'l Bank v. Chapman*, 482 N.E.2d 474, 482 (Ind. Ct. App. 1985) (holding that banks impliedly contract duty of confidentiality unless public duty arises).

129. See *Dwyer v. American Express Co.*, 652 N.E.2d 1351, 1354-56 (Ill. App. Ct. 1995) (holding defendant charge card issuer not liable to customers for invasion of privacy claims arising from compiling and renting of customer lists segmented by spending habits and

tion sharing activities of banks and nonbanks active in the electronic currency industry represent yet another potential competitive inequity that results in a failure to provide all consumers with the degree of privacy protection that seems to be the goal of relevant statutory measures.

The dissemination of customer information for credit assessment purposes is governed by statutes that will restrict the ability of *all* issuers of electronic currency to share customer information. A common commercial practice is for affiliated companies to include in their agreements with customers an authorization statement that allows them to share customer information freely. However, no commercial enterprise can contract around the Fair Credit Reporting Act's disclosure and verification of information requirements.¹³⁰ Further, state credit information disclosure restrictions also affect banks and nonbanks similarly because banks generally are allowed to disclose customer financial records if they do so as an exchange of credit information in the regular course of business.¹³¹ Thus, credit information disclosure laws appear to afford the same protection to consumers regardless of whether electronic currency is purchased from a nonbanking corporation.

III. FACILITATING LEGAL EXPECTATIONS—A PARADIGM FOR POLICY

The ideal plan for guiding the development of electronic currency law—taking into account issues of fairness, efficiency, and prudence—should not focus on regulating issuing institutions or protecting consumer interests, but on facilitating the crystallization of issuer and user expectations in emerging payment systems. Before acquiring an interest in electronic currency, users (i.e., consumers and merchants) should possess expectations concerning the rights and obligations assumed via these transactions. As issuer and user expectations mature and legal uncertainties subside, electronic currency systems will be able to compete with each other and with existing systems based on merit and utility (e.g., convenience, safety, ease of use), rather than on relative levels of legal certainty. The groundwork for our proposal is an evaluation of sources of legal expectations for existing payment systems.

shopping preferences).

130. See 15 U.S.C. §§ 1681-1681t (1994).

131. For examples of state statutes with a "regular course of business" exception, see 205 ILL. COMP. STAT. 5/48.1(b)(6); MD. CODE ANN., FIN. INST. § 1-303(7) (1992); N.D. CENT. CODE § 6-08.1-02(6) (1995).

It is important to note that this Article's proposal for the development of electronic currency law is constrained by two premises. First, the law should not stifle or steer without reason future technological development. Much of the pioneering technological innovation and market viability testing of electronic currency has been the result of the efforts of non-depository institutions.¹³² Therefore, broad-sweeping preemptive regulations, such as those that would restrict issuance authority to regulated financial institutions, would restrict future innovation unnecessarily.¹³³ Further, regulations that focus heavily on technological distinctions between payment systems would be unwise, because: (1) it is likely that such distinctions will become antiquated quickly in this fast-paced industry; and (2) such distinctions fail to consider the substance of the underlying relationship between the parties.

Second, we recognize the need to manage risk to the integrity of the existing payment system effectively. If electronic currency reaches a state of mass dissemination, a chain reaction of issuer bankruptcy or failure could lead to a critical disruption in commerce. Full-scale preemptive legal action designed to protect the safety and soundness of the payment system, however, is likely to be unnecessary until a more cognizable threat arises.

"Cash" offers little aid to the development of legal expectations for electronic currency. United States coins and currency, or "cash," provide users with perhaps the most confidence and the most clearly defined expectations of any means of exchange. Foremost, user confidence in cash originates from the guarantee of the full faith and credit of the U.S. government. United States cash is unique in that it can be used as legal tender for all debts both public and private.¹³⁴ If the federal government were to issue an electronic version of U.S. currency patterned after cash that has a very low likelihood of malfunctioning, it likely would gain wide acceptance

132. See *supra* notes 6-8 and accompanying text (describing new developments in electronic currency).

133. United States policy makers generally appear to agree that preemptive regulation carries a high risk of negative consequences. See, e.g., Edward W. Kelley, Member, Board of Governors of the Federal Reserve System, Remarks at CyberPayments '96 Conference 2 (June 18, 1996) ("Heavy-handed, preemptive attempts at regulating these products and the competitive process before significant social risks have been demonstrated would likely handicap innovation for no compelling reason."); Eugene A. Ludwig, Remarks at Conference on Digital Commerce '96, at 5 (May 6, 1996) ("I certainly do not believe that government should focus on these new technologies with some Luddite-like desire to stop progress—quite the contrary.").

134. "United States coins and currency are legal tender for all debts, public charges, and dues." 31 U.S.C. § 5103 (1994).

fairly quickly.¹³⁵ Electronic currency issuers cannot offer a truly cash-like product, however, because: (1) they may violate criminal prohibitions against issuing currency intended to compete with that of the United States;¹³⁶ and (2) no payment product can attain the status of legal tender without the endorsement of Congress.¹³⁷ Thus, private issuers and legal policy makers must look elsewhere for a source of electronic currency users' legal expectations.

Payment instruments that provide access to traditional deposit accounts also provide limited aid to the development of electronic currency law. Unlike cash, the legal expectations surrounding payment instruments that facilitate access to deposit accounts, such as paper checks and ATM cards, are not derived from a guarantee of payment by the U.S. government. People that issue, write, and accept checks or point of sale ("POS") debit payments, however, generally can expect that a payment will be sent and received.¹³⁸ These well-settled expectations exist for a number of reasons: (1) checks are issued by regulated financial institutions that are subject to supervision and examination; (2) the underlying value represents a federally insured deposit; and (3) payment orders are processed by a clearing system with established practices. If electronic currency issuers analogize their products to deposit-backed payment systems in an attempt to utilize this foundation of expectations, it would be more appropriate to classify these emerging products as "electronic checks" and generally to subject them to existing banking regulations. On the other hand, issuers may structure issuances as the creation of a contract for the right to acquire goods, services, or cash, rather than the formation of a deposit account. Under this approach, it would be proper to look beyond banking laws that are designed specifically to govern bank-depositor relationships, to other potential sources of legal analogy.

Perhaps the best source of guidance for lawmakers and issuers of electronic currency is the evolution of the traveler's check, which has

135. The U.S. Mint has attempted to convince the Clinton administration to consider a government-issued "legal tender" SVC. See *U.S. Mint Eyes Government's Own Stored Value Card*, 15 BANKING POL'Y REP., Mar. 4-18, 1996, at 14, 14. But see Kelley, *supra* note 133, at 8 ("I do not anticipate that the Federal Reserve will seek to provide a new retail electronic payment product . . .").

136. See *supra* notes 26-27 and accompanying text (describing prohibitions of Stamp Payments Act of 1862).

137. See 31 U.S.C. § 5103 (limiting legal tender to U.S. coins and currency).

138. Payment by personal check only suspends an obligation rather than discharging it completely, and thus, in the event that a payment order is rejected by a bank for reasons such as insufficient funds, payees know that the banking system provides an established channel of recourse.

managed to flourish despite early (and somewhat persisting) uncertainty concerning its legal status. The U.C.C. makes clear that the traveler's check may be a negotiable instrument¹³⁹ when it has been completed with a countersignature.¹⁴⁰ In all other circumstances, however, it is unclear whether the U.C.C. is applicable to traveler's checks at all. They could be money, a negotiable instrument, or a mere contract.¹⁴¹ This uncertainty is provocative rather than repulsive, because it clearly demonstrates that payment instruments do not need a comprehensive set of directly applicable positive laws in order to succeed in the marketplace.

It is unclear, however, whether electronic currency issuers will be able to duplicate the traveler's check experience. The traveler's check has thrived, in large part, because issuers often absorb losses rather than assert possible defenses against redemption.¹⁴² Users' confidence that issuing institutions, such as American Express and Thomas Cook, will stand behind these instruments has fostered the development of marketplace expectations, if not legal expectations. These institutions cannot provide expectations concerning enforceable legal rights beyond those based in contract, but their long-standing operating practices provide a wealth of practical expectations to their customers. Although it is questionable whether electronic currency issuers, such as CyberCash and DigiCash, are capable of independently generating the level of institutional confidence necessary to create widespread market acceptance of their payment systems, it is possible that a privately-created system of rules could form the foundation of legal expectations from which market viability progresses.

Although credit cards may facilitate transactions that are economically different from stored-value-based electronic currency transactions, the development of credit card laws may provide a useful blueprint for electronic currency. From the beginning of the credit card industry, MasterCard and Visa were permitted significant leeway to develop a private law of credit cards that slowly has evolved and generally has been integrated into public law. The issuers established

139. To be negotiable, an instrument must: (1) be written; (2) be signed by the maker or drawer; (3) contain an unconditional promise or an unconditional order to pay; (4) be payable in a sum certain in money; (5) be payable on demand or at a definite time; (6) be payable to the order of a designated person or to the bearer. See U.C.C. § 3-104 (1990).

140. See *id.* § 3-104(i). A traveler's check derives its safety benefits from a signature-countersignature system. The user signs the check at the time of purchase and then countersigns it at the time of cashing. See *id.*

141. See Hawkland, *supra* note 31, at 522.

142. See *id.* at 517.

rules governing internal practices; they contracted relatively freely with merchants and consumers; and they generally settled any disputes among member institutions without resorting to litigation. These established trade practices are what provided credit cards with the requisite set of expectations for market viability.

Moreover, electronic currency issuers are situated similarly to the first credit card issuers in that they possess superior knowledge of the technology and a vision for how their ideal payment system should function. The emergence of electronic currency may represent a process in which step-by-step development of necessary legal measures is better carried out by private parties who are involved with the development of the technology intimately.

CONCLUSION

The legal environment for electronic currency should include a minimum level of targeted regulation. Action should be focused principally on protection of the existing payment system, the safety and soundness of issuers, and basic consumer protection. Given (1) that estimates of the likely growth of electronic currency are negligible compared to the size of the entire monetary aggregate; (2) the vital contributions being made by non-depository institutions to the technological and market development of electronic currency; and (3) the existence of money transmitter or similar laws that probably will ensure the soundness of electronic currency issuers, no preemptive legal regulation should be implemented before a clear threat is discernable. Consumer protection proposals that appear to disregard the lack of a traditional deposit account underlying many electronic currency relationships are improper. General consumer protection measures should be applied to electronic currency, instead of banking laws that were designed to govern the bank-depositor relationship.

This bare-bones superstructure for electronic currency law should be supplemented as necessary by analogy to existing payment systems and by private contract. The strength of the common law has been demonstrated under similar circumstances, such as the traveler's check and credit card industries. The emergence of electronic currency seems to present lawmakers and industry participants with an opportunity to employ this strength once again.