

# THE POLICY IMPLICATIONS OF NEUTRAL SCHOLARSHIP: A CASE STUDY OF ELECTRONIC FUNDS TRANSFER AND THE BAXTER, COOTNER AND SCOTT REPORT\*

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\* W. BAXTER, P. COOTNER & K. SCOTT, RETAIL BANKING IN THE ELECTRONIC AGE: THE LAW AND ECONOMICS OF ELECTRONIC FUNDS TRANSFER (1977) [hereinafter cited as BC&S].

\*\* Associate Professor of Law and Associate Dean, Yale Law School. A number of my colleagues at the Yale Law School have assisted me greatly in the preparation of this Article. It is to one in particular, if dedications of articles are ever appropriate, that I wish to dedicate this one: to Arthur A. Leff—my teacher, my colleague, and my friend.

## I. INTRODUCTIONS

EFTS—Electronic Funds Transfer systems—are a major evolutionary leap in the development of the nation's payment processes. Their introduction, already well underway, has raised and will continue to raise a wide array of serious, even novel, questions for the legal order. Some of the issues are technical, going to such problems as how electronic transfers can approximate the documenting function of hard-copy checks and drafts, or to how the existing allocation of payments risks can be retained with the new technology and the opportunities it will create for losses, thefts, and abuse. These problems are difficult, interesting, and among the kinds that academic legal research calls its own. EFTS also raises issues that are explicitly policy-oriented or value-focused. Legal scholarship has traditionally embraced these issues as well.

This Article is only tangentially about the legal and policy implications of EFTS. Its principal focus is legal scholarship—the intellectual processes by which problems of both kinds are addressed. It offers some critical observations about one particular genre of legal policy analysis; more pointedly, it is a response to a single representative instance of that analytical style—a book published in 1977 by Professors William Baxter, Paul Cootner, and Kenneth Scott. Their work addressed the policy choices that EFTS will require the legal system to make. This work addresses their work, neither to quarrel with their conclusions nor to essay any particular set of legislative recommendations of its own, but rather to say something about how the internal structure of a mode of ostensibly neutral scholarship defines, guides, and takes its toll upon its subject.

This critique requires the setting of two stages: One is EFTS; the other is the Baxter, Cootner and Scott report itself. Each will be developed in greater detail throughout the Article; at this point, a quick overview of both is necessary for the discussion that follows.

A. *Electronic Funds Transfer Systems*

EFTS is a collective term. Its range and meaning are not yet fixed, though there is some general agreement as to what components are likely to be present in any EFT system.<sup>1</sup> Foregoing the technical descriptions, EFTS is essentially the application of data processing

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<sup>1</sup> Descriptions of EFTS components more detailed than those given here appear in numerous documents and reports. Two such are T. KLEINSCHMIT, *ELECTRONIC FUNDS TRANSFER: THE FUTURE IS NOW* (Federal Reserve Bank of Minneapolis Exponent No. 9, 1976); and H. SCOTT, *NEW PAYMENT SYSTEMS: A REPORT TO THE 3-4-8 COMMITTEE OF THE PERMANENT EDITORIAL BOARD FOR THE UNIFORM COMMERCIAL CODE 5-30* (1978).

and communication technologies to effect those transfers of funds that are now accomplished through the use of cash, check, and other hard-copy payment methods. Large-scale computerization, with central mainframes and widely placed remote access terminals, plays a powerful central role. Equally important to putative policy analysts is the system or integrating aspect of the technology: EFTS portends a far-reaching network of communicating computers, tying together numerous payees, payors, and systems managers in a large and potentially ubiquitous matrix of processed data—hence the possibility that EFTS can do new things fast, not just old things faster.

At the present time most EFTS planning includes four major subsystems besides the proliferating genus of now familiar Automated Teller Machines (ATM's). One, already well in place, is the Automated Clearing House (ACH). In the case of an ordinary (pre-EFTS) checking account, the information necessary to effect a transfer of funds from a payor's demand deposit account to a payee's commercial account is captured on a piece of paper—the check. The paper is sent from the payor to the payee, from the payee to the payee's depository institution, then through a series of intermediary banks back to the payor's depository bank which completes the circle by returning the item to the payor. Each player abstracts from the paper the information necessary to effect the transfer, simultaneously causing payment to be made on the underlying transaction.

An Automated Clearing House is the central actor in a somewhat different and far less costly system. Checks are replaced by magnetic images on a reel of computer tape. A payor—a consumer, for example, wishing to pay a retail store's bill—informs his bank that the payment should be made, and of its amount. The bank encodes the instruction into electronic signals. It forwards them over a regional communications network to the banking institution holding the account of the intended payee. The recipient institution informs the payee that the transfer has been credited. Once again the payment and the conveyance of the necessary information are simultaneous, but in an ACH system the circular paper flow and handling have been replaced by the transmission of weightless electronic impulses. The ACH itself is the network's switch. It sits at the center of the web of payees' and payors' banks.

One potential use of an ACH system is Direct Deposit of Payroll (DDP), the second of the four major EFTS components. DDP is also currently available and in use by some significant credit issuers. It involves a payor, such as the Social Security Administration or an industrial employer, sending to its bank a magnetic tape on which it has encoded all of the information necessary for the distribution of its payments. That bank makes the gross deduction from the issuer's

account and forwards over the ACH wire the payee information it has received. The ACH sorts and divides the information and transmits it to the several recipient institutions, each of which credits to the account of the intended payee the described amount. Paper checks and their circular flow are entirely avoided, as is the physical handling of the deposit by the individual recipient.

Pre-Authorized Debiting (PAD) is the third complementary component. In PAD, individuals are the credit issuers. But rather than operate on consumer-instigated transfers, in a PAD system the individual gives a blanket authorization to an EFT systems manager to pay recurring obligations periodically. A household might for example pay its electric utility bills simply by doing nothing—or at most very little—each month. Its account would be debited automatically at the call of the utility company—an instruction to the ACH that in effect says: “Pay me the following amounts from the following account numbers.” Notification of the deduction is then made to the payor by its own bank. There are several variations on the PAD theme: Some would require the specific consent of the payor to each transfer; some would permit specified exceptions; others would have even more complex authority and reversal protocols. The central theme of PAD is nevertheless constant—the debiting of householders’ accounts at the instigation of a putative payee.

The fourth major EFTS subsystem is Point of Sale debiting (POS). POS is not yet widely developed, though a number of pilot projects have been staged. In a POS system a purchaser of goods presents to the retailer, at the time of purchase, a plastic card magnetically encoded with information about the consumer’s account. This information is added by the “cash register” to the information concerning the specific sale. The cash register, actually a communicating computer terminal, transmits the data to the central EFTS network. The result is a virtually instantaneous debit from the account of the consumer and a credit to the account of the retailer. Other information concerning the transaction, including retail sale data not strictly necessary to effect the payment, is relatively easy for POS equipment to capture at the point of sale. The additional data might be transmitted forward through the switching network for processing, or it might be recorded simultaneously and retained by the merchant for later analysis.

The social and legal issues that these four EFTS processes can generate are legion. Some have already become the subject of protective federal legislation.<sup>2</sup> The Federal Executive has appointed a Na-

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<sup>2</sup> See Electronic Fund Transfer Act, Pub. L. No. 95-630, 92 Stat. 3728 (1978) (codified at 15 U.S.C. §§ 1693-1693r (Supp. III 1979)); note 29 *infra*.

tional Commission on Electronic Funds Transfer Systems<sup>3</sup> and the American Law Institute/National Conference of Commissioners on Uniform State Laws has formed its own review committee to analyze those sections of Articles three and four of the Uniform Commercial Code that will be affected by an implementation of electronic payment systems.<sup>4</sup> The National Science Foundation has commissioned a weighty study;<sup>5</sup> the Atlanta Payments Project has produced two six-volume reports<sup>6</sup> sponsored by the Federal Reserve Board and coordinated by the Georgia Institute of Technology. The related legal literature can be measured in pounds. EFTS has been a matter of widespread concern.

### B. *The Baxter, Cootner and Scott Report*

Professors Baxter, Cootner and Scott are far more sanguine about EFTS and its future than any of its other numerous analysts.<sup>7</sup> EFTS, they suggest, is not a qualitative break with the past. Within the history of payments processes, the move to EFTS will be less of a perturbation than have been other prior systemic transitions—including the rise of demand deposit banking itself. Throughout that history no technology has ever precipitously replaced its predecessor; changes, spawned and modulated by shifts in underlying cost structures, have taken place gradually. For this and other reasons, Baxter, Cootner and Scott conclude that EFTS poses no new problems—other, perhaps, than a new temptation for government to regulate the payments industry.<sup>8</sup>

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<sup>3</sup> The Commission, hereafter NCEFT, was created by Congress and appointed by the President on October 28, 1974. Act of Oct. 28, 1974, Pub. L. No. 93-495, § 201, 88 Stat. 1500 (codified at 12 U.S.C. § 2401 (1976)). It has published two reports—EFT AND THE PUBLIC INTEREST (February 1977), and EFT IN THE UNITED STATES (October 1977)—in addition to numerous working papers. [The February 1977 report will be referred to hereinafter as NCEFT INTERIM; the October report as NCEFT FINAL.

<sup>4</sup> The principal product thus far is the report to the committee. H. SCOTT, NEW PAYMENT SYSTEMS: A REPORT TO THE 3-4-8 COMMITTEE OF THE PERMANENT EDITORIAL BOARD FOR THE UNIFORM COMMERCIAL CODE (1978).

<sup>5</sup> A.D. LITTLE, INC., THE CONSEQUENCES OF ELECTRONIC FUNDS TRANSFER (1975) [hereinafter cited as NSF/RANN (National Science Foundation/Research Applied to National Needs)].

<sup>6</sup> GEORGIA INSTITUTE OF TECHNOLOGY, ATLANTA PAYMENTS PROJECT, RESEARCH ON IMPROVEMENTS OF THE PAYMENTS MECHANISM: PHASE III, GENERAL SYSTEMS DESIGN AND ANALYSIS OF AN ELECTRONIC FUNDS TRANSFER SYSTEM (1972) [hereinafter cited as APP/GIT PHASE III].

<sup>7</sup> Baxter, Cootner & Scott's own summary of their work appears in BC&S at 173-81.

<sup>8</sup> *Id.* at 3-13.

The Baxter, Cootner and Scott report sees the impetus for EFTS coming largely from alterations in two contexts: the economic consequence of advances in the technology of computing and communications, and the increasing opportunity costs of individuals' time resulting from the rise of personal incomes. Given the economic and legal structures of retail banking, EFTS is a logical response of the banking industry to these patterns of changing costs.

When an individual consumes a unit of banking service, two kinds of costs are incurred. One is the bank's cost to produce the service; the other is the individual's cost to consume it.<sup>9</sup> How EFT systems can reduce the former is obvious. The latter cost Baxter, Cootner and Scott measure by the value of consumers' time.<sup>10</sup> Financial transactions—depositing funds, drawing checks, reconciling accounts and the like—cost consumers their time. Time is money.

Demand deposit customers are, by law, undercompensated for their deposit balances. (That's why banks like to have them.) The inability of banks to pay free-market rates on deposit balances has an interesting price-discrimination result. In effect, banks charge different amounts of foregone interest to customers who value propinquity—reduction of banking access costs—differently. Each customer will try to maintain an account balance at a level such that the cost of another dollar in deposits, measured in terms of the foregone opportunity of investing that dollar, is just equal to the marginal access or transaction cost which the deposit will save: large, infrequent deposits have higher investment loss but lower transaction costs per dollar transferred. Customers with high time costs therefore maintain larger undercompensated balances.<sup>11</sup>

Because banks cannot compete for customers on the basis of prices paid for deposits, they must compete by reducing their customers' transaction costs. The result is the proliferation of branches and remote access devices such as ATM's. Offering propinquity is a competitive strategy made necessary by increases in this undercompensation of customers' deposit balances, which is in turn a function of changes in general market interest rates. Therefore, with customers' personal incomes and interest rates on loans both at historic highs, and computation/communication costs at historic lows, consumers will demand and banks will provide EFT systems, to reduce the net personal and social costs of effecting payments.<sup>12</sup>

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<sup>9</sup> *Id.* at 16-17.

<sup>10</sup> *Id.* at 25.

<sup>11</sup> *Id.* at 26-27. A large balance will reduce the frequency of deposit making, hence reduce time costs at the expense of increased investment opportunity costs. See note 34 *infra*.

<sup>12</sup> *Id.* at 31-34.

A similar analysis holds, according to Baxter, Cootner and Scott, for the use of casual retail credit: high time-cost consumers will try to reduce banking and shopping time. This can be done partly by charging purchases. Retail stores thus offer charge accounts to attract those customers who do not invest much search time in shopping for bargains and who will therefore pay higher prices—again, the high time-cost customer. POS debit cards function as charge accounts. They reduce in several ways the costs of purchasing goods and making payments. They should therefore be increasingly attractive to consumers with increasingly positive time opportunity costs, and to the retailers who serve them.<sup>13</sup>

Generally speaking, an individual's choice among payment methods (check, credit card, POS/debit card) will be informed by how well each method can minimize the time and other costs required to effect a payment. Because the several components of EFTS respond precisely to the economizing motivations of consumers, to the efforts of banks to reduce their own payment-processing costs, and to merchants' efforts to attract customers, "a very large market for the new technology will develop very quickly."<sup>14</sup>

This syllogism is Baxter, Cootner and Scott's first major point. It stands at the foundation of their analysis. Actually, it is two points, both of which will be analyzed in detail in later sections of this Article: the first is that an individual's commercial behavior can be explained by supposing that consumers always seek to reduce the costs of their activities; that time devoted to shopping and paying is a cost; and that the cost of time needed to make payments is accurately measured by the income which working time could otherwise provide.<sup>15</sup> The second point is that since EFTS is a response to the demands of consumers, banks, and merchants, it will be installed because of and in conformity with—not in spite of—consumer choice.<sup>16</sup>

Baxter, Cootner and Scott recognize that others have foreseen problems in the rapid implementation of EFTS, but deny that any reasonable version of its implementation would be a kink in banking's world-line. In their view, the critical policy issues raised by EFTS are primarily issues of structure: branching, interstate operations, mechanics of cooperation and net interactions. One overriding issue is

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<sup>13</sup> *Id.* at 36-48.

<sup>14</sup> *Id.* at 69.

<sup>15</sup> See discussion at pages 408-19 *infra*.

<sup>16</sup> See discussion at pages 453-64 *infra*.

the misguided temptation of public regulators to overreact—to see, for example, EFT systems as natural monopolies and to legislate accordingly.<sup>17</sup>

On the issue of monopolization Baxter, Cootner and Scott agree that because EFTS is a communication device, it will require significant cooperation among participants in the payments industry. They maintain, however, that the cooperation required can be of a kind consistent with the norms of antitrust policy: the full utilization of scale economies offered by EFT systems will not cause such concentration in the industry as to impair the advantages of adequate competition.<sup>18</sup> Calculating both costs and scale economies, Baxter, Cootner and Scott offer a “conservative prediction” of the number of interconnected EFTS nets that could coexist nationwide—forty at the least. They conclude that EFTS nets are therefore not likely to become monopolies in need of regulation. But because in many states there cannot be *intrastate* rivalry if *interstate* banking operations are proscribed, present legal restrictions on interstate banking must be removed if EFTS is to develop into a fully competitive system.<sup>19</sup>

As to the threat that EFTS poses to the values of privacy, a threat that other commentators see as inherent in EFTS' on-line ability to capture and process enormous stores of data about individuals' financial transactions,<sup>20</sup> Baxter, Cootner and Scott conclude that “[t]he privacy problem . . . [i]n its rather minor EFTS dimension . . . is one of the simpler issues, in terms of analysis if not necessarily of emotion.”<sup>21</sup> EFTS, again, poses no new issues. The degree of privacy that users of the payments process now enjoy is an artifact of the high costs of snooping—of recording, organizing and keeping available data about individuals' financial affairs. Although computerization of the payments process through EFTS will, they concede, reduce those costs, the price of data storage and retrieval will “remain an operative and often prohibitive constraint.”<sup>22</sup> Moreover, since EFTS nets will overlap, net managers will be constrained to compete for all of the

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<sup>17</sup> See BC&S at 142-43. Baxter, Cootner & Scott offer the opinion that applying the concept of branching to ATM's, for example, would produce nothing but “absurdities,” *id.* at 125, and that to prevent unrestricted branching of POS and ATM would be “disastrous.” *Id.* at 126. (“ATM” means free standing Automated Teller Machines at locations other than inside existing branches.)

<sup>18</sup> *Id.* at 75-76.

<sup>19</sup> *Id.* at 101-14.

<sup>20</sup> See, e.g., J. RULE, VALUE CHOICE IN ELECTRONIC FUNDS TRANSFER POLICY 32, 57-58 (1975) (Report to the Office of Telecommunications Policy, Washington, D.C.); sources cited in BC&S at 162.

<sup>21</sup> BC&S at 173.

<sup>22</sup> *Id.* at 162.



“goods” demanded by consumers. Thus, according to Baxter, Cootner and Scott, the degree of privacy offered—a good to some if a cost to others—will be optimal in the absence of unnecessary legislative constraints. Finally, EFTS will always be an option rather than a ubiquitous and exclusive mode of payment.<sup>23</sup>

Authorized access to account data is not a serious problem in Baxter, Cootner and Scott’s view; only misunderstandings are troublesome, and they can easily be avoided with adequate disclosure of the terms of the account.<sup>24</sup> Unauthorized access is a problem, but the party to fear in this regard is not the net operator: “Only the Government could create the monolithic control machine of Justice Douglas’ dissent [in *California Bankers Association v. Schultz*<sup>25</sup>] or of Orwell’s *1984*, and whether or not it does so will hardly depend on whether EFTS is used for bill paying.”<sup>26</sup>

All in all, say they, “[t]he benefits to consumers from unfettered development of EFTS in banking far outweigh [its] associated risks . . . .”<sup>27</sup>

## II. A CRITIQUE: PRELIMINARIES

It is an elementary political reality that public institutions are more easily shaped at birth than remolded later. The present is therefore a critical time for EFTS and the future of consumer financial systems; serious policy-directed studies are both timely and necessary. The Baxter, Cootner and Scott volume purports to be one. It is a rigorous, well crafted and exemplary instance of an important genre of policy analysis. Yet it neglects to consider significant dimensions of the problems raised by EFTS, or to see law as relevant to them. It is, in ways yet to be noted, elegant but curiously unsatisfying. The most interesting question to the legal scholar, if not to the industry analyst, is why and how it turned out that way.

The following pages will explore that question on two major fronts. The first will be a close scrutiny of the behavioral predicates of the Baxter, Cootner and Scott model. As has already been seen, there lies at the heart of their methodology a set of assumptions about consumer behavior that leads, perhaps inexorably, to a narrowed appreciation of the kinds of problems that EFTS is likely to pose for

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<sup>23</sup> *Id.* at 167.

<sup>24</sup> Baxter, Cootner & Scott imply, though they do not say so explicitly, that competition will result in optimal disclosure as well. *Id.* at 165. Congress has disagreed; the EFTS Act and Regulation E are addressed precisely to *regulatory* attention to the problem of disclosure. See note 29 *infra*.

<sup>25</sup> 416 U.S. 21, 85 (1974).

<sup>26</sup> BC&S at 166.

<sup>27</sup> *Id.* at 181.

the consuming public. The second front is related to the first: Baxter and company end—and begin—with a predisposition against governmental regulation of consumer service institutions. Even when they do recognize a problem in the coming of EFTS they eschew public intervention, arguing instead that optimal solutions are likely to emerge only through the guidance of unfettered market forces. There is an equilibrium between the two ideas: consumers behave so as to maximize their economic interests, and markets work because they are disciplined by consumers acting on their preferences. The conclusion is inevitable: because every legitimate consumer issue that EFTS can raise will result in an expression of a consequent disciplinary force fueled by consumer preferences, marketplace solutions are most likely to be the correct ones.

Both assumptions of the Baxter, Cootner and Scott model, and the connection between them, will be examined. Each, to presage the conclusion, will be found wanting. The point, again, is a methodological criticism, with EFTS as its case study—an inquiry into how the emptiness of the conclusions can be traced to the flaws in the method.

One discrete point deserves mention at the outset, however, as it is important to the substance, as well as the method, of the Baxter, Cootner and Scott analysis. Their report focused on POS (Point-of-Sale debiting) and ATM (Automated Teller Machines), to the near-total exclusion of ACH (Automated Clearing Houses). This omission was most unfortunate and ill-advised. For one thing, ACH's will very probably be the central switches of most EFT systems. It is, for example, widely agreed that full EFTS implementation will have DDP and PAD among its major components; it is through ACH's that such features will be coordinated. Though it is possible to envision a future of ATM and POS without ACH, it seems unlikely, or at least so unlikely that a study of EFTS without it is a bit strange.

Secondly, it is abundantly clear that the fabric of interbank clearing operations has significant effects on both customer-bank relationships and those between customers and payees.<sup>28</sup> ACH, that is to say, raises a plethora of consumer issues.<sup>29</sup>

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<sup>28</sup> Consider, for example, the ordinary case of a sale of goods paid for by check, which goods the buyer finds defective on delivery. Though payment by check does not waive the buyer's right to instigate an action for breach of warranty, *see* U.C.C. § 2-607(2), the right of vindication is less important as a practical matter than the procedure by which it is effected. Buyer issues a stop-payment order. Whether the order is timely depends upon whether the payor bank has completed the process of posting, *id.* § 4-303(1)(d), or has otherwise become accountable by the passage of time, *id.* § 4-303(1)(e). The process of posting is completed whenever the bank has done all of its usual posting routine, *id.* § 4-109; *see* *West Side Bank v. Marine Nat'l Exch. Bank*,

The report focused on branching and similar structural problems that are threatened by the existing web of government regulation. It failed to address seriously such "retail" questions as rights of charge-back; application of transaction defenses to the bank-customer nexus; liabilities for thefts and gaffes, computer errors and human excesses; and amendment of the not-quite-yet archaic laws of setoff and garnishment. Had an analysis of ACH been featured in the discussion, a focus on these other matters would have been all but unavoidable.<sup>30</sup>

The elision of ACH and of the consumer issues that EFTS in general raises is mystifying. Perhaps these problems were too technical for a policy-directed study; perhaps they were made invisible by the authors' sanguine view of EFTS as evolution-on-demand; perhaps, on the other hand, the self-sealing analytical nature of the methodology

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37 Wis. 2d 661, 155 N.W.2d 587 (1968); the "otherwise accountable" period is established by, *inter alia*, "clearing-house rule or agreement." U.C.C. § 4-213(1)(d) (This is an instance of the general rule that customers are bound by "operating letters, clearing house rules, and the like . . . whether or not specifically assented to . . ." *Id.* § 4-103(2).).

Another example, using the same simple hypothetical case, involves a buyer in a state far from the seller's, who seeks to obtain *in rem* jurisdiction over the defaulting seller by moving against the check or its proceeds in the hands of a paying or correspondent bank. Whether he can do so depends upon who "owns" the item, and that is determined by the custom of the depository bank in allowing or not allowing its depositors to draw against uncollected funds. See U.C.C. §§ 4-201(1), 4-208(1), 4-209; *Vickers v. Machinery Warehouse & Sales Co.*, 111 Wash. 576, 191 P. 869 (1920).

<sup>29</sup> Many of these concerns have been addressed by the Electronic Fund Transfer Act, Pub. L. No. 95-630, §§ 901-920, 92 Stat. 3728 (1978) (codified at 15 U.S.C. §§ 1693-1693r (Supp. III 1979)). The Act amends and becomes Title IX of the Consumer Credit Protection Act, Pub. L. No. 90-321, 82 Stat. 146 (1968) (codified in scattered sections of 15, 18 U.S.C.). It sets out mandatory disclosures for EFTS users, § 905, including a description of (but not a limit on) the circumstances under which the institution will disclose account information. The Act also addresses issues of error resolution, § 908; unauthorized transfers, § 909; "tie-in" sales of EFTS and other credit services, § 913; and a variety of other matters.

Regulations implementing the Act became effective during 1980. The regs (Federal Reserve Board Regulation E) are at 12 C.F.R. § 205 (1980).

<sup>30</sup> At the time the report was written in 1977, moreover, the ACH system was fairly well in place, and undoubtedly generating data about itself that might have been helpful in verifying certain aspects of the analysis.

One hypothesis to explain the absence of ACH-work might be that the report itself was commissioned research, as its authors clearly acknowledged. ("The study was originally undertaken at the instance of and with financial support from Citicorp, which wished an outside and completely independent appraisal of a field in which it was making large investments." *Preface* to BC&S at vi.) ACH is pretty well in place. Though there is the residual issue of ownership, private versus public, ACH is not a hotly fought regulatory problem for any single private bank. Basically, the Fed is paying for it. This may also explain the absence of discussion in the report of other "consumer" issues—the sponsor, contemplating a multimegadollar hardware investment, may well have thought the structural issues to be more pressing and in need of outside commentary.

they employed did not identify a need for empirical validation, or for the investigation of problems that the constructs did not illuminate.

Criticizing a piece of scholarship by pointing out that it embraced only some of the issues implied by its subject is usually unfair. It is appropriate in the present case only because the report itself claims a comprehensive jurisdiction: "issues that will hold the most significance for the consuming public . . . over the next five to ten years."<sup>31</sup> The judgment proposed is equally global: "[W]e conclude that the introduction of electronic technology will be unequivocally advantageous to consumers in terms of time and money."<sup>32</sup> And, therefore, "there is no question that EFTS services are socially desirable . . . ."<sup>33</sup>

### III. HOMO ECONOMICUS: TESTING THE MODEL

At the heart of the analysis Baxter, Cootner and Scott have postulated a model of consumer behavior that forms the lynchpin of their apparatus. The model supposes that consumers will act to economize costs and maximize benefits; that all relevant consumer values may be translated into a single currency; and that what is best for consumers may be determined by tracing and summing the ebbs and flows of this currency. The sterility of the model is patent. The section next following will offer some thoughts about components of human behavior that the model ignores; the present section focuses on the model from a more critical perspective. Later we shall see that the model is narrow. Here, we shall see that it is wrong.

#### A. EFTS and the Economic Man

It is not difficult to detect the seeds of Baxter, Cootner and Scott's ultimate conclusion that EFTS is good in the elaboration of their behavioral assumptions. To review briefly, the assumptions are these: effecting transactions, particularly payments, is time-consuming and costly. The cost to consumers of effecting such transactions can be measured largely by the opportunity cost of consumers' time, a number which varies positively with personal income. Managers of private payments systems thus compete to provide propinquity in the form of transaction-time-saving conveniences, and are paid for this propinquity by attracting consumers' undercompensated deposit bal-

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<sup>31</sup> BC&S at v.

<sup>32</sup> *Id.* at 65.

<sup>33</sup> *Id.*

ances.<sup>34</sup> The total social cost of the payments process is the sum of the banks' cost to deliver propinquity plus the customers' remaining costs to effectuate payment. Whatever reduces one or both thereby reduces net social cost and is, *a fortiori*, a desirable change. Devices such as POS and PAD reduce the net social cost of the payments process by automating in-bank operations and by reducing the time required of consumers to effect payments.<sup>35</sup>

Central to this model are the assertions that bank customers differ in their access costs "primarily because of differences in their opportunity costs of time,"<sup>36</sup> and that these differences correlate "strongly and positively" with the customer's income. The measure of this opportunity cost is the value of returns to labor, or income earned per unit of time in the working day. A worker with a salary of \$20,000 therefore has an opportunity cost, for each minute spent effecting payments, of \$0.18; for a blue-collar worker the same time is worth \$0.075. The opportunity cost of time for a single person is usually higher than that for a family taken as a whole and, within a family, "it is usually true that the family member taking care of the home has a lower opportunity cost of time."<sup>37</sup>

This method of calculation, if it makes any sense at all, does so only within a theoretical universe where units of labor are infinitely divisible and discretely exchangeable at will, and wages are the only relevant form of income. In the real world it is often the case that the value of a homemaker's time is very much higher than that of a wage earner—that for the wage earner to lose ten minutes of wages is less costly than for the homemaker to lose ten minutes of time otherwise spent on maintenance services that could be priced, in the market, well above the working spouse's ten minute income. And even then we have assumed that the wage rate is the appropriate opportunity-cost scale for the wage-earner's nonworking time and/or that effecting payments will be done instead of working, rather than instead of drinking beer.

These assumptions are quite unfounded. Indeed, one could make a case for just the contrary of the proposition that the value of time will covary positively with personal income. Consider the extreme case of a person who, to hold a job at all, must work a seventy hour

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<sup>34</sup> If the size of the balance varies, the amount of undercompensation varies; hence a differential price for banking services—higher for those with higher balances, lower for those with time costs low enough to justify the transacting that deposits-just-enough-to-cover-expenses requires. See note 11 *supra*.

<sup>35</sup> And, therefore, EFTS is a desirable social change. See BC&S at 65.

<sup>36</sup> *Id.* at 25.

<sup>37</sup> *Id.* at 70 n.7.

week. Compare him to one whose job occupies only thirty-five hours. The latter has thirty-five hours more leisure time than the former.<sup>38</sup> Thus, even if his income per hour is triple that of his busier counterpart, it is still possible that the opportunity cost of a minute of non-working time is far greater for the seventy hour worker than for one who works half as long and earns more. All this says is that the relevant cost-opportunities may be leisure rather than work, and that because hours of work are generally not discretionary, the hourly return to working is a very poor measure of the time cost of consuming. It is true that expenditures of time do have some cost to everyone. It is not that this psychology is incurably flawed; it is just grossly incomplete. Time is costly, but there is no reason to believe that it is properly measured by cash returns to labor, *or that people will believe and behave as if it were.*

That points up the most significant observation thus far: the truth of the proposition—that because something reduces the net costs of an activity like banking and making payments it is “advantageous to consumers” and therefore “socially desirable”—is dependent upon the accuracy of the underlying cost calculations. If the analyst’s cost schedules do not accurately reflect the consumers’ schedules, for whatever reason, the conclusion that EFTS reduces costs as they are perceived by consumers is very likely to be wrong. If the schedules are far enough out of sync, what the miscalculating analyst sees as a lowered cost the public may see as an increase. The social desirability of a change like EFTS is therefore sensitively dependent upon the aptness of the behavioral assumptions that its analysts bring to bear.

### B. *Checking Predictions*

There is in both the physical and the social sciences a consensus about how to deal with models such as this one. A model is a heuristic convenience, a conceptual picture of something—atomic structure, planetary motion, consumer behavior—fashioned to explain as many of the collected observations as possible. A model becomes complicated, like Ptolemy’s epicycles, when further observations stubbornly refuse to conform to what the model would require. A model fails

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<sup>38</sup> One could question which is the special case and which the general. Baxter, Cootner & Scott seem to assume that work hours are, in small units, discretionary, so that one’s “consumption” of leisure is measured by the foregone return to the foregone marginal unit of labor. That, I fear, is the special case. It is more often true that work—*i.e.*, earning—hours are not discretionary to any great degree. And, when that is so, leisure time has its own quite independent value. Moreover, leisure is not necessarily consumed by, *e.g.*, banking, which could even be quite satisfying and therefore of positive rather than negative value.

when the rationalizations become either trivial or impossible and the collected anomalies can no longer be resisted.<sup>39</sup> Along the way, scientific thinking uses the model as a working hypothesis, always subject to testing and ready to be revised or discarded if falsified.<sup>40</sup>

The standard method of testing a model, be it economic or astronomic, is to generate and then attempt to falsify its predictions. The content of the predictions need not themselves be substantively interesting; their use is to validate the model that spawned them. The model of General Relativity, for example, implied the curvature of space in the presence of gravitational fields. That suggested the prediction that light from a star should be bent as it passes by the Sun on its way to Earth, causing an apparent displacement in the star's position. The prediction was tested. It worked. The existence of the predicted effect was secondary to what its verification implied for the accuracy of the model itself.

It seems appropriate to subject the Baxter, Cootner and Scott model to an analogous regimen. The model postulates a specific theory of behavioral motivation as a way to describe and understand consumer preferences. Thus it should generate empirically verifiable predictions about consumer behavior—predictions which are useful not for their own sake, but because they permit assessment of the model that spawned them. The authors' discussion itself suggested five testable propositions. The test results are interesting: One prediction was inconclusively though possibly confirmed; one was falsified weakly; and three were strongly falsified to varying degrees. The following discussion takes them up in that order.

1. *Because credit card use saves time (otherwise spent on writing checks, making deposits, reconciling accounts) as compared to the use of checks, among the population as a whole credit card users should be those whose time costs are higher than are those of nonusers.<sup>41</sup> All other things being equal, the credit card/check ratio should therefore vary positively with income, since those with higher income will behave as if they had higher time costs.<sup>42</sup>*

It is this prediction for which the test was inconclusive. Credit card use in absolute terms does indeed vary positively with income. But so does the number, if not the usage, of checking accounts main-

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<sup>39</sup> An extraordinarily well documented example in the physical sciences is discussed in T. KUHN, *THE COPERNICAN REVOLUTION* (1957). A more comprehensive work by the same author is T. KUHN, *THE STRUCTURE OF SCIENTIFIC REVOLUTIONS* (1962).

<sup>40</sup> This is part of what Kuhn refers to as "normal science." See generally T. KUHN, *THE COPERNICAN REVOLUTION* (1957).

<sup>41</sup> BC&S at 47, 51-53.

<sup>42</sup> See *id.* at 29, 39.

tained.<sup>43</sup> There are, moreover, some important caveats to what seems at first to be a substantial verification. One is the possibility that the effect of higher absolute usage of bank credit cards among higher income individuals can be explained by a rival and equally plausible hypothesis: people cannot use credit cards they do not have. The availability of credit cards, especially bank cards, varies among income groups largely as a result of *suppliers'* choices as expressed through demographically stratified marketing efforts and internal credit-risk policies.<sup>44</sup>

Related data intensify the ambiguity of the correlation. As to credit cards issued by retail stores, Lewis Mandell's empirical investigations show that card use increases distinctly with income only through the middle ranges (up to \$15,000). Between \$15,000 and \$20,000 use increases "only slightly" and then actually declines among higher income individuals.<sup>45</sup> That seems, again at face value, to be inconsistent with the time-cost hypothesis.

A third point goes to the nub of the prediction, that is, to the suggestion that the income/use correlation is attributable to the measurement of transaction costs in terms of the opportunity cost of time. Generally speaking, and except for the very highest income groups, "[c]redit card users view their cards more as debt instruments than as mechanisms for facilitating transactions."<sup>46</sup> This is reinforced by another of Mandell's tabulations: his survey questionnaire asked its subjects to indicate which of several attributes pertained to credit cards. The results, expressed as the percentage of all families in given

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<sup>43</sup> F. INGRAM & O. PUGH, FINANCIAL SERVICES: HOUSEHOLD ATTITUDES AND PRACTICES, A CONSUMER PANEL APPROACH 9 (1977) (University of South Carolina, Occasional Study No. 12), offers the following tabulation:

Household Income	Percentage of families with DDA's at two or more banks
Less than \$7,000	32
\$ 7,000-10,999	49
\$11,000-15,999	46
\$16,000-20,000	56
over \$20,000	70

<sup>44</sup> L. MANDELL, CREDIT CARD USE IN THE UNITED STATES 12 (1972).

<sup>45</sup> *Id.* at 22, 26. That decline at the highest range holds for gasoline cards and, in an even more pronounced way, for bank cards. "Travel and entertainment" card use, however, increases rapidly as incomes rise, as might be expected from the credit qualifications and demography of the T&E card user base. *See id.* at 25, Chart 2-3.

<sup>46</sup> *Id.* at 7. The highest income group into which respondents were placed was \$25,000 per annum. *Id.* at 46. (The surveys were done in 1970 and 1971.)



income ranges who mentioned particular attributes,<sup>47</sup> are interesting:

Family Income	Convenient; better than checks	Can buy now without the cash
\$0 -3,000	12%	29%
\$3,000-5,000	14	33
\$5,000-7,500	18	30
\$7,500-10,000	15	37
\$10,000-15,000	20	29
\$15,000-20,000	27	27
\$20,000-25,000	31	30
Over \$25,000	24	19

While the measure of convenience does rise, it does not do so as smoothly as the model would predict. The very highest group actually showed a decline. The “buy now pay later” measure stayed fairly constant, and in frequency was at least as strong as the convenience feature in every range except, again, the highest. This tends to support both rival hypotheses equally well.<sup>48</sup> And, although Baxter, Cootner and Scott did not quantify their observations, one might have expected from their model to see a higher absolute value for the convenience measure in the upper income strata.

These several factors, among others,<sup>49</sup> cast doubt on the matter. Though each may make his own assessment, this point seems to lie somewhere between a weak confirmation and a draw.

<sup>47</sup> *Id.* Multiple responses were allowed.

<sup>48</sup> The constancy of the credit advantage explains the use/income correlation if we assume that suppliers issue cards differentially to different credit-risk persons.

<sup>49</sup> T. DURKIN & C. ELLIEHAUSEN, 1977 CONSUMER CREDIT SURVEY (sponsored by Office of Comptroller of the Currency, Board of Governors of the Federal Reserve System, and the Federal Deposit Insurance Corporation), adds some further details. As indicated there, over 70% of all card users retain most of their transaction receipts for purposes of accounting or tracking spending. The Baxter, Cootner & Scott model would suggest that retention of the slips might decline with income (as the time cost of accounting would rise). It doesn't seem to, except at the lowest extreme. The upper-income group had a *higher* slip-retention rate than did those in the next-highest range:

Income	Keep Credit Card Slips	
	Most of the Time	Never
	Percent	Percent
Under \$7,500	78.0	6.3
\$7,500-12,499	71.2	9.1
\$12,500-17,499	65.2	9.0
Over \$17,500	69.1	10.1

*Id.* at 42, Table 8-2.

2. *Within a given income class, users of credit cards will tend to be those with higher aversions to the tasks of accounting for balances, of budgeting and of careful shopping. That those who do have cards are those who have decided to exercise, for whatever reason, less care is suggested by the frequency with which non-card-holding households quote a fear of slipping into wasteful shopping habits as the reason for their decision not to use cards.*<sup>50</sup>

The data from Mandell tell a different story. His survey inquired about attitudes toward credit cards among both users and nonusers. Respondents listed what were to them the salient attributes; Mandell correlated these lists with other variables to see how attitudes might covary. One of the attributes was, "Credit cards cause one to buy more than is necessary." When the frequency of citation was cross-tabulated with actual use, Mandell found this:<sup>51</sup>

Respondents	Percentage of respondents who cite this problem as an attribute of credit cards
(a) Use at least one card	78
(b) Don't use cards	72
(c) Use bank cards	78
(d) Use cards but not bank cards	78

The differences, while not terribly large, lie in a direction opposite to the Baxter, Cootner and Scott's prediction, according to which one would have expected to see those who do *not* use cards citing this attribute more often than those who do use them.<sup>52</sup> There may be a bit of a learning effect going on, with card users discovering things that nonusers would not so readily know. The falsification is nevertheless there: Baxter, Cootner and Scott's generally rationalistic model would predict that as users learn of this attribute, they will remain users only if they are not averse to "wasteful shopping habits" and will become nonusers if they are. Thus, even assuming a learning effect,

<sup>50</sup> BC&S at 40, 48 n.3. The relationship between these suppositions and the central theory is made explicit, *id.* at 47 (high income customers have high time costs thus high search costs thus spend less time shopping effectively). See generally *id.* at 26.

<sup>51</sup> L. MANDELL, *supra* note 44, at 39.

<sup>52</sup> With a similar attribute—"Hard to tell what is spent"—card-using families agreed twice as often as did nonusing families. The rate went from 1% to 2%, perhaps not a statistically significant difference. *Id.* at 51. (This and the attribute discussed in the text were two of eight possible categories into which the survey responses were coded.)

the prediction is not supported by the data. Users cite this "fear" more often than do nonusers. Unless we know why those users used the cards anyway, it is difficult to place much confidence in the assertion that nonusers' aversions to "wasteful shopping habits" indicate that card users are those with higher aversions to careful, time-consuming shopping. The attitude responses are consistent neither with the prediction that card use within income groups rests upon aversions to the time and effort involved in accounting for balances, for budgeting, and for careful shopping,<sup>53</sup> nor with the description of these as consumer-motivating costs.

3. *Because "the opportunity cost of time of the single person is usually, in fact, higher than that of the family," "single persons appear to use [credit] cards [a payments mechanism of low time cost compared to cash and, especially, checks] to a greater degree than families with the same income . . . ."*<sup>54</sup>

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<sup>53</sup> Other data, more recent than Mandell's, also support the falsification. For one, credit card users as a class do seem to be interested in recording and reconciling accounts. In response to a question in a 1977 survey, "the majority (70.0 per cent) indicated that they saved their credit-card receipts for comparison with billing statements. Only 9.6 per cent responded that they did not keep slips." 1977 CONSUMER CREDIT SURVEY, *supra* note 49, at 39, 42.

Another survey demonstrated a similar attitude—respondents were asked to rank a list of credit card features on a scale of importance to them. 34% of the respondents ranked as "very important" (the highest category) the fact that credit card receipts helped one to keep track of what has been spent. F. INGRAM & O. PUGH, *supra* note 43, at 58.

Finally, and though not a part of this prediction as it has been stated, it is interesting to see how this aversion varies across income groups rather than within them. Baxter, Cootner & Scott might for example have suggested that as incomes, hence time-costs, rise, credit card usage becomes increasingly attractive to the extent that it obviates the need to spend time on tracking and reconciling checking account expenditures. Mandell's data on the *advantages* of credit cards are to the contrary. While the "convenience" measure rises by 60% as income goes from the \$7,500-10,000 range to the over \$25,000, a measure of "helps keep track of spending" rises by 180%. L. MANDELL, *supra* note 44, at 46, Table 3-5. This can of course be explained by a number of alternative, common sense hypotheses not themselves necessarily inconsistent with the basic model. The point, nonetheless, remains—the matrix of motivations that inform consumer preferences is considerably more complex than what the model suggests.

<sup>54</sup> BC&S at 54; *see id.* at 70 n.7. There is some potential ambiguity in this regard, however. The authors suggest that married people often have multiple checking accounts, and that "maintaining optimal multiple balances requires an increase in total balances, unless some low-cost overdraft feature like a credit card is available;" therefore, "other things being equal, cards are used in place of checks to a greater degree by customers who . . . are married . . . ." *Id.* at 53. The statement under review, however, is that "single persons appear to use cards to a greater degree than families with the same income . . . ." *Id.* at 54.

If by the latter they mean use averaged over the members of a family, the statements are consistent, though not identical: the first suggests a ratio of credit cards to checks while the second goes to a measure of card use in absolute terms. If, on the other hand, by the second statement they mean use by individuals who are members of families, that is, by people who are married, the two are inconsistent (again with the ratio vs. absolute measure qualification). These ambiguities make defining and therefore testing the prediction difficult. I shall for this purpose interpret the text in a way that avoids the inconsistency—that while married *individuals* may use credit cards *in place of checks* more than single individuals do, the absolute use of credit cards should be higher for a single person than for a *family* taken as a unit.

This prediction is more closely linked to the basic model than are any of the others.<sup>55</sup> It is also the one most clearly falsified by the available data. Again from Mandell's study of credit card use, the data comparing usage ratios among family units are these:<sup>56</sup>

Use of Credit Cards—Within Specific Groups

Life Cycle Stage of Family Heads Under the Age of 45	(percentage distribution of families)	
	Use Credit Cards	Don't Use Credit Cards
Unmarried, no children	39	61
Married, no children	64	36
Married, youngest child under age 6	60	40
Married, youngest child age 6 or older	65	35
Unmarried (any age), has children	27	73

This tabulation, assuming its headings are accurate and that "married" means not a married person but rather a family whose head is married, seems clearly to show that single people, with or without children, use credit cards of all types *less* than do families, not more. The data do not hold income constant, but even assuming that a family unit has two times the income of a single person the conclusion is the same: across most of the income range doubling income does not come close to doubling the frequency of credit card use.<sup>57</sup>

It is difficult from these data alone to understand why the usage rate varies as it does.<sup>58</sup> One not unlikely suspicion is that, contrary to another of Baxter, Cootner and Scott's presumptions,<sup>59</sup> married couples do not always have multiple checking accounts but often have only one. If that were true, then using a credit card would be a way to

<sup>55</sup> BC&S at 25 ("The phenomenon of opportunity cost of time is the problem . . . that appears most important for our model.").

<sup>56</sup> L. MANDELL, *supra* note 44, at 14, Table 2-1.

<sup>57</sup> *Id.* at 14. At, for example, family income levels of \$10,000-\$15,000, frequency of use is 67%; when income doubles to the \$20,000-\$30,000 range, frequency rises only to 81-84%. Similarly, 54% at \$7500-\$10,000 becomes at the most 74% at \$15,000-\$20,000.

<sup>58</sup> It is, however, striking how the correlation holds up even with age and location in life cycle held constant. Thus families whose "head" is over 45, in the labor force and childless, used cards more (58% to 46%) than did single people. Likewise for those over 45 and childless but not in the labor force—families again used cards more often, by 35% to 23%. See L. MANDELL, *supra* note 44, at 14, Table 2-1.

<sup>59</sup> See note 54 *supra*.

engage in simultaneous expenditures without the need to have simultaneous access to the single checkbook register, and without the risk that one family member's use of the account would accidentally result in overdrafts when combined with the other's simultaneous use.

Whether that explanation is true or false, however, is not important. What does matter is the simple fact that the prediction derived from the model is quite strongly disconfirmed.

4. *The Baxter, Cootner and Scott model, of behavior driven by time costs and time costs a function of income, leads, in the context of other considerations, to the statement that "nonrevolvers [those who pay their balances in full each billing period] will use credit cards in lieu of checks in almost every situation in which either is acceptable . . . . Revolvers [those who incur credit costs on their credit card accounts] will be more selective, using the card either occasionally for larger purchases or with high intensity when income is less than expected."*<sup>60</sup> Elsewhere they offer the common sense observation that "[a]mong customers with credit cards, it is the highest income customers who are most likely to pay off their balances during the free period [i.e., be nonrevolvers]".<sup>61</sup>

Combining the two leads easily to the proposition that higher income individuals will use credit cards at every reasonable opportunity; those in lower income classes will use their cards relatively less frequently, and then primarily for those higher cost purchases for which some credit extension may be necessary. The resulting inference is a testable prediction, generated by and entirely consistent with the basic structure of the theory.

As it happens, it doesn't quite work. The following table, again from Mandell,<sup>62</sup> is rearranged so that the likely size of the items purchased declines from left to right:

Percentage of Households Using Cards for Various Expenditures

	Income	Appli- ances	Hard- ware	House- hold goods	Restau- rants	Recre- ation
Store Cards	< \$10,000	14	5	15	6	7
	\$10-15,000	17	7	15	2	10
	> \$15,000	18	4	17	4	8

<sup>60</sup> BC&S at 53-54.

<sup>61</sup> *Id.* at 40.

<sup>62</sup> L. MANDELL, *supra* note 44, at 70-71.

Bank	{	<\$10,000	10	2	5	8	10
Cards		\$10-15,000	6	5	6	10	7
		>\$15,000	13	7	6	16	0

No pattern that would confirm the prediction seems to appear. The usage rates are remarkably consistent across the income ranges,<sup>63</sup> with two exceptions: one ("Restaurants") is probably entirely explained by the fact that wealthier people dine out more often than do poorer. The other ("Recreation") shows a strong correlation, but of the wrong sign.<sup>64</sup>

A second, independent measure is to the same effect, though here the data are less direct.<sup>65</sup> Consider:

Amount Charged on Bank Cards During One Month Period<sup>66</sup>

(Percentage distribution of families who use cards)

Family Income	No charges	(Percentage distribution of families who use cards)							
		\$1-14	\$15-29	\$30-49	\$50-74	\$75-99	\$100-149	\$150-199	\$200 or more
Less than \$3,000	62	13	13	*	*	*	*	*	*
\$3,000-4,999	56	11	11	11	*	*	*	*	11
\$5,000-7,499	50	3	5	14	11	9	2	2	2
\$7,500-9,999	53	8	10	7	2	4	4	7	3
\$10,000-14,999	59	5	12	5	8	1	3	1	3
\$15,000-19,999	57	5	7	4	7	6	5	3	2
\$20,000-24,999	51	3	8	11	5	3	11	3	3
\$25,000 and over	43	3	11	3	*	5	19	*	11

<sup>63</sup> Suggesting that "revolvers will use credit cards for larger purchases" is misleading even if it were correct, which it is not. There is some bias, for large purchases, in favor of retail installment credit other than credit cards (67.5% in 1977, according to the 1977 CONSUMER CREDIT SURVEY, *supra* note 49, at 72-73). One possible explanation is that credit limits preclude cards from being used by some people for some purchases. Baxter, Cootner & Scott's proposition is difficult to test more rigorously because it ignores the inevitable variations in the amount of credit available across various income groups.

<sup>64</sup> The variance for "Appliances" does not explain this prediction, though it is consistent with another, *viz.* that higher-income customers will tend to avoid the high time cost of arranging for purchase-specific installment credit. *See* BC&S at 41.

<sup>65</sup> It should perhaps have been noted earlier that all of these comparisons of theory with fact are subject to an important, though not debilitating, criticism: it is generally not first-class social science to employ for one purpose data that had been collected for another, and that is just what I am doing here. In response it should be pointed out, in abatement though not in bar, that Mandell collected his data not to establish any particular hypotheses, but, so to speak, neutrally.

<sup>66</sup> L. MANDELL, *supra* note 44, at 59; *see id.* at 58 (same table for gasoline cards), 57 (all credit cards).

Wealthier families seem to spend more money. But the table goes beyond that if we make the reasonable assumption that purchases in the lower-price range—up to \$50, for example—are unlikely to be credit purchases. (Note that the table refers to total monthly purchases, not typical purchase size.) Poorer people seem to use their credit cards *more* often for small purchases than do their more affluent counterparts. Again a correlation, albeit somewhat inferential, and again of the wrong sign. Among card-carrying households,<sup>67</sup> at the least, this prediction seems to be false.<sup>68</sup>

5. *The final proposition, again ultimately derived from the basic time-cost/payment-behavior structure of the theory, is that “[credit] [c]ards have undoubtedly replaced checks” as a mode of payment, in the sense that the market share of credit cards, in a rough equilibrium, comes at the expense of the more inconvenient, more time consuming check.*<sup>69</sup>

Mandell's investigations suggest that this prediction too seems to be false, or at least to have been so at the time of his study. One of his clearest conclusions, for example, was that “credit card use has little effect on the *size* of the checking account balances held.”<sup>70</sup> A slight effect that did appear was in a direction opposite to what the report's model would predict: holding income, location in life cycle, family size and all other included variables constant, a multivariate analysis demonstrated that credit card users wrote, on the average, four *more* checks per month than did nonusers, an effect that could not be attributed to any variable or combination of variables other than credit card use.<sup>71</sup> The four additional checks might be to pay credit card bills. But whatever the explanation, the empirical data falsify the prediction: “[T]here is no evidence at this time that the use of credit cards reduces the demand for checking deposits.”<sup>72</sup>

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<sup>67</sup> The percentages are, again, based on card-using households, not all households. The latter might be a better test of the prediction but for the fact that the availability of credit cards—as opposed to their use—probably varies with income as well, so that had all households been in the base it would have been difficult in the extreme to separate the two effects. See discussion at page 412 and the confession in note 65 *supra*.

<sup>68</sup> The defect of note 65 *supra* is particularly important here: Baxter, Cootner & Scott's statement was made in terms of credit cards versus checks while Mandell's data go to the use of credit cards in absolute terms. This falsification is to that extent less compelling than the others.

<sup>69</sup> BC&S at 54. Their comparison of checks vis-a-vis credit cards appears at *id.* at 51-52.

<sup>70</sup> L. MANDELL, *supra* note 44, at 8 (emphasis added).

<sup>71</sup> *Id.* at 99, 102.

<sup>72</sup> *Id.* at 103. It is also interesting to note that currency in circulation per capita grew between 1960 and 1972 at a compound rate of 4%. During that period the number of \$100 bills in use grew 122%; \$50s grew by 87.3%; and \$20s by 89.6%. NSF/RANN, *supra* note 5, at 47-48. This took place despite the fact that 1960-1972 also marked an enormous growth in the use of credit cards.

The point of this quintet of comparisons between fact and theory was, it should be stressed, not to refute the authors' views of the opportunity costs of single people versus families, or credit card use across income ranges, or even the relative conveniences of checks and credit cards. Each of the preceding statements was a prediction generated by and consistent with the underlying consumer preference model, a purportedly general set of presumptions about human economic behavior. To the extent that the predictions as a group were not clearly confirmed, the model with which they are consistent, and from which they came, should itself be seen as losing ground. Once the losses become significant, its utility as an heuristic device can change in a subtle and not always apparent way—from being helpfully descriptive to being, at least potentially, normative. Policy recommendations, therefore, that are grounded in the model, whether or not directly related to these five derivative test points, must equally lose their scientific force.

Consider now one final assertion of the Baxter, Cootner and Scott report—this one being both a testable prediction and a matter centrally important on its own: EFTS is good for consumers. Consumers will therefore embrace EFTS as rapidly as producers' competition brings it into being.<sup>73</sup> That seems not to be the case. The evidence is "overwhelming" that consumers are "actively hostile" to the institution of EFTS,<sup>74</sup> with the possible exception of ATM's.<sup>75</sup> The theory seems once again to be embarrassed by the facts.

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[Moreover,] [i]n the last half of the 1960s the American Bankers Association and the Federal Reserve System advocated a shift from the conventional paper-based payment system to one based on electronics and telecommunications. Yet, as we enter the 1980s, we are still writing checks at a record pace.

Waldron & Ball, *The Bottom Line on Checkless Banking*, TECH. REV., Feb. 1980, at 43.

<sup>73</sup> BC&S at 65. First, the argument is a non sequitur. It is quite possible that EFTS, although objectively good for consumers, will not be perceived in that way by the consumers themselves. This point, however, anticipates a bit. See discussion at pages 468-74 *infra*.

<sup>74</sup> Schuck, *Electronic Funds Transfer: A Technology in Search of a Market*, 13 FEDERAL RESERVE BANK OF BOSTON CONFERENCE SERIES 153 (1974).

<sup>75</sup> To which reactions have been mixed. Arthur D. Little, Inc.'s study for NSF/RANN, *supra* note 5, concluded, in 1975, that regarding ATM's, "Consumer acceptance to date has been excellent." *Id.* at 9. Duffy & Duffy, however, concluded that so far (1974) there is only mild consumer interest in "automated banking services." H. DUFFY & R. DUFFY, *ELECTRONIC MONEY IN PERSPECTIVE* 19 (1974). And, at the other end of the continuum, it was reported that, at Citibank's Queens ATM, "most of the customers preferred to wait in line a few moments and deal with the teller rather than test the new machines." N.Y. Times, May 31, 1977, at 41.

This is a very interesting observation when stated in an alternative way: suppose "a few moments" equals five minutes; and suppose, as Baxter, Cootner & Scott do, that each minute costs each consumer something like 10¢. See BC&S at 25. Using a Baxteresque analysis, we could say that consumers were willing to pay at least 50¢ to avoid using an ATM—or, alternatively, to



A number of pilot projects<sup>76</sup> and marketing studies<sup>77</sup> have addressed each of the components of EFTS. They conclude, consistently, that individuals are well satisfied with the existing currency and check system<sup>78</sup> and will resist the inroads of EFTS.<sup>79</sup> "[T]he banking public is not ready to trade the present check-oriented payments system—no matter how cumbersome—for a checkless system—no matter how streamlined."<sup>80</sup> This is true both of the ACH (DDP-PAD) system and

see a real teller. That conclusion is, of course, inconsistent with the larger idea, that consumers will *prefer* the time-saving convenience of ATM's. Or it just says that time isn't always seen as a real cost, in which case only the foundation of the Baxter, Cootner & Scott analysis is weakened.

<sup>76</sup> For example, with respect to direct deposit of payroll (ACH-DDP), the United States Government's (as employer) experience has been that among the most sophisticated of its employees, only 55-60% have agreed to DDP; and among blue collar workers "only a few percent" will accept DDP. NSF/RANN, *supra* note 5, at 84.

<sup>77</sup> Despite the fact that Baxter, Cootner & Scott dismiss the ACH component as irrelevant to bank-customer relations—a fact I have already criticized, see discussion at pages 417-19—it is important to explore the related marketing data about ACH/DDP/PAD here: it is generally agreed that DDP-PAD is a central component of any future with EFTS in it. *Id.*

<sup>78</sup> BRAND, GRUBER, STANDER & Co., ATTITUDES TOWARDS THE PAYMENTS SYSTEM, A DEPTH STUDY FOR THE AMERICAN BANKERS ASSOCIATION (1970): "As of today the market is extremely happy with the present system," *id.* at 27, even to the point that "customers are reluctant to substitute credit cards for checks in the bill paying process." Opinion Research Corp., Virginia Consumer Attitudes Toward Payments Systems 8 (1974) (study for the Virginia Bankers Association).

<sup>79</sup> BUS. WEEK, Apr. 18, 1977, at 80 ("[T]he public has not accepted the idea."). See generally BRAND, GRUBER, STANDER & Co., *supra* note 78.

<sup>80</sup> *Virginia's Survey*, THE SOUTHERN BANKER, Aug. 1974, at 38. See also A.D. LITTLE, INC., THE BANKERS' EFT HANDBOOK 14, 17 (1975) and studies reviewed by Schuck, *Electronic Funds Transfer: A Technology in Search of a Market*, 35 Md. L. Rev. 76-78 (1975). This curious conclusion has been supported many times over. Perhaps the starkest statement appears in Elliott, *Marketing Today in American Banking* 18 (1974) (student thesis, University of Southern California Graduate School of Business Administration) (copy on file with the author) which reports the results of an "informal" survey of public opinion about the attributes people would like to see in their banks. Note, in the following, the wide disparity between number 1 and numbers 10 and 11.

	<u>Percent</u>
1. Convenient location	94
2. Extended operating hours	92
3. Friendly personnel	78
4. Free checking accounts	76
5. Funds transfer by phone (savings to checking. . .)	57
6. Automatic overdraft	49
7. Higher interest (½% paid on savings)	43
8. Drive-up teller window	37
9. Convenient parking	35
10. Automated 24-hours teller terminals	21
11. Automatic bill-paying	17

of the POS system with which the report was concerned,<sup>81</sup> and for a single reason—not only are there very serious intangible costs to consumers in EFT systems, there are precious few benefits.

As to ACH-related services (DDP and PAD), *the most favorable study yet reported found that only 40 % of its respondents approved of DDP: 51 % approved of PAD*<sup>82</sup> but only 17 % did so when PAD was combined with a negative balance feature.<sup>83</sup> Very few respondents (8 %) surveyed in these empirical studies found it inconvenient to deposit income checks.<sup>84</sup> An equally small number (10 %), when asked directly, responded that the cost of writing checks was too high.<sup>85</sup> Of those who did put a money cost on check writing, most tended to include postage, envelopes, and checking account fees, but not the cost of their time.<sup>86</sup> Time spent writing checks—more broadly, effecting payments—seems not to be regarded by most people as a cost, or at least not as an important one. Perhaps there is no more satisfying way in which that time can be invested?<sup>87</sup>

POS studies generally reached similar, if not even more devastating, conclusions. The American Bankers Association survey of banking households found only a 10 % approval rate for POS.<sup>88</sup> “Shorter transaction time makes little impact on the shopping trip as a whole . . . transaction time is not usually a major consideration.”<sup>89</sup>

<sup>81</sup> IV APP/GIT PHASE III, *supra* note 6, at 163-79. The “cash card” (POS) device “does not appear to have great potential. There does not seem to be strong interest in having this service, much less in having to pay for the privilege.” *Id.* at 172-73.

<sup>82</sup> *Id.* at 4. The BRAND, CRUBER, STANDER & Co. study came to a similar conclusion—*i.e.*, that a maximum of 50 % would accept PAD for fixed recurring payments, and a maximum of only 10 % would accept PAD for variable bills. *supra* note 78, at 35-36.

<sup>83</sup> BRAND, CRUBER, STANDER & Co., *supra* note 78, at 4. The APP found one other interesting datum. In response to the question, “Is it convenient to cash or deposit the paycheck?”, 88 % said yes and 8 % said no. *Id.* at 44. Of the 8 % who said no, only 6 % of them approved of DDP. *Id.* at 49.

<sup>84</sup> See note 83 *supra*; IV APP/GIT PHASE III, *supra* note 6, at 4, 6, 44.

<sup>85</sup> Opinion Research Corp., *supra* note 78, at 6.

<sup>86</sup> The median per month cost was reported as \$1.67; the median number of checks was 11, or approximately 15¢ each. *Id.* at 63-64. The median amount of time was about one hour per month spent in check-writing. *Id.* at 61. Thus, the total cost of \$1.67, after deduction of “real” costs such as postage, leaves very little if anything as a cited cost of time. The study concludes that “the perceived cost of paying bills appears to be relatively independent of the amount of time taken to pay bills.” IV APP/GIT PHASE III, *supra* note 6, at 64. In other words, people don’t value their time in the way that Baxter, Cootner & Scott feel they should. This is consistent with another finding, that those who *would* pay for a monthly bill-paying service would be willing to pay only about \$1.67 per month. NSF/RANN, *supra* note 5, at 256.

<sup>87</sup> Indeed, as personal incomes rise, and working hours fall, it may very well come to pass that many people will value positively having something to *do* for an hour each month, other than go bowling. The time might be useful for reviewing budgets; making plans; thinking, in general, about managing one’s financial affairs.

<sup>88</sup> Opinion Research Corp., *supra* note 78, at 8.

<sup>89</sup> IV APP/GIT PHASE III, *supra* note 6, at 169.

EFTS, say Baxter, Cootner and Scott, is "unequivocally advantageous to consumers." Why haven't consumers noticed?<sup>90</sup> (And what does the failure of that assertion say about the construction of the analytical methodology?) A hint here and there can be gleaned from the empirical work of some researchers who, not content with theory-driven psychological postulates, have asked consumers themselves why they believe and behave as they do. The responses are enriching, even as to systemically trivial matters.

With respect to DDP, for example, objections have ranged from the sophisticated (concerns about establishing proof of payment for IRS claims)<sup>91</sup> to the brutish (some wage-earners wish to be paid in cash or check so that their wives' [sic] allowances can be controlled),<sup>92</sup> and include doubts by some that they will be able to do the minimal bookkeeping that a non-cash system requires.<sup>93</sup>

PAD had its fillips too. A surprisingly large proportion of all households juggle their budgets by controlling the timing of their bill-paying. PAD systems will probably interfere with that process. PAD, DDP and POS combined will eliminate both the juggling gaps and the ability of consumers to float deposits and payments. Baxter, Cootner and Scott identify the potential objection of consumers to PAD as an objection to losing the economic value of what is now interest-free borrowing, *viz.* float.<sup>94</sup> That is simply not the whole matter. Juggling occurs not because consumers are maximizing the value of their assets, but because they are experiencing the real-world

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<sup>90</sup> BC&S at 65. It is interesting to put some of the consumer objections to EFTS in perspective. The APP study presented a sample population with a number of statements relating to payments and the payments process, and tested the general level of agreement expressed for each statement. First among the twenty-seven, in order of level of agreement, was [w]e must have records of payment for future reference." Second was "[w]e keep up to data [sic] records [to] know our current balance." Third was, "We want to be personally involved in every financial transaction that affects us." And *thirteenth* (with an agreement score well below the mean) was, "I often need cash quickly for certain transactions." IV APP/GIT PHASE III, *supra* note 6, at 110-11.

<sup>91</sup> Opinion Research Corp., *supra* note 78, at 4.

<sup>92</sup> BRAND, CRUBER, STANDER & Co., *supra* note 78, at 50; NSF/RANN, *supra* note 5, at 254.

<sup>93</sup> NSF/RANN, *supra* note 5, at 254. This point deserves a further note of explanation. Many people, it happens, have learned to survive with "eyeball budgeting," *i.e.*, "I look in my wallet to see if I can afford [X] . . ." With respect especially to PAD, it was noted in the Virginia study that "serious and consistent budgeting is not widespread; thus a rigid prepayment plan may cause serious money handling difficulties for families who handle their present bill paying with a great deal of flexibility." Opinion Research Corp., *supra* note 78, at 3.

<sup>94</sup> BC&S at 55. Checks, while traveling, are not debited to the drawer's account. A check can therefore be mailed and covered by funds deposited later. Baxter, Cootner & Scott deal with this loss of float, characteristically, by measuring such losses against gains in opportunity time costs. *Id.*

effects of income and wealth constraints. It looks like economic optimizing only if one fails to look closely.<sup>95</sup> Most of these and similar small problems are amenable to regulatory or technical fixes: PAD debits could be made reversible;<sup>96</sup> analogues to stop-order rights could be created;<sup>97</sup> fraud losses could be allocated however we like. None of these problems is intrinsic to EFTS; all of them reflect but minor additional dimensions to the hypothesized anthropology. It is, therefore, even more difficult to understand the full severity and extent of consumer resistance to EFTS. Some more fundamental, more surprising revisions are necessary if the model of *homo economicus* is to work—if we are to avoid the risk of calling a thing good when it conforms to what we begin by assuming.

#### IV. WHERE THE MODEL FAILS: A RICHER NOTION ABOUT PEOPLE

It is difficult to overstate the significance of the central difficulty with the Baxter, Cootner and Scott model; EFT systems, it says, are good for people. But people don't want EFT systems. People seem stubbornly not to embrace what is "unequivocally" in their—and therefore society's—best interests "in terms of time and money."<sup>98</sup> It has already been suggested that the model's equation of time/activity with money/cost is seriously suspect. If that were the whole of the problem, however, it would still not be possible to explain all of the anti-EFTS reactions that numerous surveys and pilot studies have disclosed. We would expect in that case to see at worst consumer indifference, and therefore public acceptance of EFT systems proceeding as rapidly as banks, driven by reductions in their own costs, can make the conversion. Things have gone rather more slowly than that. It must be, therefore, that there is a larger problem.

Perhaps economic goods like time and money do not account adequately for consumer behavior. If that is true, the implications for this genre of legal policy analysis reach beyond the mere failure of one empirical prediction. There is, again, a connection, embedded deeply within the analytical regime, between its confidence in the consumer

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<sup>95</sup> See pages 467-68 *infra*.

<sup>96</sup> See generally Schuck, *supra* note 80, at 82; BRAND, GRUBER, STANDER & CO., *supra* note 78, at 34; the EFTS Act, 15 U.S.C. §§ 1693-1693r (Supp. III 1979); Regulation E, 12 C.F.R. § 205 (1980).

<sup>97</sup> In fact, Congress has taken a half step in exactly that direction, by preserving the stop-payment rights of consumers as to PAD (but not as to POS). See 15 U.S.C. §§ 1693e(a), 1693a(9), 1693h(a)(3) (Supp. III 1979) (sections of the Electronic Fund Transfer Act, now part of the Consumer Credit Protection Act). See note 29 *supra*.

<sup>98</sup> BC&S at 65.

psychology it adopts and its confidence in the ability of unregulated markets to serve collective consumer interests. If the former fails, there is reason to wonder about the latter.<sup>99</sup>

The former fails. Why? Although it may never be possible to describe a single unified field of human behavior, there are some forces that may be suggested by the richer views of people developed within other disciplines. This section essays a few such suggestions drawn from literature, psychology, the humanities, and from sociological analyses of EFTS itself. Again employing EFTS as the context of the critique, the discussion will be organized around the three major attributes of all EFT systems: They deal with money; they employ in obvious ways electronic computing and data processing machinery; and they will pervade a fair segment of all social activity with an intrusive potential far greater than that of payment systems of the past or present.

#### A. *The Affect of Money*

Money is only a store of resource entitlements and checks are but a transitory reification of money. A number of empirical inquiries, however, suggest that there is more to money than money, and that the payments process might be a source of positive utility<sup>100</sup> rather than only a device to be suffered grudgingly.

DDP involves a direct conduit from a payor, such as an employer, to the recipient's depository bank. Unlike the payee of a paycheck who is able to fondle the item briefly on its way to the bank or the bar, the employee of a DDP payor receives at most a notice advising him that two institutions have handed his earnings from one to the other. It is of course entirely logical to suggest that the difference is irrelevant, that in either case (absent a combined DDP-PAD system) the same amount is subject to the recipient's eventual control. But that suggestion is not faithful to psychological (as opposed to square-cornered functional) reality. Checks and money provide tangible even if symbolic rewards for the week's labor, a satisfaction that DDP, even with receipts for the deposit, may not.<sup>101</sup>

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<sup>99</sup> This implication is explained in section VI *infra*.

<sup>100</sup> "Utility" is used here in its broadest economic sense—it means something like "perceived welfare," or satisfaction or even happiness.

<sup>101</sup> See the Bank Marketing Association study cited in NSF/RANN, *supra* note 5, at 254. It is interesting to note that this "reward" phenomenon is a direct report of queried respondents, not an interpretation by behavioral scientist observers. See *id.*

This and other<sup>102</sup> similar symbolic functions are not intrinsic to check systems nor of necessity absent from EFTS. They can be unlearned: humans evolved from a primordial ooze that did not, so far as is known, originally include negotiable instruments, and cash probably wasn't used for the first million years of *homo sapiens'* era. But that is not the point. Some people value check-handling because it is a source of positive satisfaction; the existence of this noneconomic utility is the point—a small enrichment of the model.

Some of the affect of checks and money is more tenacious. Consider PAD. Individuals will generally accept deductions, pre-authorized debits effected by an employer, from their gross pay. The same people will not readily accept PAD—debits to demand deposit accounts that come after net pay.<sup>103</sup> That is not really surprising. Net pay may be the important reality, the area of discretion left to oneself by oneself and others.

As one survey respondent put it, "If they put my paycheck in my account automatically and then take the money for my bills out automatically . . . , what do they need me for?"<sup>104</sup> The survey's conclusion was clear: "[C]hecks are of positive psychological benefit. They give the individual a feeling of control over his life . . ." <sup>105</sup> To handle cash and to effect bill paying by incurring the costs and inconvenience of deposit making and check writing and reconciling accounts is a tangible act of autonomy: individuals do often feel that their ability to write checks reflects their power to shape important aspects of their environment,<sup>106</sup> to make autonomous choices.<sup>107</sup> This is hardly *homo economicus*; it is nevertheless real. The point, again, is not that EFTS will fail, but rather how the model employed to analyze EFTS may have failed.

### B. Computers and Bureaucracies

A more important and more illuminating dimension of the aversion to EFT systems reinforces the richer view of things. Elaborate computer-based systems designed to help consumers manage their

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<sup>102</sup> Including the finding that, for some, the handling of money is a "sensual experience," Opinion Research Corp., *supra* note 78, at 9, and that the use and retention of checks satisfy "emotional" urges, or the pack-rat drive, to have checks stand as surrogates for expenditures gone by. Indeed, 45% of all check writing households retain their cancelled checks for at least six years. *Id.* at 38-39.

<sup>103</sup> See THE BANKERS' EFT HANDBOOK, *supra* note 80, at 13.

<sup>104</sup> BRAND, GRUBER, STANDER & Co., *supra* note 78, at 15.

<sup>105</sup> *Id.* at 15.

<sup>106</sup> *Id.* at 34.

<sup>107</sup> Opinion Research Corp., *supra* note 78, at 14. The topic of autonomy is explored in further detail at pages 430-41 *infra*.

financial affairs are widely regarded as a menace.<sup>108</sup> "No EFT system yet devised appears to be able to convince consumers that they will retain control . . . ."<sup>109</sup> Whence this aversion, and what does it say?

It is, in part, a fear of bureaucratic intransigence and inexorable rationality, a revulsion from the prospect of becoming a part of a large, dehumanized system,<sup>110</sup> a system perceived as complex, impersonal and ubiquitous, controlled not by accessible individuals but by a technology operating efficiently.<sup>111</sup> There is a combination of attitudes here, among them a belief that the more complex and embracing a system is the harder it is to correct its errors,<sup>112</sup> a high level of distrust of banks and other large institutions generally,<sup>113</sup> and an association of computers and the large institutions which use them with inflexibility, difficulty of communication and a "lack of compassion."<sup>114</sup> The aversions are not unfounded.<sup>115</sup> They are in fact

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<sup>108</sup> Cox, *Developing an Electronic Funds Transfer System: Incentives and Obstacles*, 13 FEDERAL RESERVE BANK OF BOSTON CONFERENCE SERIES 15, 29 (1974). Note, in a related vein, the remarks of K. O'Reilly (Legislative Director, Consumer Federation of America) in a 1976 speech entitled "EFTS: Consumer Concerns," at 8-9:

We share the concern of welfare rights advocates who point out that public assistance recipients may someday face a system of compulsory deposit of welfare or other public assistance checks coupled with requirements for specified preauthorized payments for food, shelter and utilities. This could lead to a totally unfair situation in which welfare recipients will have dictated to them the government approved priorities as to the way they spend their money. . . .

Not just low income consumers, but all consumers, must be assured that EFT will not result in a policy of undue pressures on them to enter numerous preauthorized payment agreements. The principle of preauthorized payment is sound in terms of efficiency and we do not question its advantages including increased convenience. Consumers can and do benefit from preauthorization. However, as it approaches the point where an individual's money pool has been almost totally committed to preauthorization payments there is a disturbing potential result. Namely, it has the practical effect of putting individuals in situations where they sacrifice control and management of their own finances and relinquish the right to determine on a regular basis their own spending priorities.

<sup>109</sup> NSF/RANN, *supra* note 5, at 84.

<sup>110</sup> Cf. *Stevens v. Berger*, 428 F. Supp. 896 (E.D.N.Y. 1977) (sincerely held religious belief that obtaining social security numbers would jeopardize spiritual well-being prevailed over the requirement that such numbers be furnished as an aid to prevent welfare fraud). In one recent survey, 73% of the respondents agreed with the statement that, "[T]he problem with government and big business is that they have reduced individuals to a set of punched holes in an IBM card." A. WESTIN & N. BAKER, *DATABANKS IN A FREE SOCIETY*. 480, (1972).

<sup>111</sup> One excellent analysis of the public's attitude towards computers is Lee, *Social Attitudes and the Computer Revolution*, 34 PUB. OPINION Q. 53 (1970).

<sup>112</sup> Opinion Research Corp., *supra* note 78, at 8.

<sup>113</sup> *Id.* at 20.

<sup>114</sup> See NSF/RANN, *supra* note 5, at 44; BRAND, GRUBER, STANDER & Co., *supra* note 78, at 16.

<sup>115</sup> Though for present purposes it is sufficient to note only that these motivations and attitudes exist, and not why, it can enhance the analysis to digress briefly into the nature of computing networks.

quite accurate, as the background of such things as the Fair Credit Billing Act<sup>116</sup> can attest. Nor, to presage a later discussion,<sup>117</sup> are they aversions for which an unregulated market is able to correct.

Mechanized billing systems do make errors. A recent study of credit card billings presented these findings:<sup>118</sup>

Percentage of Respondents Reporting at Least One Error

Income	Retail Store Cards	Bank Credit Cards
< \$5,000	5 %	1 %
5,000-7,500	11	< 0.5
7,500-10,000	21	5
10,000-15,000	12	3
15,000-20,000	12	4
20,000-25,000	13	4
> 25,000	24	7
All	15 %	4 %

Another datum from this study is the more compelling. Of all respondents surveyed, "3 per cent complained of difficulty in getting errors corrected"<sup>119</sup> All of those three percent were necessarily within the group of respondents who reported having had billing errors

<sup>116</sup> The Fair Credit Billing Act (FCBA), Pub. L. No. 93-495, 88 Stat. 1511 (1974) (codified in scattered sections of 15 U.S.C.), is now part of the Consumer Credit Protection Act. See note 29 *supra*. It mandates a dispute resolution procedure for creditors, but more directly, it mandates *responsiveness* by the creditor to the debtor's plaint. As to the background, see generally *Inaccurate and Unfair Billing Practices: Hearings on S. 1630 and S. 914 Before the Subcomm. on Consumer Credit of the Senate Comm. on Banking, Housing and Urban Affairs*, 93d Cong., 1st Sess. (1973).

The Fair Credit Reporting Act, 15 U.S.C. §§ 1681-1681t (1976 & Supp. III 1979), is responsive to the same pattern of bureaucratic inertia and secretiveness as is the FCBA:

In neither case has the law directly mandated different outcomes in the respective private actions. It has, rather, erected a system of revelatory and participatory rights—a sort of private due process, if you will, predicated as much on the value of sharing in the process as on the supposed reduction of error that an expanded process may afford. The creditor must take notice of the consumer on an individual basis.

When the consumer speaks, the creditor may refuse to listen only at its peril.

Dauer, *Federal Regulation of Consumer Credit Transactions: A Trend Toward Individuation*, 52 CONN. B.J. 130, 155 (1978). The background of the Fair Credit Reporting Act (horror stories and all) is in *Fair Credit Reporting: Hearings on H.R. 16340 and S. 823 Before the Subcomm. on Consumer Affairs of the House Comm. on Banking and Currency*, 91st Cong., 2d Sess. (1970).

<sup>117</sup> See pages 465-68 *infra*.

<sup>118</sup> R. SHAY & W. DUNKELBERG, *RETAIL STORE CREDIT CARD USE IN NEW YORK* 40 (1975). The question asked was: "Have any of the credit card bills sent to you in the past year by the following types of credit card issuers contained mistakes?" *Id.* at 35.

<sup>119</sup> *Id.* at 43.



made.<sup>120</sup> That 3% is 20% of 15% and 75% of 4%. Although errors are infrequently made—assuming that one out of seven, or one out of twenty-five, is infrequently—once made they are perceived as being very difficult to correct.

As to intransigence, perhaps the most perceptive insights about computers, and their institutional use, are those of M.I.T.'s Weizenbaum, who identifies as the qualitative difference between computers and most other tools the fact that computers are themselves partially autonomous—they run “on the basis of internalized models of some aspect of the real world.”<sup>121</sup> Despite the fact that it is people who initially program the model, computer autonomy is nevertheless a useful clue to what is often troubling—a perception that relevance becomes unalterably and insensitively narrowed.

Several things can and do happen when a credit scoring system for example is put onto a computer program. For one, there is a reluctance of those charged with decisionmaking to accept an argument that the computer's “judgments” are in error. Computers, it is thought, operate on hard facts by objective algorithms. Unlike humans, who are prone to cognitive and computational errors caused by subjective assessments of the facts and issues before them, computers do not make subjective mistakes. This attitude has a cognate manifestation: the *model* on which the computer is operating is right. An item about an individual which cannot be coded into the scoring systems' quantifying scales is not a relevant item,<sup>122</sup> and it is right that it should not be; after all, this is a computer program, designed to take advantage of experience and analysis beyond the capacity of any mere person. As one commentator offered,

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<sup>120</sup> Assume a population of 100 people with bank credit cards. Three (A, B and C) report difficulty in getting errors corrected. Four report billing errors. Of the four, A, B and C must be three of them. Therefore, 3 out of 4 who experienced a billing error had difficulty having it corrected. This and related problems have not escaped the attention of some students of EFTS. The National Science Foundation's study concluded, for example, that “[T]he new role for the consumer in EFTS will lead to many instances of confusion, frustration, and total anger if the system functions in correct but mysterious ways (to the consumer), or if it malfunctions. . . . [F]or many financial institutions this will represent a new challenge and require much more attention to customer relations than has been demonstrated to date.” NSF/RANN, *supra* note 5, at 110 (emphasis added).

<sup>121</sup> Weizenbaum, *On the Impact of the Computer on Society*, 176 Sci. 609, 610 (1972).

<sup>122</sup> Again to anticipate a later discussion, this effect of narrowed relevance has its existential costs. It *matters* to people that organizational decisionmakers will not only come to know more about a subject than they would freely reveal, but will in addition tend to define the subject, for their purposes, as *adequately* represented by the data.

Even if the assumptions and the data are correct, it still traverses the fact that humans tend to want to be not just predictable response mechanisms, but fully autonomous, always individual, and constantly becoming. See discussion at pages 438-42 *infra*.

The fact that many organizations actually base their decisions on—worse, take their decisions from—computer models is profoundly disturbing given the current state of the computer art. Similar feelings about the written word persist to this day: If something is “in black and white” it must somehow be true.<sup>123</sup>

Self-validation may not be inherent in physical computer technology. Chips of silicon wafers, of course, are incapable of being evil on their own. Thus far, however, such self-validation, while frequently false, remains a likely, if not inevitable, artifact of the relationship between the machines and those who run them. As Kenneth Karst wrote,

the facts that emerge from the computer will become the only significant facts about the subject of the inquiry . . . because of the very great differences, in convenience and cost, between accepting what the computer tells us and going behind its report. . . . And when the subject himself tries to explain, he will be met with more resistance primarily because he has to rely on outside sources, which are apt to be thought of as softer, lacking the computer's deceptive precision.<sup>124</sup>

This begins to explain the marketing resistance that EFTS have encountered.<sup>125</sup> To connect it simultaneously to EFTS on the one

<sup>123</sup> Kay, *Microelectronics and the Personal Computer*, 237 SCIENTIFIC AM. 231 (1977).

<sup>124</sup> Karst, *The Files: Legal Controls Over the Accuracy and Accessibility of Stored Personal Data*, 31 LAW & CONTEMP. PROB. 342, 361-62 (1966). And, as Weizenbaum observed, Not only have policy makers abdicated their decision-making responsibility to a technology they don't understand, all the while maintaining an illusion that they, the policy makers, are formulating policy questions and answering them, but responsibility has altogether evaporated. No human is any longer responsible for what the machine says. Thus there can be neither right nor wrong, no question of justice, no theory with which one can agree or disagree, and finally no basis on which one can challenge “what the machine says.”

See Weizenbaum, *supra* note 121, at 611-13.

<sup>125</sup> There are other, more subtle, aspects of visible computerization to which consumers may be responding. Many technological revolutions have had impacts far greater, in what may have at first seemed to be remote directions, than in their more immediate functional consequences. One thinks immediately of television, a prime example of something which did an old thing (communicating) better, but which came to have unbelievably pervasive cultural consequences. Another example is the microscope, a mere optical glass, but one that led to the discovery that disease was microbial and not divine punishment for the afflicted's sin.

Similarly, and again as Weizenbaum observed, one of the most subtle and pernicious aspects of any “technologizing” move is that the nature of the issues changes to embrace only those amenable to further technological adjustments. That is to say, that because whoever controls the questions can affect the nature of the answers, we begin to find ourselves regarding “will it work, and how can it be made safe?” to be the *only* questions, rather than only subsidiary issues to the more basic question “Do we really need this?” Or even want it. See Weizenbaum, *supra* note 121, at 611-12.

These effects too may be motivations for “irrational” consumer choice.

hand, and to heuristic anthropology on the other, one might put a single question: Why does any of this matter, so long as the efficiency of exchange relations is enhanced? Even if one imagines an ubiquitous EFT network with silent computers efficiently allocating credit and cheaply doing automatically what individuals would necessarily choose to do anyway—a vision Baxter, Cootner and Scott seem to reject—why ought consumers to object?<sup>126</sup>

Imagine anyone, perhaps an economist, breakfasting with the *Sunday Times*, orange juice and a bagel, and contemplating the balance of the day. Before him lie three options: Playing golf, watching a baseball game on TV, and working in the basement workshop. Suppose further that the preference among them is in just that order—golf, baseball and the workshop—so that if left undisturbed he would head for the links directly after the crossword puzzle. Enter spouse, who announces that because the poker club will be at the house that afternoon, he will have to play golf.

In 1966 Professor Jack Brehm published the results of his research into what he styled the Theory of Psychological Reactance.<sup>127</sup> The theory, rooted in the empirical tradition of experimental psychology, states generally that higher organisms including—if not especially—humans are subject to motivational disquiet when “free behaviors” are threatened. Brehm postulates that a subject will be aroused whenever an option previously open is actually or potentially foreclosed. As a behaviorist, Brehm regards this arousal as a behavioral stimulus: the subject acts so as to reconstruct the free behavior set that existed prior to the confining event. The evidence, however, supports a larger interpretation: the reactance that arises when some part of the perceived free behavior set is extinguished is a matter of disquiet or perturbation. Or, conversely, people value freedom from interference with their preexisting set of opportunities.

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<sup>126</sup> Baxter, Cootner & Scott cite, by way of a strawman rapidly to be dismissed, Orwell's *1984*—a vision of the future in which Big Brother is always watching. BC&S at 162. Whether they are correct in dismissing *1984* as hysterical emotionalism as to EFTS is an issue, but one that misses the point. At the height of the novel, Orwell's central character came to define his freedom as the ability to believe that two plus two equals four—a representation of the “truth” which the state would require him to deny. Interestingly enough, the central character of Dostoevsky's *NOTES FROM UNDERGROUND* also came to symbolize what was for him an important dimension of freedom by pointing to the need to assert, and be dealt with as if the belief were important, that sometimes two plus two equals five. It is not that I prefer the hallucinations of existentialists to the nightmares of avant garde political scientists. It is a fact, however, that Baxter, Cootner & Scott's dismissal of *1984* neglects the more insidious of the threats which technological advance presents—not the risk of forced error, but the inability to escape the rationalism of the adjudgmental bureaucrat.

<sup>127</sup> See J. BREHM, *A THEORY OF PSYCHOLOGICAL REACTANCE* (1966).

The spouse's poker club announcement will, the theory predicts, result in a reactance: the economist will form a new preference ordering, one in which the desirability of baseball and the workshop will increase and of golf will decrease; or so the subject will report and actually feel. He will accordingly be motivated both to recapture his ability to watch television at home or use his workshop, and to avoid the circumstance which constrained the pre-existing opportunity set.

The example is trivial; the effect is important. It has been verified with human subjects in a remarkably wide variety of circumstances. (One can only wish that Brehm had collaborated with those other researchers who investigated consumer reactions to futuristic PAD systems—processes which do automatically what one might otherwise have to do anyway.) Brehm's data confirm some refinements of the theory that take it beyond the prosy observation that people prefer more freedom to less. Some of these refinements are particularly interesting in the context of EFT and the observations just made about computers and bureaucracies, and might be articulated for the purpose of comparison as follows:

- Reactance occurs when a free behavior is perceived as being jeopardized. It varies positively with the importance of the eliminated opportunity, negatively with the importance of those not threatened, and positively with the percentage of the total set which the eliminated portion occupies.

- Reactance varies with the perceived magnitude of the threat, which in turn is a function of credibility and, for a human or institutional actor, of social power.

- The actual or threatened elimination of one behavior may implicitly threaten other behaviors; the total reactance is thus a function of actual and implicit threats. The magnitude of the reactance varies as the threat is perceived as directed versus random, personal versus impersonal.

To recast the preceding discussion in terms of EFTS:

- An urbanized industrial society requires an intensive division of labor and an extensive degree of exchange. Barter is generally impossible; payments systems are pervasive even unto those things on which one's very survival depends. Being a consumer is not only something all have in common, it is something that occupies a fair portion of one's total activity. The payments system therefore is comprehensive, if not ubiquitous.

- Computers operate on the basis of internalized models of the real world; computerized systems are perceived as being inexorable as well as infallible: what they do in case A they will do in case B as long as they are not programmed to respond to a difference between the

two cases. A programmed misuse of data in one case will threaten a similar misuse in numerous other cases.

- Banks have high social weight. Threatened reductions of free behaviors when implied by banks will have a greater effect than do those of many other institutions. Banks control important parts of the payments mechanism; they control access to credit and creditworthiness and behave in quiet and secretive ways.

- Information is an important ingredient in "control."<sup>128</sup> So is possession. Banks, as the managers of present and future payments mechanisms, have access to large quantities of information. They also have, most of the time, at least temporary possession of nearly everyone's wealth.

The point, of course, is not to tie the marketing problems EFTS has faced to any one particular psychological theory, though the link here seems particularly strong. What is being suggested is severalfold: first, the documented reactions to EFT systems are neither transitory artifacts nor merely consumer inertia. They are real difficulties which reflect an important theme in human behavior. Second, is the theme itself. The behavioral model of Baxter, Cootner and Scott appears by contrast to be rather thin.<sup>129</sup> It does not account for such "irrationalities." Brehm's thesis is just one example of the kinds of enrichments that are both possible and necessary if a psychological model is to serve as a cornerstone for what becomes a methodology of policy analysis.

A third point, to look forward a bit,<sup>130</sup> is to demonstrate that the hypothesis about autonomy, "dignity" as it will presently be styled, has at least one rigorous empirical analogue. Brehm's theory deals with the appearance of choice. Autonomy resides in the sense of having chosen.

Central to the credibility of the Baxter, Cootner and Scott report, its methodology and its recommendations, is the confidence one has in being able to identify what is a benefit and what is a cost.

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<sup>128</sup> The connection between Brehm and the discussion of privacy, at pages 434-42 *infra*, is echoed here too—consider the reactance which determinism (more precisely, the work of behaviorists such as Skinner) might itself cause; we react adversely even to those things that traverse our illusions of freedom.

<sup>129</sup> It too is based on a small number of psychological postulates, far cruder than Brehm's. Brehm's work suggests just how difficult and complex the psychology of "economic" behavior can be, a complexity that EFTS encounter but for which Baxter, Cootner & Scott seem not to account. Some members of their school have attempted to deal with such phenomena in rigorous even if not empirical ways. One extraordinary attempt, on a related issue, is Stigler & Becker, *De Gustibus Non Est Disputandum*, 67 AM. ECON. REV. 76 (1977).

<sup>130</sup> See discussion at pages 438-42 *infra*.

### C. *Privacy, Dignity and an Unhappy Russian Novelist*

#### 1. The Quantum of Change

This essay opened with the observation that EFTS portends a revolution, a sharp acceleration in the history of banking. Baxter, Cootner and Scott disagree.<sup>131</sup> Their view comprises four identifiable assertions: (1) EFTS is a natural market response to potential reductions in the internal cost structure of retail banking brought about by technological progress. (2) EFTS is essentially a communications device. Therefore, as a new way to do old things, it presents no new issues. (3) Because the pressure for EFTS is entirely a function of its cost advantages, its introduction will be gradual; it is no different nor will it be more abrupt than have been other changes in the history of payments processes. (4) It will be an additional method of payment making; like other, earlier technological changes, EFTS will for the foreseeable future coexist with rather than displace existing payment systems.

The first point is true, though incomplete in ways that will be apparent shortly.<sup>132</sup> The second point is false. Point three is probably false as well. Point four is debatable—uncertain in ways that may have significant implications for regulatory policy.<sup>133</sup> We shall begin with the second point.

Glanville Williams once said that the difference between a difference in kind and a difference in degree is mainly a difference in degree.<sup>134</sup> As to the prospect that EFT systems, when and if fully in place, may affect the possibilities for systemic invasions of consumers' privacy, Baxter, Cootner and Scott hold that the degree of privacy currently enjoyed is in part a consequence of the high cost of collecting, storing and retrieving information; while the technology of EFTS will reduce those costs, they will continue to counter the possibility of privacy invasion. In fact, a shift from the present check-based process

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<sup>131</sup> "It is not our purpose to argue that today's problems are no different from those of the past, but these analogies do suggest to us that any differences are of degree rather than kind and that the magnitudes of those differences pose empirical questions without obvious answers." BC&S at 5. Furthermore,

One of the greatest dangers inherent in discussions of electronic funds transfer is the temptation to treat this new technology as an event in banking so unique that it will cause a fundamental change in the banking business and require a unique treatment of rules and regulations to bring it to fruition without wreaking damage.

*Id.* at 3.

<sup>132</sup> See discussion at pages 457-64 *infra*.

<sup>133</sup> See discussion at pages 460-64 *infra*.

<sup>134</sup> Williams, *Language and the Law*, 61 LAW Q. REV. 71, 192 (1945).

to even a modest electronic mode will at the least effect a ninety-eight percent reduction in those costs.<sup>135</sup> That difference in degree begins to look like a difference in kind.

This fifty-to-one ratio for some parts of the process is only the beginning of the future. Moreover, EFTS is potentially more than communications. Electronic Data Processing (EDP) has undergone its own revolution during the past decade. In the 1960's, when large-scale computational capacity was first being put into place, EDP was largely a matter of calculating, testing and sorting.<sup>136</sup> The 1970's marked a change from the age of computing to the age of information systems. The technology of the 1970's, which includes an information storage and analysis speed one hundred million times faster than that of the precomputer era,<sup>137</sup> has radically altered the amount of information that, at reasonable notice, can be known. It therefore a fortiori has changed the relevance of information that may have been retained but previously could not, without expensive advance preparation, be used. EFTS is an information management system.<sup>138</sup>

Such exponential strides in information processing capacity allow for significant changes in what is processed and for what purpose. EFTS can easily exploit these opportunities.<sup>139</sup> Consider for example a household or individual as the originator of payment/exchange transactions, participating in discrete deals with Retailer A, Retailer

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<sup>135</sup> Present estimates of the cost of microfilming a check and storing the film (*i.e.*, capturing the data concerning amount, date, payee, and drawer) is presently about \$0.0005 per item (*not* including sorting and other processing), or in exponential form,  $5 \times 10^{-2}$  cents. If the same information were captured and stored on magnetic tape or "floppy disc" storage, it could be recorded and filed at a cost of about  $10^{-5}$  cents per bit. Assuming that 100 bits would suffice, the per item cost would be about  $10^{-3}$  cents. This figure ( $10^{-3}$  cents) is 2% of the present figure of  $5 \times 10^{-2}$ . Thus far, only storage has been calculated. The retrieval and analysis ratios are even greater orders of magnitude. See generally Holton, *The Large-Scale Integration of Microelectronic Circuits*, 237 *Sci. Am.* 82, 82 (1977) ("The resulting increase in our ability to process information amounts to an intellectual revolution."); Noyce, *Microelectronics*, 237 *Sci. Am.* 63, 63 (1977) ("[T]here has also been a true revolution; a qualitative change in technology, the integrated microelectronic circuit, has given rise to a qualitative change in human capabilities."); Terman, *The Role of Microelectronics in Data Processing*, 237 *Sci. Am.* 163 (1977).

With the idea that EFTS will be revolutionary, not gradually evolutionary (as Baxter, Cootner & Scott would have it), most commentators—including EFTS' friends—agree. See, *e.g.*, M. BENDER, EFTS: ELECTRONIC FUNDS TRANSFER SYSTEM—ELEMENTS AND IMPACT 71 *passim* (1975); H. DUFFY & R. DUFFY, *supra* note 75, at x.

<sup>136</sup> O. DIAL & E. GOLDBERG, *PRIVACY, SECURITY, AND COMPUTERS* 9 (1975).

<sup>137</sup> See A. WESTIN & N. BAKER, *supra* note 110, at 14. The cost has declined more or less to match. See M. WESSEL, *FREEDOM'S EDGE: THE COMPUTER THREAT TO SOCIETY*, at vii (1974).

<sup>138</sup> See generally sources cited in note 135 *supra*.

<sup>139</sup> As I shall argue later, it not only can, but, absent constraining legislation, probably will. See pages 457-64 *infra*.

B, Lender C, Taxing Authority D, Employer E and so on. In a currency-based payments system each of those entities captures by virtue of the transaction only the data which relate to it, plus whatever information it can acquire from the individual by manual transmission such as tax returns and loan applications. The administrator of the payments mechanism in a currency-based system captures virtually no data at all; the U.S. Treasury may have records of the quantities of currency in circulation and may know something of the velocity of money in general, but it knows nothing of any particular transaction. When one shifts from currency to checks the matter changes in a fundamental way. Each transaction now involves three parties—the payor, the payee, and a bank acting as the decentralized administrator of the process, often simultaneously connected with many of the payor's other transactions. Because the checks necessarily carry certain transaction data,<sup>140</sup> there is in this system at least one party with the theoretical ability to deal in a coordinated way with data from many discrete transactions. The limited amount of transaction data captured with each check and the cost of utilizing the data in an intelligent fashion, among other less important phenomena, prevent this from occurring at the present time.

If and when such costs decline, by a factor of fifty to one, or one hundred million to one, and when the net of connected participants widens to include retailers (POS) as well as payors and payees, communication among the individual's separate transaction partners becomes feasible. The degree of discreteness of transactions processed through an EFT system may dissipate and the manager of the payments mechanism may become involved in a fashion resulting in the communication of processable information about each and every transaction<sup>141</sup>—the possibility at least of the construction of dossiers from analysis of receipts and payments.

To summarize briefly, each leap in the sophistication and concomitant decrease in cost<sup>142</sup> of information technology has the poten-

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<sup>140</sup> Checks can be cashed first, of course, but then the transaction would involve currency, with a lower probability of data capture.

<sup>141</sup> Moreover, given the changes in "real-time" information processing, EFTS permits the active participation in the transaction of the payments method manager. EFTS permits the interdiction of any and all transactions, for example, which the system manager might determine to be inappropriate, as well as permitting the central processing of transaction data and its indexing (by merchant, by consumer, by product . . .). While it is true that this is to some extent the case at present—as in the case of the check combined with the telephone—the costs of non-EDP communication are simply too high to make the payment system's activity within the sale anything other than episodic and entirely reactive rather than ubiquitous and proactive.

<sup>142</sup> Over the past three decades the cost of such computing power has declined, so that what formerly would have cost several million dollars would have cost less than \$1000 by 1974. By



tial for expanding the amount of information both kept and used.<sup>143</sup> Increases in capability and decreases in cost of data analysis will permit and encourage social scientists such as marketers to develop increasingly refined predictive models of human behavior.<sup>144</sup> The economic utility of data centrally captured and processed will increase as the costs of collecting and analyzing the data, for example through an adjunct to the payment-making system, decline; its availability as a marketable good will become widely recognized and its collection and use institutionalized.<sup>145</sup>

This is hardly a difference in degree.

## 2. Privacy: Some Alternative Valuations

Little if any of this, according to the Baxter, Cootner and Scott report, will significantly affect consumers' privacy interests. In addition to denying that EFTS holds any such qualitative potential, the report presumes a future in which rivalrous nets will compete for consumer business on the basis of the degree of privacy protection offered.<sup>146</sup> Characteristically, however, the report's central thesis about EFTS and privacy is that the only legitimate fear is not the misuse of transaction data by private industry, but surveillance by government agencies.<sup>147</sup> There are a number of unkind things to be said about that view, only one of which is that it follows naturally from an a priori disposition that only government activity must be limited. Another is that the failure to look at the *system* of EFT and discuss ACH, DDP and PAD takes its toll again: if institutions that allocate credit are also among the managers of the payments process,

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1984 the same will have decreased to not more than \$10, and perhaps below \$1. See M. WESSEL, *supra* note 137, at vi.

<sup>143</sup> See Karst, *supra* note 124, at 361.

<sup>144</sup> Even in those areas and among those firms that have not exploited computational ability in terms of an expanded scope of record-keeping, there seems nevertheless to have been an expansion in the use of existing data, and an increase in the frequency and degree of institutional sharing of data. See A. WESTIN & N. BAKER, *supra* note 110, at 280, 420-27, 441. One possible explanation for the slow expansion rate in the amount of data collected (as opposed to the intensity with which it is processed) is that the "inputting" cost remains labor-intensive and therefore high. The EFTS matrix (POS/DDP in particular) will reduce this cost especially.

<sup>145</sup> Some concrete examples might be offered, even though these details are not critical to the point being made. Consider welfare recipients, most of whom now do not even maintain demand deposit accounts. When and if a full DDP and PAD system is created, the mandatory budgeting of expenditures is at least easily possible if not likely. Likewise, credit screening and collection efforts directed toward any consumer can be honed to a fine point, with the increased availability of transaction data. And, of course, the analysis of patterns of expenditures would be enormously useful to any who would market their goods and services selectively.

<sup>146</sup> A fairy tale, I believe. See discussion at pages 461-64 *infra*.

<sup>147</sup> BC&S at 170.

the possibilities for increased degrees of control are simply too obvious to ignore. There are, that is to say, real possibilities for functional consequences effected by nongovernmental entities.<sup>148</sup>

It is not germane to the methodological focus of this Article to dwell any further on this latter point, though it is an important caveat for those who would take the report's counsel. The point here is more narrowly focused. Baxter, Cootner and Scott conclude that legislation protecting privacy is unnecessary as EFT systems come into being. That conclusion is troubling, even granting nearly all of their assumptions. The problem again lies in the behavioral model. The report implies that privacy is important only instrumentally; that if collected data cannot be acted upon so as to directly affect a subject, no loss has been incurred;<sup>149</sup> and that, moreover, if no such functional effects can be seen, there is even less reason to consider seriously whether the natural economic evolution of EFTS might better be guided by judicious regulation.

The task once again is to refine the psychological suppositions of the model. That privacy is a good valued solely for its prophylactic effect against the regulation of individual conduct is rather a sparse conception, and a view confuted by a rich history of humanist literature, if not by the empirical sciences directly. Two particular discrete though related values served by privacy can be suggested. One is the value to be derived from assuming responsibility for one's self. The other is the need to escape from the noninstrumental judgment of others; to find a "place to be, rather than always to be respectable."

The first of these two components of privacy is the more difficult to capture neatly. It begins with the recognition of a common human need to reject determinism and to put in its place an area of being that is marked deeply by the possibility of choice, and responsibility.<sup>150</sup> This is close to but subtler than the debate between free will and

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<sup>148</sup> Not only is it true that information is a sine qua non of effective "control," it is also the case that institutionalization of data collection at a minimum symbolizes a perimeter of the de facto "authority" of the collector. See page 432 *supra*.

<sup>149</sup> Nowhere does the report say this explicitly. The implications are diffused. (At one point, for example, they say that "only the government could create the monolithic *control* machine of . . . Orwell's 1984 . . ." BC&S at 166.) The reader of the report will of course judge whether my attribution is reasonable.

<sup>150</sup> One example, albeit the extreme statement of the case, is Sartre's Ibieta, a character who chose what he thought was death even after abandoning all reason for dying in a noble cause, because only that choice would be an authentic assertion of his freedom and his identity. J. SARTRE, *THE WALL*, reprinted in *EXISTENTIALISM FROM DOSTOEVSKY TO SARTRE* (W. Kaufmann ed. 1964).

Sartre amplified this interpretation in his most famous lecture, *EXISTENTIALISM IS A HUMANISM*, reprinted in *id.* at 287. "Man is nothing else but that which he makes of himself.

determinism, between Skinner and the "literati of dignity."<sup>151</sup> It is, rather, an underlying drive, an irreducible aspect of human personality that surfaces at choice moments, the need to assert that Skinner simply must be wrong. (The need, if a flourish may be forgiven, to deny the possibility of the pointlessness of existence.) Perhaps the most eloquent expression of this good is that of Dostoevsky's man from the underground:<sup>152</sup>

[Y]ou say, that science itself will teach man . . . that he never has really had any will or caprice of his own, and that he himself is something of the nature of a piano-key, or the stop of an organ, and that . . . everything he does is not done by his willing it, but is done of itself, by the laws of nature. Consequently we have only to discover these laws of nature and man will no longer have to answer for his actions and life will become exceedingly easy for him. All human actions will then, of course, be tabulated according to these laws, mathematically, like tables of logarithms up to 108,000 and entered in an index. . . .

I, for instance, would not be the least surprised if all of a sudden, apropos of nothing, in the midst of general prosperity a gentleman with an ignoble, or rather with a reactionary and ironical, countenance were to arise and, putting his arms akimbo, say to us all: "I say, gentlemen, hadn't we better kick over the whole show and scatter rationalism to the winds, simply to send these logarithms to the devil, and to enable us to live once more at our own sweet foolish will!" . . . [S]uch is the nature of man. . . . What has made [you] conceive that man must want a rationally advantageous choice? What man wants is simply *independent* choice, whatever that independence may cost and wherever it may lead. . . . And although our life in this manifestation of it is often worthless, yet it is life and not simply extracting square roots. . . .

[E]ven if man really were nothing but a piano-key, even if this were proved to him by natural science and mathematics, even then he would not become reasonable, but would purposely do something perverse out of simple ingratitude, simply to gain his point!

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[E]xistentialism . . . places the entire responsibility for his existence squarely upon his own shoulders. [*Id.* at 291.] [Because] man is nothing else but what he purposes, he exists only in so far as he realizes himself, he is therefore nothing else but the sum of his actions, nothing else but what his life is." *Id.* at 300.

<sup>151</sup> See B.F. SKINNER, *BEYOND FREEDOM AND DIGNITY* (1971). Skinner characterizes his analytical protagonist as the "Literature of Freedom." A more modern rehearsal of the debate has been held between Wilson and Lewontin. See E. WILSON, *SOCIOBIOLOGY* (1976); *THE SOCIOBIOLOGY DEBATE* (A. Caplan ed. 1978) (Lewontin is the leading detractor of genetic determinism.).

<sup>152</sup> F. DOSTOEVSKY, *NOTES FROM UNDERGROUND*, reprinted in *EXISTENTIALISM FROM DOSTOEVSKY TO SARTRE* 70, 71, 73, 75-76 (W. Kaufmann ed. 1964).

He will launch a curse upon the world as only man can curse (it is his privilege, the primary distinction between him and other animals), may be by his curse alone he will attain his object—that is, convince himself that he is a man and not a piano-key! If you say that all this, too, can be calculated and tabulated—chaos and darkness and curses, so that the mere possibility of calculating it all beforehand would stop it all, and reason would reassert itself, then man would purposely go mad in order to be rid of reason and gain his point! I believe in it, I answer for it, for the whole work of man really seems to consist in nothing but proving to himself every minute that he is a man and not a piano-key!<sup>153</sup>

It may be bad empirical science to suggest that the resonance implied by the durability of literature proves the existence of the psychological dispositions that the literature portrays. It is not, however, illegitimate heuristic argument, and it may be that the behavioral predicates of *homo economicus* are based on even less. In any event, the connection between existential gnashing of teeth and the subtler dimensions of privacy is firm, even if difficult to capture. It may for example be a fear that one *is* a predictable algorithm and that the possession of sufficient information will be, or will be regarded as, equal to knowing all that he is. People tend to resent “I have you all figured out,” but bask in “You are an enigma.” By remaining enigmatic, unknown and private, one retains the possibility of asserting that there is a unique and subjective identity. Privacy in this sense means keeping undisclosed that information that might be sufficient to endanger this existential need. An invasion of privacy puts at risk, among many other things, the cloak that hides even from oneself what Dostoevsky describes as a corrosive possibility. And that, the preservation of the cloak, is a value, even if not a good in an economist’s terms.

The second and somewhat more palpable addition to the dimensions of privacy is that of the freedom to escape judgment, to be for one’s self rather than for others. Through the retention of privacy individuals are able selectively to conceal and to reveal of themselves, and thereby to have some measure of control over others’ perceptions

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<sup>153</sup> Sartre’s EXISTENTIALISM IS A HUMANISM, *supra* note 150, at 302-03, makes the same point:

Our point of departure is, indeed, the subjectivity of the individual . . . [T]his theory alone is compatible with the dignity of man, it is the only one which does not make man into an object. All kinds of materialism lead one to treat every man including oneself as an object—that is, a set of pre-determined reactions, in no way different from the pattern of qualities and phenomena which constitute a table, or a chair or a stone. Our aim is precisely to establish the human kingdom as a pattern of values in distinction from the material world.

It is, finally, interesting to compare these observations with the experimental theses of Jack Brehm. See pages 431-33 *supra*.

and beliefs about them.<sup>154</sup> How we appear to others brings rewards and punishments. Some are direct: people deal with us differently if we are perceived to be this rather than that. Some are derivative: we derive pleasure from believing that we are acting in a way, or being in a way, that merits approbation from others. This may be only genetic adaptation, to the degree that seeking approbation is an important aspect of the sociality necessary for species survival. Yet acting for others is, somehow, inauthentic. Escape from judgment, whatever its etiology, is as much a motivational cause as is the need for approbation.<sup>155</sup> Privacy is the ability to choose the optimal mixture of disclosure and escape, to modulate in acceptable ways the drive to be and the drive to be among others. The preservation of privacy serves to protect an important source of perceived welfare.

As Justice Douglas might have said were he addressing EFTS directly, a person is defined in a money-exchange society by what he spends his money on. Arthur Miller did say it directly:

[A] modern bank record is like a roadmap of a man's life. It tells where he has been, who he has seen and done any kind of business with, who are the objects of his affection, what organizations and charities he supports, what his hobbies are, almost what kind of and how much beer he likes to drink . . . .<sup>156</sup>

Even if it is fanciful to imagine that EFTS transactions would somehow be scrutinized for deviations from the norm<sup>157</sup> these areas of

<sup>154</sup> Cf. E. GOFFMAN, *THE PRESENTATION OF SELF IN EVERYDAY LIFE* 67 (1959). "If we see perception as a form of contact and communion, then control over what is perceived is control over contact that is made, and the limitation and regulation of what is shown is a limitation and regulation of contact."

<sup>155</sup> See the survey data in A. WESTIN & N. BAKER, *supra* note 110, at 466-70.

<sup>156</sup> *Amend the Bank Secrecy Act: Hearings on S. 3814 and S. 3828 Before the Subcomm. on Financial Institutions of the Senate Comm. on Banking, Housing and Urban Affairs*, 92d Cong., 2d Sess. 150-51 (1972).

Professor Miller's concern is especially well placed in the context of a centralized (or highly interactive and communicating) payments mechanism. Moreover, as the National Academy of Sciences Report concluded, EFTS will be able to capture such large quantities of personal data that it will be too "inviting" to permit the nets to develop without legislation controlling access, retention, and distribution. A. WESTIN & N. BAKER, *supra* note 110, at 278.

<sup>157</sup> The vision is, of course, not entirely fanciful. See, e.g., NFS/RANN, *supra* note 5, at 200. Cf. *The Bank Secrecy Act*, Pub. L. No. 91-508, 84 Stat. 1114 (1970) (codified in scattered sections of 12, 31 U.S.C.) (requiring the reporting by financial institutions of certain transactions engaged in by the institutions' customers or clients). The regulations provide:

(a) Each financial institution shall file a report of each deposit, withdrawal, exchange of currency or other payment or transfer, by, through, or to such financial institution, which involves a transaction in currency of more than \$10,000. . . .

31 C.F.R. § 102.22(a) (1980).

(c) This section shall not require reports by . . . (3) a commercial bank or trust

the privacy field may nevertheless be confronted. A ubiquitous EFT network will limit an individual's freedom to optimize his own disclosure mix. As Wessel notes,<sup>158</sup> the damage that comes from any possible misuse of collected data may be less than the effect that comes from just knowing that the data is being collected.

### 3. Autonomy, Dignity and the Social Accounts

Brehm, Dostoevsky, Sartre, Wessel and their intellectual kin have identified components of human behavior that the heuristic model of Baxter, Cootner and Scott ignores. Their invocation here was not meant to suggest that the future of EFTS is necessarily an unprecedented rape of the humanist dimensions of human personality. They do, however, provide possible explanations for what has been described here as the central failure of the Baxter, Cootner and Scott model—that its sanguine view of consumers' avid acceptance of EFT systems seems to be false. Describing something as socially desirable because it is "good for consumers in terms of time and money" demonstrates a narrow appreciation of those values that a social order might be called upon to protect. To make the point more directly methodological, the report's analytical regime has a model of consumer preference as its input and a set of policy recommendations as its output. In between the two there is an unstated axiom of the discipline: since unregulated market forces usually conduce toward the optimal satisfaction of consumers' desires for economic goods, an industrial development which will serve those desires should be left to unregulated market forces. A later section of this Article will offer some caveats about that axiom, some reasons for suspecting that it may not hold for such noneconomic goods.<sup>159</sup> The point here is an

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company organized under the laws of any State or of the United States with respect to overland shipments of currency or monetary instruments shipped to or received from an established customer maintaining a deposit relationship with the bank, in amounts which *the bank may reasonably conclude do not exceed amounts commensurate with the customary conduct of the business, industry or profession of the customer concerned* . . . .

*Id.* § 102.23(c)(3) (emphasis added).

The statute also permits the Secretary of the Treasury to share these reports "for a purpose consistent with the provisions of this chapter [with] any other department or agency of the Federal Government on the request of the head of such department or agency." 31 U.S.C. § 1061 (1976). The uses of the reports, presumably, are limited to "criminal, tax, or regulatory investigations or proceedings." *Id.* § 1051.

<sup>158</sup> M. WESSELL, *supra* note 137, at 30.

<sup>159</sup> The axiom is indispensable to the school of analysis which Baxter, Cootner & Scott represent. Consider, for example, the definition of "efficiency" offered by another member of

elaboration of what those goods may be—a critique of the input model.

Dignity is a word that comes to mind. It embraces a great deal—positive self-regard, a realization of autonomy, an inward reflection of the regard of others. Central to it is the notion of “mattering.” Externally this means to be regarded as being individually consequential; to be respected as being responsible; to matter as a being even in nonfunctional ways and to be seen as caring about choosing. Internally it means a sense of sharing in the control of one’s own environment,<sup>160</sup> for which patent autonomy is a necessary if insufficient condition. Relations among people and between individuals and their social order generate utility or values just as do the acquisition and consumption of goods.<sup>161</sup> To move from this tenet to its policy implications it is not necessary to argue the biochemistry of human dignity with Skinner or the other instrumentalists. It is enough for now to observe not that the desire for dignity is good or real, but only that, like desires for gold and gefilte fish, it is.<sup>162</sup>

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the tradition: “exploiting economic resources in such a way that ‘value’—human satisfaction *as measured by aggregate consumer willingness to pay* for goods and services—is maximized.” R. POSNER, *ECONOMIC ANALYSIS OF LAW* 10 (2d ed. 1977) (emphasis in original).

This suggests that either of two things must be true: Either (1) “efficiency” is an insufficient criterion for regulatory policy; or (2) *all* “values” which the legal order should count are adequately measured by “aggregate . . . willingness to pay . . .” *Id.*

<sup>160</sup> See my earlier discussion of the same concept, in a very different context, *i.e.*, in analyzing the nonfunctional values of due process:

It is the value of autonomy, of controlling the events that affect you, even (if someone insists) the value of the *sharing* in control—and the respect and self-respect that come with it. From the social perspective (the value to all of each sharing) it is the value of civility—a necessary condition of exchanges of respect or, perhaps, the geometric product of those exchanges. It is the value of human dignity.

Dauer & Gilhool, *The Economics of Constitutionalized Repossession: A Critique for Professor Johnson and a Partial Reply*, 47 S. CAL. L. REV. 116, 148-49 (1973) (footnotes omitted). The point was later expanded by Michelman, *Formal and Associational Aims in Procedural Due Process*, 18 NOMOS 126, 127-28 (1977):

[A] participatory opportunity may also be psychologically important to the individual: to have played a part in, to have made one’s apt contribution to, decisions which are about oneself may be counted important even though the decision, as it turns out, is the most unfavorable one imaginable and one’s efforts have not proved influential.

See *id.* at 154 n.4 (citing Dauer & Gilhool, *supra*).

<sup>161</sup> Goods, strictly speaking, are themselves often valued for the relational consequences caused by their ownership. The utility of an ostentatiously expensive automobile, for example, lies almost wholly in the social approbation its owner believes it commands.

<sup>162</sup> There is at the time of this writing a bill in the United States Congress styled the Privacy of Electronic Fund Transfers Act of 1979, S. 1929 & H.R. 5560, 96th Cong., 1st Sess. (1979). Most of the bill’s sections deal with disclosure of EFT transactions to law enforcement authorities, and the procedure by which disclosure can be had (with a special proviso, § 107(c), for the Secret Service). Section 103(a) is more general. It would forbid disclosure by any EFTS participant of the contents of any item, including its existence, location, date, time, contents, effect or mean-

## V. RECALCULATING THE ECONOMICS OF EFTS

This critique of the Baxter, Cootner and Scott report promised to be a three-pronged affair. The first, a scrutiny of the behavioral predicates of their analysis, has been completed and can temporarily be laid aside. The second, and the subject of the present section, is an examination of the report's most general conclusion that, with respect to most of the critical policy choices presented by EFTS, the social benefits to be derived can be maximized by the natural forces of unfettered markets, or distorted by the intrusion of government regulation. The third is the linkage between the first and second, the "equilibrium" of the method.<sup>163</sup> That, the last, lies nearer the heart of the matter, although it requires the preparation of the present section before its dynamics become accessible.<sup>164</sup> These pages are therefore less digression than *sorbet*, a pause that connects two other methodological courses.

Baxter, Cootner and Scott's response to the issue of consumer privacy exemplifies<sup>165</sup> the market-competition texture of their analysis. The following juxtaposition of excerpts captures a wide segment of their views:<sup>166</sup>

First and foremost, [EFTS'] adoption and use will be a matter of individual choice, not fiat. To the extent that people find EFTS advantageous . . . they will use it; to the extent they don't, they will avoid it. . . . [T]he larger stores and the larger account holders will comprise the bulk of the EFTS market. [N]umerically they are in the minority. . . . The spectre of complete EFTS control over all transactions is indeed an exercise in pure imagination, unsullied by reality. The person who is especially concerned about the greater privacy vulnerability of EFTS, if that turns out to exist at all, will simply handle a particular transaction or transactions in general as at present, with a check or cash. . . .

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ing. The exceptions, other than the government access of §§ 104 and 107, require "specific authorization" of the payee or originator and (§ 108) notice to the individual affected that the disclosure was made.

The bill has a number of substantial difficulties yet to be resolved; its chance of passage in the current session is slim. It was, however, introduced. It will very likely be introduced in the 97th Congress as well.

<sup>163</sup> See discussion at page 406 *supra*.

<sup>164</sup> It is addressed in section VI *infra*.

<sup>165</sup> I do not harp on their treatment of privacy again because it is their weakest point. I do it here because, so far as consumer protection issues are concerned, it is their *only* point. See discussion at pages 407-08 *supra*.

<sup>166</sup> The first two paragraphs are from BC&S at 167; the third is from *id.* at 169. In between is their general discussion of "problems of unauthorized access." The discussion on page 167 includes a point labelled "third"—one already examined here—*viz.* that "[s]earch costs will remain an operative and often prohibitive constraint." See pages 434-37 *supra*.



Second, our prior analysis of scale economies has suggested that a natural and competitive course of EFTS development will lead to an overlapping series of rival networks. . . . So, the instantaneous monitoring of [those citizens who make] use of EFTS for payments purposes, is also an unreal prospect. Indeed . . . one of the significant advantages of rivalrous private systems is that they will compete in offering degrees of privacy at prices corresponding roughly to their cost. . . .

The main pitfall to be avoided . . . is legislation attempting to prescribe a level of security or mandating the security measures to be adopted or the technology to be used. The legislature has no way of knowing what level of security is "proper" for each set of customers, information and uses. . . . In a competitive EFTS environment, system operators will have continuing incentives to search out security levels and improved technology that correspond to the security needs and values of their customers.<sup>167</sup>

Three distinct assertions can be distilled from this, for separate analysis. First, if EFT becomes a nationwide system, it will comprise a large enough number of independent overlapping nets to behave competitively. Second, each net will compete for consumer business by specifying the degree of privacy or security that it offers, and the price. Third, in no event would an EFT grid, rivalrous or monolithic, preclude the use of non-EFT payments methods. "The combined effect of these natural limits on private EFTS should put privacy concerns into a more realistic perspective; the adoption of such systems will not deliver us to the doorstep of 1984."<sup>168</sup>

#### A. *The Number of Nets*

One immediate qualification of the view that EFTS will comprise competing—"rivalrous"—overlapping nets, is that Baxter and company's discussion addressed the problem as if the nets would provide only POS services. They left out ACH and the consumer-affecting pieces of the system—PAD and DDP especially—that ACH will likely foster, and assumed that no network connections between POS and these others would occur or would affect the calculations. They might not so easily have reached their conclusion regarding rivalry without this segregation: ACH's are presently operating in a number of markets and no market has more than one ACH switch.<sup>169</sup>

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<sup>167</sup> Baxter, Cootner & Scott's own footnote at this point reads in part, "If EFTS is forced into a regulated utility mode, these incentives will be significantly blunted." BC&S at 172 n.17.

<sup>168</sup> BC&S at 168. To be perfectly accurate about the implied "therefore" of this sentence, see note 166 *supra*.

<sup>169</sup> NCEFT FINAL, *supra* note 3, at 213. While this may be attributable to the fact that with only two exceptions all ACHs are operated by the Federal Reserve Bank, it nevertheless supports

The analysis applies, therefore, solely to a POS-only system,<sup>170</sup> should there ever be such a thing.

Baxter, Cootner and Scott attempted to determine the number of nets that could be supported by present levels of retail activity. They looked first at the number of POS terminals that would "nearly exhaust" the economies of scale of a single net. They then established the number of terminals that existing retail volumes would most likely cause to be installed. By dividing the former into the latter, and after computing the numerator on the basis of a series of low-bias assumptions, they predicted a nationwide installation of at least forty nets.<sup>171</sup> When the number of POS terminals per net was calculated on the basis of high-bias assumptions the number of nets<sup>172</sup> increased to 139.<sup>173</sup>

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the NCEFT's view that the economies of scale of ACH do not justify more than one switch anywhere.

<sup>170</sup> There is a second qualification: Baxter, Cootner & Scott's conclusion from their net-counting foray is that there will be sufficient competition to make unjustified anti-concentration regulation. BC&S at 106-14. This may be a non sequitur. Even assuming that they are right in projecting rivalry among two or three (or even more) nets in any one area, it does not follow inexorably that such regulation is contraindicated. Baxter, Cootner & Scott are quite clear about their preferences in this regard: antitrust policy should constrain concentration only after nearly all economies of scale have been exploited; the law's purpose is to preclude the output constriction and attendant price rises and productive diseconomies that concentration causes. But some commentators have rather more expansive views of the virtues of atomized competition. See, e.g., the discussion of "nonefficiency values" in antitrust policy in Brodley, *Potential Competition Mergers: A Structural Synthesis*, 87 YALE L.J. 1, 33-40. (1977).

<sup>171</sup> BC&S at 105.

<sup>172</sup> The calculated results for numbers of nets that various states could support are the following. First, using a high bias in the calculations:

No. of nets:	<1	<2	<3	<6	<10	<25
No. of states:	10	16	23	36	41	all
And, using the low bias:						
No. of nets:			<1	<2	<3	<6
No. of states:			37	43	47	all

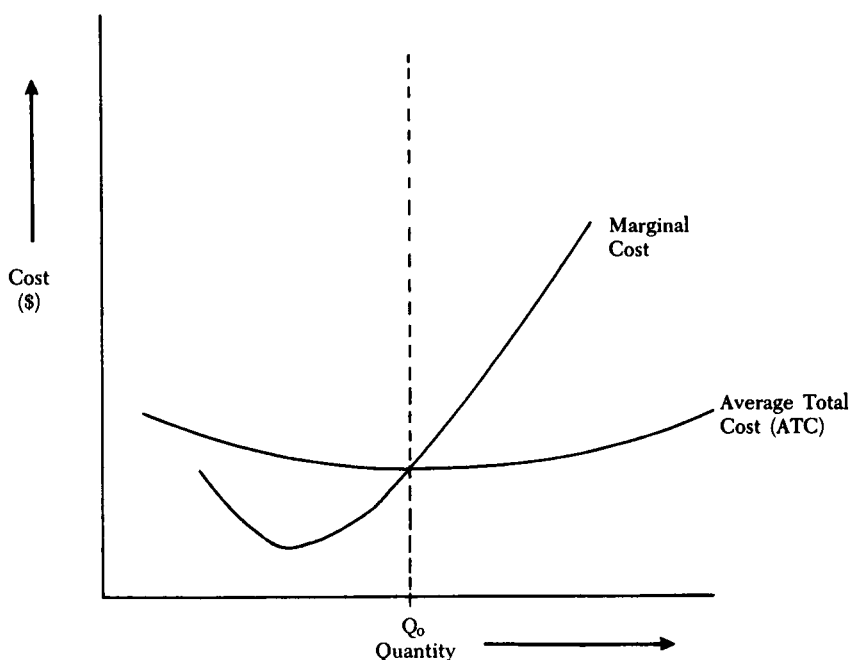
BC&S at 106, 107, 111.

Baxter, Cootner & Scott compute both the high and low figures, I believe, for the reason that they wish to emphasize two seemingly inconsistent assertions: even at the lowest number of nets likely to be installed (40), there will be sufficient competition to preclude any need for public-utility type regulation; yet even at the highest (139) there will not be enough nets to allow actual competition within most states and market areas so long as the present proscriptions on interstate banking persist. In other words, without their really being obvious about the point, their second conclusion is a condition of the first. It is therefore fair to read it in its contrapositive form: so long as we have restrictions on interstate banking, even the high estimate will not be enough to insure effective rivalry in most areas of the country. There is a point to be made even short of this, however, for Baxter, Cootner & Scott really want to assert that even at the lowest possible estimate there will be 40 competing nets, and this is sufficient to generate adequate rivalry if (and only if) the interstate rules are repealed.

<sup>173</sup> *Id.* at 110-11.

Although the number forty was derived by indulging assumptions hostile to the thesis of stable competition,<sup>174</sup> an objection remains to be resolved. Recall that the denominator of the fraction is the number of POS terminals that would nearly exhaust a single net's economies of scale. This number, 50,000 terminals per net, was chosen because, on the basis of unrevealed proprietary data, it is at 50,000 terminals per net that the net operator's "elasticity of cost" would decline to the range of  $-0.05$  to  $-0.10$ .<sup>175</sup>

To say that graphically, 50,000 terminals served in any one unit of time is a quantity on the still-declining slope of the net operator's average cost curve,<sup>176</sup> that is, a little to the left of  $Q_0$ —the "optimal" quantity.



Baxter, Cootner and Scott assume, correctly I believe, that in the short run a firm can maximize its profits by producing at a rate—serving that number of nets—at which the average total cost curve (ATC)

<sup>174</sup> *Id.* at 101.

<sup>175</sup> By "elasticity of cost" BC&S mean the change in average total cost for each additional unit of production. If increasing output causes no change in per-unit costs, then the elasticity of  $dC/dQ$  is zero. See BC&S at 101.

<sup>176</sup> *Id.*

is at its minimum, and where, therefore, its slope equals zero. Similarly, in a long run equilibrium the firm should have adjusted its fixed and variable costs by choosing that output at which the minimum on the long run average total cost (LRATC) curve equals the price at which the output can be sold. The problem with this unobjectionable calculus is that there is little reason to believe that firms really do or will operate at those outputs just to the left of or at the bottom of the ATC saucer on the preceding diagram; that is, where  $MC = ATC$ , and where  $dP/dQ = 0$ .

First off, not all, perhaps not even most, ATC curves are parabolas. In the short run it is equally likely for any given industry or firm that its ATC curve will be broad and flat rather than narrow and U-shaped.<sup>177</sup> In manufacturing, for example, variations in the utilization of fixed capacity as wide as 20% to 90% typically do not exhibit rising marginal costs and, therefore, show no increases in ATC either. That gives the ATC saucer a big fat bottom rather than a nicely rounded one.

The long run case is even more important. It is not entirely certain that long run ATC curves have rising portions, for if they do it is only because at some extreme scale the administrative burdens of the enterprise become perverse.<sup>178</sup> The owner of a firm of twice the optimal size can reduce its scale by dividing it into two firms of exactly optimal size. Therefore LRATC curves may not, within broad limits, ever have positive slopes. As Bain expressed it:

[T]here is apparent no automatic tendency for costs to rise with still greater scale. Once all economies of increasing scale have been exploited, costs should tend to remain constant in the face of further expansion unless some other factor intervenes.<sup>179</sup>

And, putting this together with the observation about administrative economies,

Since the output at which diseconomies of large-scale management are encountered may well be beyond that at which the economies of large-scale production are fully exploited, it is clear that this U-shaped curve may in many cases have a long flat bottom, representing a substantial range of output over which unit costs [in the long run] are invariant.<sup>180</sup>

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<sup>177</sup> J. BAIN, PRICE THEORY 105-06 (1952).

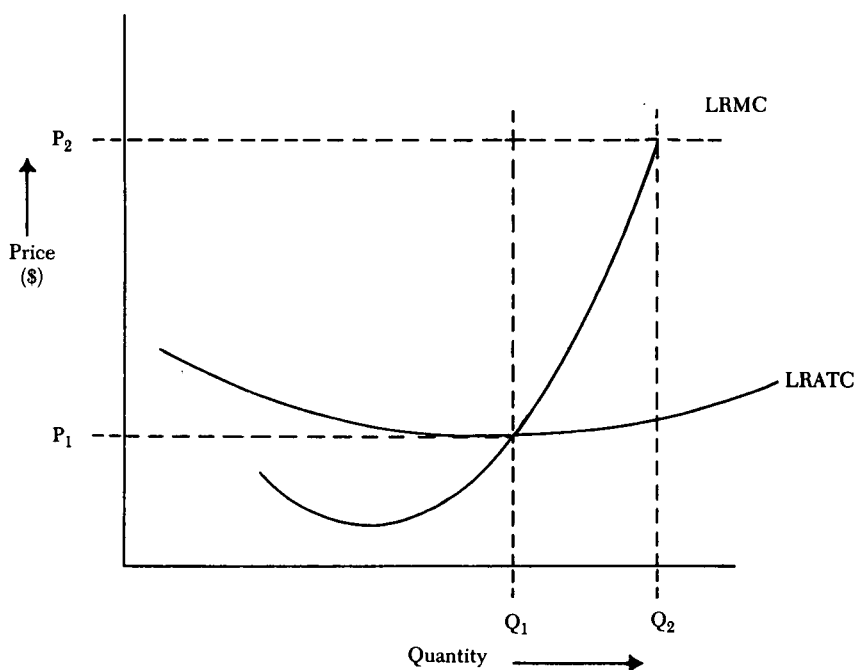
<sup>178</sup> *Id.* at 113.

<sup>179</sup> *Id.* at 112.

<sup>180</sup> *Id.* at 117.

So long as the price it fetches is equal to or greater than its average total costs, a firm can continue to increase its output. And maybe it will.

Finally, from the perspective of optimal long run planning, firms will try to adjust their long run factors and plan their output in such a way as to set the long run marginal cost equal to the selling price. In the following diagram, the firm will increase its output "so long as price is equal to or greater than its minimum average cost for the long run. That is, at the price  $P_2$  it will build to a scale to produce the output  $Q_2$ —to a larger than lowest-cost scale:"<sup>181</sup>



All of which is to say that, even if  $Q_1$  were 50,000 terminals per net and the elasticity were approximately -0.05, we have no assurance that  $Q_1$  is what most firms would actually produce. Thus, while forty nets are possible, that number is neither likely nor probable. If  $Q_2 = 200,000$  terminals, for example, there would be only ten nets. And that would change things drastically.<sup>182</sup>

<sup>181</sup> *Id.* at 142.

<sup>182</sup> Even if all of this is wrong or trivial, there remains a serious objection to the Baxter, Cootner & Scott style. Their entire analysis here focused on *horizontal* concentration.

Horizontal concentration is not the only troublesome phenomenon. Even if there were to be several rivalrous nets, and even if EFTS were capable of coexisting with other forms and systems of value transfer, there might nevertheless be "vertical" concentrations to be addressed. In particular, I refer to the concentration of consumer financial and credit transactions within a relatively small number of institutions.

The uncertainties of the theory, even apart from its too-imperfect empirical validation, are unsettling; more so, when public policy hangs in the balance.

### B. Competition and Differentiation

The report assumes that so long as there are competitors, there will be competition; and that in their quest for consumer allegiance rivalrous EFTS nets will behave like soap companies—the industry or even individual firms within it will offer differentiated products to satisfy differentiated consumer demand.<sup>183</sup> As to security and problems of unauthorized access,

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It is the case, for example, that "[m]ost individuals rely far more on merchants than they do on financial institutions in establishing the short-term credit relations that have become part of their life patterns." NSF/RANN, *supra* note 5, at 26. Therefore, at the present time the retail credit market is highly diffuse; consumers' indebtedness for both minor and major transactions is held very widely among retail merchants, banks, thrift companies, and other credit sources. And, from the other side, retail merchants presently incur the cost of credit risk and the cost of capital employed in carrying their customers' accounts. As credit/debit cards achieve increasing degrees of penetration, there is reason to suspect that the payments system operator will capture larger shares of this market.

There is some evidence that, with the advent of credit cards, this transition has already begun. The following data deal with revolving credit and imply that the trend is for credit business to shift away from retail merchants and towards the issuers of bank credit cards.

Year	Revolving Credit (Billions)			
	Bank Card Credit		Retail Store Credit	
1970	\$ 6.8	6.1%	\$15.9	14.2%
1971	\$ 8.4	6.8%	\$16.4	13.2%
1972	\$10.4	7.6%	\$17.1	12.5%
1973	\$13.9	8.8%	\$19.1	12.1%
1974	\$17.1	10.9%	\$20.3	12.9%
1975	\$20.4	12.4%	\$20.3	12.4%
1976	\$25.9	13.4%	\$21.9	11.3%

NCEFT FINAL, *supra* note 3, at 126, Table 8.7.

As to all installment credit (revolving and fixed-term) during the same period of 1970 to 1976, the share held by retailers dropped from 13.4% to only 10.3% of the total market, while commercial banks increased their share from 44.6% to 48.2%. *Id.* at 122-25.

These tendencies can be expected to accelerate, especially in the light of Baxter, Cootner & Scott's assertion that retail store credit is offered to attract high time cost customers. Because, that is to say, retail stores offer credit arrangements to facilitate sales to high time cost (thus, on the Baxter, Cootner & Scott measure, high income) nonshopping—and most credit-worthy—consumers, gravitation of the credit/payment function to banks through POS or other debit/cash cards will leave retailers with the lower socioeconomic status and less creditworthy debtors and will moot the reason for granting credit in the first place.

<sup>183</sup> At one point even Baxter, Cootner & Scott suggest a weakness in this sanguine view. Whether they truly regard it as a weakness or merely as an opportunity to toss a bone is not clear. They say, following the observations quoted in the text:

[The] parties are all linked together in contractual relationships, so the shifting of responsibility among them by agreement, if not blocked by ill-advised legal provisions, should assist in arriving at efficient solutions.

The normal working of contract rules and negligence doctrine is likely to produce such a set of arrangements . . . .<sup>184</sup>

And as to privacy and problems of authorized access,

To some critics, among the foremost dangers presented by EFTS is that it will enable the financial profiles of account holders to be opened to commercial exploitation by the bank or affiliated enterprises. The extent to which that will be so depends on the terms of the agreement between customer and bank. At present . . . that agreement is left to custom and implication. . . .

The answer would seem to lie in a clearer, explicit specification in the . . . agreement regarding access to and use of data. . . . If substantial numbers of people do in fact strongly object . . . banks in competing for their patronage should find it worthwhile to offer to exclude them from [the commercial distribution of account data].<sup>185</sup>

There are some unexpressed analytical premises buried here. The report fails to specify its view of a number of variables that play a role in channeling producers' behavior through consumers' preferences, such as how the "normal working of contract" is likely to work in the case of EFTS, and how one calculates the critical volume at which differentiation becomes possible. Perhaps the mechanisms are too elementary to require citation. Perhaps, on the other hand, the premises *were* all articulated: Parties left free to contract will do so; their agreements will cover all those areas of concern to either or both and will, in the aggregate, produce efficient solutions; producers' and consumers' activities, when left to contractual determination, are therefore wholly collaborative.<sup>186</sup>

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If legislatures are unable to resist the temptation to intervene in this area, their efforts would best be directed at assuring that customers are afforded a set of options regarding data use among which they can make explicit choices. Different options would, of course, impose different costs on the network, and the operator should be permitted to charge appropriate cost differentials.

BC&S at 169.

<sup>184</sup> *Id.* at 168-69.

<sup>185</sup> *Id.* at 169 (footnotes omitted).

<sup>186</sup> The ambiguity in the discussion of competition and differentiation is inherent in the report. It seems that Baxter, Cootner & Scott are suggesting that competition among EFTS producers will drive them to offer differentiated products (*i.e.*, more or less privacy, more or less security) to consumers who value the differences differently. It is that interpretation to which I am

This sanguine view of the potential of contract is a universal solvent. Its structure is a set of observations—postulates actually—about how producers and consumers interact. It is, like the behavioral model of which it partakes, a thin though potent broth with little texture—the beginning, perhaps, of that optimal mixture of observation and theory that signifies a mature science.

Even assuming that there may be “competitive” nets,<sup>187</sup> it does not necessarily follow that EFTS will present no serious consumer issues. There is no undue concentration in the toy industry, yet there are terribly unsafe toys. There is a great deal of competition among automobile dealers, yet, for most purchasers, there is no sub-market for no-repossession contract clauses. Both of these examples involve dimensions of the contractual matrix that, unlike price, quantity, and color, do not arise until long after the haggling ends. Imagining that EFTS providers will compete over, for example, speed in correcting errors, is reminiscent of the purported competition among consumer product manufacturers whose warranty terms were sealed in the box until after the sale. Whether there is one net or forty-two is only partly relevant if consumers, as a practical matter,<sup>188</sup> do not assess and choose the contract’s terms at a time early in the relationship; if they do not, the incentive for suppliers to differentiate diminishes significantly.

This may be particularly true in the case of banks. Try an experiment: Select any city; collect the application forms from all of the banks issuing credit cards (typically, Mastercharge and Visa). Compare the terms of their contracts as to their structural and legal dimensions: Do Visa and Mastercharge differ, whether offered by the same or by different banks? Are there differences among banks issuing either of the cards? Do banks advertise and compete on the basis of such differences among their card systems? The answers in New Haven are No, No, and No. What, in the method, would predict such counter-theoretical results? Ptolemy needs another epicycle.

Because EFTS is a system of communications and information processing, connecting of necessity payors and payees widely remote,

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responding and it is that about which they are unclear. How will that differentiation occur? What will it look like and how firm could it be? I don’t know. (I don’t think it will happen that way at all.) Moreover, they are not always entirely clear about their own views. If it is not their view that differentiation will occur, it must be that the pressure of competition will result in a single “optimal” mixture of openness and privacy, offered at a single cost. That, of course, is even worse. See discussion at pages 468ff *infra*.

<sup>187</sup> Baxter, Cootner & Scott suggest that even one net will behave competitively. Its competitors will be the pre-existing cash and check systems. BC&S at 117.

<sup>188</sup> The practical obstacles are the subject of a later discussion. See pages 469-73 *infra*.



there are some things which all participants in the system simply must have in common. Much as one cannot receive an FM radio broadcast with an AM receiver,<sup>189</sup> one cannot participate in a regional EFT system without having compatible hardware and information formats. The degree of system differentiation (hence effective competition) is in this way somewhat constrained. Even if it is practical to interconnect many different kinds of hardware to provide differentiated EFT services, the economies, and therefore the rigidities, of having all POS stations and depository institutions using similar procedures and formats may lead to a functional sameness despite the fact that some terminals are red and square and others blue and round. There is, in fact, activity at present regarding the setting of standards for EFTS numbering systems, message formats, and standardized invoices and billing systems.<sup>190</sup> It is even now an issue as to how much of the data-capture-and-transmission process should be subject to industry standards and how much should be within the discretion of the individual EFT-producing institution.<sup>191</sup> There are no obvious answers; certainly the acid wash of competition suggests none.

Perhaps this competition model of analysis works well on fungible commodities with price and output as the only variables, but not so well when the attributes of the commodity grow any more complex.

Technological mandates such as these may be, however, among the lesser of the forces tending toward standardization of services, terms, and operations: technological problems are often amenable to technological solutions. A more important dimension is the economic—how much will it cost to tailor-make an input or an output, to differentiate among consumer preferences, to bargain out a plethora of different contracts such as has never yet been accomplished in banking? Here the report asserts rather than analyzes. Like the careless anthropologist whose method inadvertently stuffs aborigine culture into European categories, the simple theory of competition-forcing-producers-to-satisfy-consumers fails to take full account of the intrinsic dynamics of its subject.

### C. *Financial Autocatalysis: The Dynamics of Crowding the Pond*

The analytical menu of the report does not include in its discursus on the virtues of competition the possibility of a positive feedback

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<sup>189</sup> Even if they did operate on the same wavelength, which they do not.

<sup>190</sup> Personal correspondence. Some of the aspects of EFTS amenable to standardization are reviewed in *NCEFT Final*, *supra* note 3, at 175-78, *passim*.

<sup>191</sup> *Id.* at 174-80.

loop—a phenomenon in which an organism's rate of growth is either zero or exponential. A large number of algal species can happily share a pond, each precluded by the competition of the others from dominating the available space—a democratic equilibrium. A single species, through some chance occurrence, may gain a small edge in size or niche. It can sometimes happen that if the change is sufficient, just past some critical value, the new equilibrium in the pond will be one of dominance.

Baxter, Cootner and Scott believe that technological implementations driven by advantages in costs are never precipitous.<sup>192</sup> EFTS will not replace its predecessors; technologies coexist.<sup>193</sup> When EFTS expands to occupy some part of the pond now given to checks and cash, it will do so gradually, as a result of atomistic consumer choices.<sup>194</sup> The pond will never be full<sup>195</sup> of EFTS.<sup>196</sup>

Checks are currently used to effect about 90% of the dollar volume of all payment transactions.<sup>197</sup> It has been conservatively estimated that by about 1992 EFT systems of one form or another will capture at least 70% of that volume.<sup>198</sup> From this one might conclude that, with a 30% residual volume left to checks, it is unlikely that EFTS would ever exist without substantial competition from a

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<sup>192</sup> BC&S at 6.

<sup>193</sup> To the extent that Baxter, Cootner & Scott see this slow evolution in the payments system as a change in degree rather than in kind, what they are doing is "much like describing present-day transcontinental communications as a further elaboration of the Pony Express." J. RULE, *supra* note 20, at 24.

<sup>194</sup> Baxter, Cootner & Scott do believe that eventually EFTS will "probably eliminate much of the actual writing of either checks or drafts," BC&S at 52, but insist that this market penetration will be entirely a function of individual choice. Checks versus debit cards (POS), for example, is seen as the choice *by consumers* of float versus time. The average float on a check is about 2.3 cents, "considerably less than 1 minute of time at even minimum wage rates. Even without some price incentive by the merchant or bank, the majority of checks would be displaced by debit cards." *Id.* at 55. I have already indicated some very serious doubts about the reality of such calculations and need not reiterate them here. But even assuming that Baxter, Cootner & Scott are right, so long as there are wide disparities in personal incomes there will be corresponding disparities in the opportunity cost of time and therefore differences in how individuals value "convenience" (time saving) over float or other things. Since producers cannot possibly accommodate individual tastes given the scale economies of interactive payments machinery, there is likely to be some submerging of the minority by a system designed to serve the majority. See discussion of this point at pages 466-68 *infra*.

<sup>195</sup> BC&S at 167. Baxter, Cootner & Scott observe that "hundreds of thousands of stores will make no use of EFTS." *Id.* Yet, at another point, they agree that those retail establishments that will use EFTS account for 85-90% of all retail sales. *Id.* at 104, 108.

<sup>196</sup> I could not resist the temptation of this metaphor. An eft is a newt, "any of various small semiaquatic salamanders . . ." WEBSTER'S THIRD NEW INT'L DICTIONARY 1524 (unabr. 1976).

<sup>197</sup> H. DUFFY & R. DUFFY, *supra* note 75, at 2.

<sup>198</sup> NSF/RANN, *supra* note 5, at 90-93. As to the nearer future, the report sees the following with respect to POS:

paper-based check clearing system. The report's assertion that EFTS will increase rather than constrict choice is, therefore, apparently confirmed.

Perhaps. But checks and check users are not wholly fungible. Some checks are drawn by or are payable to individuals; others, to or by businesses. It might be, for example, that an EFTS overall penetration of 70% could mean 100% capture of one market and 0% of another. If that were the case, then a finding of competition from alternative systems cannot be evidenced by the penetration data alone. The differences are relevant, since the kinds of concerns and values that this Article has explored and which it suggests that EFTS might jeopardize, are the values of individuals.

The following is a breakdown—probably still more or less accurate—of a sample of checks written in 1970:<sup>199</sup>

		Payees			Total	
		Ind.	Bus.	Gov.		
Drawers	}	Individuals	3.6%	29.6%	1.8%	35.0%
		Businesses	18.9	39.1	6.6	64.6
		Governments	0.3	0.1	0.1	0.4
		Total	22.8	68.8	8.4	100.0

How, then, might that 70% penetration be distributed?<sup>200</sup> According to one observer, business-to-business items will be the last to be put on the EFTS line.<sup>201</sup> If this is true, some 39% of the items are removed, leaving EFTS "capture" of its 70% as a 100% capture of the items drawn by and to individuals. That, of course, is far too simple, though it does show the proper trend. Business-to-business items are

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Year	Terminals on line	POS Transactions (millions)
1980	8,352	127.1
1981	12,148	173.8
1982	15,911	218.0
1983	19,271	247.8

*Id.* at 313. Part of the difficulty in predicting the future of EFTS is precisely the point at issue in the BC&S report; what controls the public will impose is not at all settled.

<sup>199</sup> A.D. LITTLE, INC., *THE OUTLOOK FOR THE NATION'S CHECK PAYMENTS SYSTEMS: 1970-1980*, at 55 (1970) (Report to the American Bankers Association).

<sup>200</sup> Of course, there is no technological barrier to an EFTS penetration of 100%, rather than only 70%. I use the latter figure, however, as a conservative estimate of the next decade's penetration.

<sup>201</sup> 13 FEDERAL RESERVE BANK OF BOSTON CONFERENCE SERIES 145 (1974) (remarks of R. Kerr).

often variable in amount, variable in occurrence, and trivial in cost compared to the other expenses involved in clearing an account. Nevertheless some business-to-business checks, such as those issued and received by utilities, insurance companies, periodic financial transactors, and regular suppliers or distributors, could be taken over if not by POS, then by a variant of DDP and PAD. Thus some business-to-business items will be included. Just as clearly, most of the individual-to-individual items will likely be excluded.

Focusing directly on items as to which individuals are either payors or payees gives a more detailed view:<sup>202</sup>

- *Individuals-to-business*: about 25% of these checks are drawn to "recurrent" creditors such as utilities and are therefore fit for ACH/PAD. Another 40% are for retail purchases, thus POS-prone. Fifteen percent are for other services and are therefore questionable. The balance are for cash, contributions, and the like. Thus of the items in this category, at least 65% and perhaps over 80% are immediate candidates for EFTS.

- *Individuals-to-governments*: there are no data readily available to show what portion of these items are semi-recurring (property taxes; driver's license fees; other periodic assessments) and which are entirely nonrecurring (parking fines; purchased services).

- *Business-to-individuals*: these items are very largely wages and dividends or other recurring distributions and are therefore excellent candidates for DDP or other ACH processing.

- *Governments-to-individuals*: almost all, various forms of welfare and social security, disability, salaries, etc., are amenable to DDP.

To summarize, it would be reasonable to surmise that, at a 70% penetration across the board, the bulk of the remaining check usage will not be items related to individuals. Of the checks that individuals receive, about 90% are amenable to DDP. Of those that individuals write, at least 65-80% can be effected through very simple forms of PAD and/or POS. The balance, such as the individual-to-individual category, are systemically trivial.<sup>203</sup> Although these data support the supposition that EFTS will not become an exclusive payments system

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<sup>202</sup> These and the immediately following data are adapted from A.D. LITTLE, INC., *supra* note 199, at 64, Table 5-9. See also II GEORGIA INSTITUTE OF TECHNOLOGY, ATLANTA PAYMENTS PROJECT, A TECHNICAL, MARKETING, ORGANIZATIONAL AND COST EVALUATION OF A POINT-OF-SALE TERMINAL SYSTEM, at 166 (1972) [hereinafter cited as APP/GIT PHASE IV].

<sup>203</sup> Though, it must be conceded, these items are among the most sensitive in privacy-invasion terms.

in the near future, the possibility that EFTS could be ubiquitous so far as individuals are concerned is not so farfetched.<sup>204</sup>

Thus far, what EFTS could do. The more serious question is, what it is likely to do.

A principal attraction of EFT for retail merchants is its potential for reducing losses due to theft of cash, fraud and the collection costs associated with checks.<sup>205</sup> Of some, though less, importance are projected savings in handling costs of paper through on-line data capture. Similar potential savings have instigated action by the federal government. As the issuer of payroll, welfare, and other social insurance payments, the government incurs considerable costs in handling and processing checks, and from fraud and thefts. Moreover, the Federal Reserve Board, as manager of the check-clearing system, is concerned

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<sup>204</sup> The form of argument employed here is a weak one—it uses as a proof the reconstruction of a conclusion that may have been arrived at through a wholly different process. The analytic point nevertheless remains: an EFTS penetration rate far lower than 100% could imply an EFTS monopoly in some submarkets, depending upon how the actual rate is distributed. A low overall rate does not mean that conflicting systems compete in all nonfungible arenas or for all participants.

There is also the question of the residual use of cash, and once again the data cut both ways. Baxter, Cootner & Scott assert that the use of cash for payments made by individuals may very well *increase* under EFTS, simply because AFM's will make cash easier to get. BC&S at 68. That some residual use of cash is inevitable finds support in other data as well. Indeed, during the decade in which credit cards made their largest advance in market share, 1960-1970, the total amount of cash in circulation per capita grew at a compounded rate of 4%, just below the rate of inflation during the same period. (During that same period the number of \$100 bills outstanding grew by 122%; \$50 bills increased in number by 87.3%; and \$20 bills by 89.6%. NSF/RANN, *supra* note 5, at 47-48.) Although cash transactions are *in number* the largest segment of all payment forms, the total *value* of all cash transactions is a small fraction of the total effected by all payment media. NSF/RANN, *supra* note 5, at 35. It would be equally interesting to note the *kinds* of transactions that are concluded by the use of cash—*i.e.*, are they the trivial purchases of newspapers, shoeshines and lunch? Or do people use cash for larger, more significant transactions as well? Consider the following: there is, on the average, about \$500 in currency outstanding for each individual adult in the United States, or a total of about \$80 billion, of which 90% is in bills and 10% is in coin. Anderson, *Currency in Use and in Hoards*, NEW ENGLAND ECON. REV., Mar.-Apr. 1977, at 21, 28. Of this total, about two-thirds is in savings hoards. *Id.* at 25. (This is about 7% of total personal income. In 1913, 10% of personal income was held in currency. *Id.* at 21.) Only one-third is in active use. Holdings are even smaller (\$100 to \$200 per household) for those households that have demand deposit accounts. It is, nevertheless, extremely difficult to determine the uses to which this currency is put. Only about \$1 billion of the \$80 billion (or the \$27 billion in active use) is used in retail sales transactions. *Id.* at 22-23. What the balance is used for is not known, though one speculation is illegal transactions of various kinds. The point remains: cash is, though still a measurable residuum, in terms of value a small portion of total payments.

<sup>205</sup> See IV APP/GIT PHASE III, *supra* note 6, at 260 ("Generally, merchants realize the existence of bad check losses and collection problems and welcome a solution to these problems." *Id.*).

with the additional maintenance costs incurred from its check handling systems, processing the actual checks, and "float."<sup>206</sup>

The federal government has, therefore, been playing a significant role in the early implementation of EFTS. The nature of that role foretells something of EFTS' future.

Administrators of federal and state government payment distribution systems have been persuading employees and welfare recipients to have their payments deposited directly into their demand or time deposit accounts—a procedure likely to grow more pervasive if the nation increases the scope and coverage of its wealth transfer programs.<sup>207</sup> The FRB has candidly noted: "[T]he U.S. government . . . is looking toward the time when *all* of its checks will be handled electronically and credited to the accounts of payees."<sup>208</sup>

It is reasonable to assume that, at least so far as ACH/DDP/PAD is concerned, the eventual marketplace outcome will be skewed by these governmental activities. That is not to say that such a result would be economically irrational. It is, simply, to say that the proponents of EFTS have begun with one very large and very important customer who both subsidizes certain aspects of the costs and risks of EFTS implementation, and who can in a variety of ways cause other market participants, the recipients of its payments, to support the effort. It is this latter aspect especially that illuminates not only the degree of future penetration of EFTS, but the inescapability of the system as well.<sup>209</sup>

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<sup>206</sup> See, e.g., Burke, *RCPC's Transitional Step*, *BUS. REV.*, Jul.-Aug. 1973, at 11-13 (Federal Reserve Bank of San Francisco publication). The "float" on Fed as well as the "paper glut" caused by checks were the ostensible motivations for the recent amendments to Federal Reserve Bank Regulation J, 12 C.F.R. § 210 (1980). See *Community Bank v. Federal Reserve Bank*, 500 F.2d 282, 284-85 (9th Cir. 1974). This fear of the "paper mountain" has, now eight years later, not been borne out. Some believe it never was the principal motivation for EFTS. See note 212 *infra*.

<sup>207</sup> See, e.g., NSF/RANN, *supra* note 5, at 101, 116-18.

<sup>208</sup> *Electronic Funds Transfer Moratorium Act of 1975: Hearings on S. 245 Before the Subcomm. on Financial Institutions of the Senate Comm. on Banking, Housing and Urban Affairs*, 94th Cong., 1st Sess. 84 (1975) (Statement of George W. Mitchell, Vice Chairman, Board of Governors, Federal Reserve System) (emphasis added).

It is, therefore, not surprising that the Federal Reserve Bank is not only heavily involved in the ACH system but is, in all but two cases, its operator. NCEFT INTERIM, *supra* note 3, at 68-70. As the NCEFT INTERIM report makes clear, however, it is not likely that Fed's involvement with ACH foretells an equal involvement with POS. For one thing the Government (and especially the Fed) has little stake in POS as a user, compared to its very considerable interest in ACH as the operator of the clearing mechanism. Moreover, ACH operates in a batch mode, while POS is almost entirely real-time. The Fed and the Federal Home Loan Bank Board have both already declined industry invitations to become the operator of a POS switch. *Id.* at 71-72.

<sup>209</sup> Welfare recipients, for example, are especially vulnerable. With DDP and PAD, it could truly be the case that the recipient's account is only a way-station from the government to the

The wealth-distribution and systems management activities of governments cannot be left out of the analysis if they exist in the reality of a mixed economy.

Cost savings to the federal government are not the major impetus for the development of EFTS. Neither is the cost of processing checks the central motivation of banks to adopt EFTS.<sup>210</sup> A more immediate motivation is the prospective profit to be gained from changes in the relevant consumer markets.<sup>211</sup> If any component of EFTS (*e.g.*, ACH/DDP or PAD or POS) becomes widely accepted, it is most probable that all of its users will need to maintain a demand deposit account: a "cash card" could hardly operate otherwise; so too with a tape-initiated payroll credit system. Thus the system's initiators stand to capture a larger share of undercompensated demand deposits, either through the positive attraction of the system to some consumers or through a need to participate on the part of others. And, to the extent that a broad scale EFTS/POS system can be created, there may tend to be an economy of specialization and therefore a concentration, in the hands of its operators, of related salable functions still peripheral to the traditions of retail banking: consumer credit, credit analysis, retail inventory and other managerial-accounting functions, and the like.<sup>212</sup>

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utility company. The analogy of the company store suggests itself.

Consider, as a tangential point, *Barlow v. Collins*, 397 U.S. 159 (1970), a case in which a group of tenant farmers sought to challenge a regulation issued by the Secretary of Agriculture. Prior to the regulation, the farmers were not permitted to assign their upland cotton program payments to their landlords. The proposed regulation changed that. One might ask why the farmers wanted *not* to have the power freely to assign their income. The answer seems clear: the pressure from landlords to do so would be inescapable. And although the debts owed the landlords were legitimate and, had the tenants stayed in one place long enough, their collection would have been had, the power of assignment would have assured collection in every case. With the ban on assignment, the tenants retained at a minimum the possibility of buying a bus ticket out. Baxter, Cootner & Scott might regard that—the ability to use a "second economy" to escape suffocating though lawful indebtedness—as a bad thing. Maybe it is. But maybe society needs escape valves too.

<sup>210</sup> Though this has been one factor among others. Recall the 98% cost reduction coming from the 50:1 ratio of storage costs for checks vs. magnetic tape memory, page 434 *supra*.

<sup>211</sup> NCEFT INTERIM, *supra* note 3, at 59.

<sup>212</sup> See, *e.g.*, NSF/RANN, *supra* note 5, at 37 ("[Large commercial banks] hope to extend their shares of market in commercial banking and to extend commercial banking's share of the market in other activities authorized under the Bank Holding Company Acts."); note 182 *supra*. A somewhat less complimentary view of all this was offered by the representative of a very large national bank, who served as that bank's delegate to various EFTS committees (and who has requested anonymity for himself and his bank):

It was harder for management, based on long and short term profit goals, not to do something new because the competition might and they would always have the sneaking suspicion they should have. This phenomenon I refer to as bankers' paranoia. . . . [I]t was further emphasized by a Canadian banker we met who said that 'sometimes we banks like to slash our wrists and lie down and bleed together.'

Given even this rough overview of some participants and their incentives, we are better able to consider what the various likely futures are for competition in the payments market. The theory is a simple one: if there are economies of scale to EFTS implementation—which there are<sup>213</sup>—then there should be a reflection of those economies not only in the internal competitiveness of EFTS producers, but more pointedly in the likelihood that a grid of nets will become dominant among the various modes of payment. Imagine the pond full of banks offering checking accounts, credit cards, cash handling, some rudimentary ATM's. One bank, encouraged by unused computational capacity from its subsidized ACH operations, then expands its niche or, simply on its own initiative, offers a combined system of ATM and POS ("One card, cash and credit."). It is not likely to be a small bank: a POS system has some minimal number of retail terminals necessary in order for it to cover its costs. Signing on that number of merchants takes time, as did instituting the bank-credit-card system, during which the system operator will probably experience large losses.<sup>214</sup>

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Personal correspondence. What this correspondent may have been referring to, of course, is the fact that if EFTS can be implemented successfully, there will be profits for the innovators. All of the other firms must then join in, not to make profits but to cut losses. See also NSF/RANN, *supra* note 5, at 37: "Actions on the part of . . . 'aggressively forward looking' banks inevitably have caused concern, not only by their direct commercial competitors, but also by other financial industry organizations who fear the eventual impact on their own markets. So these organizations, in turn, begin to express interest and take initiatives." Ample evidence for exactly that proposition appears in the hearings on the EFTS Moratorium bill—legislation sponsored by the credit union industry among others, afraid, perhaps, of the competitive advantage already secured by the savings and loan associations. See, e.g., *Hearings on S. 245, supra* note 208, at 11-12 (Statement of Herman Nickerson, Jr., Administrator, National Credit Union Administration):

S. 245 reflects a desire to avoid . . . inequitable developments in the field of electronic funds transfer (EFT).

. . . There is no need to discontinue the development of EFT, but there is a real need to see that its rapid growth does not adversely affect . . . those competing financial institutions committed to serving the public.

<sup>213</sup> See note 212 *supra*.

<sup>214</sup> There is much debate about the internal cost curves of EFT systems, with Baxter, Cootner & Scott taking an optimistic view of the prospects of having an economical POS net in the very near future. BC&S at 105. One other researcher, for example, concluded (on the basis of data no more opaque than is Baxter, Cootner & Scott's "proprietary information") that at the present time the volumes necessary to operate a profitable POS system make the risk of investing in a large scale implementation so great that they are beyond what a "prudent businessman" should undertake. See NSF/RANN, *supra* note 5, at 96-97 (quoting a Federal Reserve Bank of Cleveland study of point-of-sale EFT's regarding implementation and costs for the fourth district). The NCEFT reached a similar conclusion in the area of POS costs, that "Under present conditions, cost savings from use of POS systems appear to be some years in the future, *in light of the large transaction volumes required for successful implementation.*" NCEFT INTERIM, *supra* note 3, at 78 (emphasis added). See NSF/RANN, *supra* note 5, at 101. The results, in other words, are not



The experiment will either fail, or will cause a second major change; it is unlikely that the situation can remain stable with one bank running a viable POS net. Assuming, as Baxter, Cootner and Scott do, that higher income depositors will more readily use the POS system,<sup>215</sup> other banks will see themselves at risk of losing large undercompensated deposits. The risk is greater still, since a POS retailer incurs a transaction-cost advantage in moving its demand accounts to the net operator as well<sup>216</sup>—not to mention the advantage the innovator has in offering DDP services to its retailing customers. Other banks in the market area will inaugurate EFT services of their own, both to reduce the migration of demand deposits and because the POS retailers already enrolled will reduce the costs of entry to any second bank whose card and communication system is compatible with the first.

The second plateau on the way to the new equilibrium, therefore, will be one in which most of the banks in the market are actively participating in two payments systems—checks and EFTS—and retailers are offering both—cash-checks, and credit-cash card—to their customers.

This too is an unstable circumstance. Electronic systems, while easily compatible with other electronic systems, are not entirely so with systems in which paper is regarded as real. An operating EFT system and a check system both have fixed operating costs that cannot be merged into one or the other. Those banks, therefore, that entered the EFT net to protect their deposits may find themselves earning

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yet in, and the magnitudes of the transaction volumes at stake vary from one commentator to the next. D.W. Hock (president of the then Bank Americard system) comes closest to Baxter, Cootner & Scott. He reports that Bank Americard's Base II system can operate efficiently on less than 1% of present national check clearing volumes. Hock, *EFTS or EVE*, 13 FEDERAL RESERVE BANK OF BOSTON CONFERENCE SERIES 65, 73 (1974). All such predictions, however, should be liberally salted. One, which the reader may assess for himself, was made in a slightly different context: "It seems clear that there is no way checks will survive the introduction of credit cards. From the point of view of the banks it is commercial folly to operate two distinct clearing systems, check and credit card, side by side." T. RUSSELL, *THE ECONOMICS OF BANK CREDIT CARDS* 38 (1975). Sometimes they just take longer to come true.

So far as processing costs are concerned, ACH's at least are critically volume-sensitive. The Atlanta Payments Project concluded that ACH's had no processing cost advantages unless the equipment was operating at nearly full volume—in that case, about 25,000 items per hour continuously. NSF/RANN, *supra* note 5, at 321.

<sup>215</sup> Either because their time costs are higher or because their greater discretionary wealth permits some looser degree of management.

<sup>216</sup> This will be less true if ACH works as it someday might. The advantage now is that POS credits can be available for withdrawal instantly (or can earn interest immediately) upon their deposit, without needing any transfer from the POS-credit account to, e.g., the payroll account at some other bank. The advantage of doing all one's banking at a single place may decline if interbank transfers really do become fully electronic.

lower net profits than before. Unless the mere fact of EFT causes an expansion of the market's deposit base, the whole industry will be in that position, wondering how it thought the revenues from EFT-ophilic deposits would cover the costs of development.<sup>217</sup> This may be one reason why it will all never happen. Assume, however, that it goes that far: the majority<sup>218</sup> of banks are tied into a two-way process; the merchants, three (including cash). Now what?

As Baxter, Cootner and Scott are themselves aware, the emergence of a viable POS network does some interesting things to the remaining check system, besides just multiplying many-fold its processing costs per item or dollar handled. They say, for example, that as debit (POS) cards become more common, the adverse character of checks as short-term credit devices will become more obvious, so that the costs of using checks will rise to include this differential credit cost component<sup>219</sup>—or will otherwise make the providing of a checking service quite a different thing from what it used to be.

Similarly, as debit card use increases so will the default risk of the remaining checks, since floaters and bouncers are more likely than other people to prefer checks to instantaneous debit systems. Merchants will, therefore, seek to discourage check writing: "Under the postulated conditions the merchant may not accept checks at all or may accept them only for a significant fee."<sup>220</sup> Or if differentiation

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<sup>217</sup> This is precisely the scenario independently arrived at by my colleague Peter Schuck, who sees these competitive pressures leading, in a market left entirely alone, to an EFT system too little used to be efficient *and* a paper-based system whose costs per transaction rise because its volume declines (with large fixed costs) and which must then bear only the most expensive subset of all of its prior transactions. See Schuck, *supra* note 74, at 162 n.35.

<sup>218</sup> The prospective deposit (and therefore revenue) losses may vary with the demographic characteristics of any one bank's clientele. For the sake of illustration, assume that the correlation of wealth with acceptability of EFTS is very high. In that case, if banks draw their depositors from a restricted geographic area, and if (as is often the case) the wealth categories within geographical districts are homogeneous, then it could very well be the case that while banks in affluent areas add EFTS services to forestall deposit losses, banks in the inner-city feel far less threatened by the innovation. All of these assumptions, however, are quite restrictive. Thus, while there may be some of the postulated effect, in practice it is not likely to be as sharply observable as the example might suggest.

<sup>219</sup> This does not mean that there will be two sets of *prices*. (What is far more likely is that the more costly system will simply be disallowed in many cases.) Price differentiation has high transactions costs. Personal observation of an allied phenomenon bear this out. The Fair Credit Billing Act, § 167, has made it unlawful for banks to forbid merchants to allow discounts for cash (as opposed to credit card) sales. 15 U.S.C. § 1666(f) (1976). Nevertheless, merchants infrequently make differentiated prices available to their customers. And in this case the stakes are fairly high—two to five percent of the sale. The same distinction between POS and checks so far as credit costs are concerned (a few days' float time) probably doesn't exceed three ten-thousandths of the price.

<sup>220</sup> BC&S at 59.

within one retail store becomes too costly—another phenomenon to be concerned with—in a world where not all merchants take all debit cards the remaining fraud and credit risks would shift to merchants who do not have debit card terminals.<sup>221</sup> That may in turn result either in higher costs for goods purchased in less affluent areas<sup>222</sup> or, because of this disadvantage, in the elimination of no-terminal stores either by their demise or their purchase of POS terminals. All in all, this can result in a reduced acceptability of non-POS payment methods and a push on the feedback loop—a contribution to that critical degree of POS penetration that may make these discontinuities less and less resistible.

A similar analysis can be applied to the viability, for all but trivial transfers, of cash. Consider the costs to a retail store of accepting cash. Some of the costs, such as the maximum amount that can be stolen or embezzled by employees, vary smoothly with the amount of cash on hand. Other costs, however, do not; one cannot purchase such safeguards as strongboxes, safes and alarm systems in infinitely divisible units. The costs of handling the cash (cash drawers, transporting the cash to a deposit point) are also “lumpy.” The analogy of fixed and variable costs suggests itself: to accept cash at all means to have certain irreducibly fixed costs. Conversely, to give up some few sales by refusing to accept a small residual number of cash transactions may result in disproportionate savings.<sup>223</sup> The point at which a retailer might therefore exact a “penalty” from cash users, or else refuse to deal in cash at all,<sup>224</sup> may not be predictable for all cases in advance, but it is a very likely phenomenon.<sup>225</sup>

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<sup>221</sup> *Id.* at 60.

<sup>222</sup> Where no-terminal stores are more likely to be. As Baxter, Cootner & Scott observe, “Checks should ultimately be restricted to transactions which cannot be effected on a terminal: payments sent by mail and purchases at smaller establishments.” *Id.* at 68-69.

<sup>223</sup> See NSF/RANN, *supra* note 5, at 50.

<sup>224</sup> Nothing in our present law would forbid retailers to refuse to accept currency. Federal statutes which make cash “legal tender” affect only the requirement that it be taken in payment of *debts*, *i.e.*, in payment of some previously extant contract. See 31 U.S.C. § 452 (1976). One is free, however, to contract *ab initio* for another form of payment, and if that is done the legal tender laws have no application. See *Bronson v. Rodes*, 74 U.S. (7 Wall.) 229, 251-54 (1868) (where contract expressly required payment in coined dollars, creditor could not be compelled to accept United States notes even though a federal statute made the notes legal tender in payment of all public and private debts; such contracts are not “debts” within the statutory meaning). *Cf.* *Philadelphia & R.R. Co. v. Morrison*, 19 Fed. Cas. 487 (E.D. Pa. 1864) (No. 11,089) (ground rents are not debts within meaning of federal statute providing that United States notes are legal tender in payment of all debts); *Perry v. Washburn*, 20 Cal. 318, 350 (1862) (state taxes are not debts within meaning of federal statute making United States notes legal tender in payment of all debts; statutory debts are confined to sums of money due under contract).

<sup>225</sup> There already are gasoline stations that refuse to accept any cash at all after 6 p.m.

Similar artifacts of lumpy costs affect other aspects of EFTS. Tape-initiated credit flows, for example, may be profitable only if they virtually eliminate other systems. Likewise for PAD processing.<sup>226</sup> Again there is a discontinuity—the very large advantage to be derived by eliminating redundant fixed costs.

Two other phenomena may tend toward the same direction, *viz.* toward eliminating competing payment systems once EFTS achieves a critical degree of penetration. One is the economy of specialization: billing and credit operations, now done in many scattered retail locations, may become uneconomic compared to purchased services,<sup>227</sup> with the seller able to utilize expertise and other scale economies, as well as the very considerable collection leverage that comes from having debits and credits in the same set of hands. Thus, although this point may not require a total elimination of cash, it does suggest that a vertical concentration of functions in the hands of the system operator is not unlikely.<sup>228</sup>

When all is said and done, this amounts to a series of observations that go against the grain of Baxter, Cootner and Scott's soothing assurance that EFTS will only be one system among others. They arrived at that conclusion, it seems, by investing an enormous amount of confidence in a painfully simple model of consumer preference and producer response. The model is barely chiaroscuro; the world is psychedelic polychrome.

## VI. THE POLICY CONSEQUENCES OF THE NEUTRAL SCIENCE

In the heuristic genre of which the Baxter, Cootner and Scott report is an instance, markets are not just good things. They are, to misquote the words of Vincent Lombardi, the only thing. The inputs to a market are consumer preference and social resources. The outputs are maximal satisfaction of consumer demand and the efficient alloca-

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<sup>226</sup> BRAND, GRUBER, STANDER & CO., *supra* note 78, at 30, 49.

<sup>227</sup> An interesting test of this general point can be suggested, beginning with an analogy to the effect of credit cards on the use of store-generated credit accounts. Consider a customer who has both a bank credit card and the possibility of acquiring a store card. If the store accepts both, one might inquire into what the distribution of credit risks would be. It could be guessed, for example, that bank card holders will bother to acquire store cards only if their bank card credit lines are too low or have been exhausted. When that is true, the local store account undertakes to do the marginal "excess" lending. The effect, then, is to unbalance the credit risks in such a way that store cards bear more of it. The economics of subsidization of credit from retail sales, already perturbed by the very existence of bank cards, take a very hard blow. Out goes the local account and up goes the concentration of credit in bank card issuer's hands.

<sup>228</sup> This was indeed one of the issues isolated for study in the NSF/RANN report. See NSF/RANN, *supra* note 5, at 12.

tion of resources dedicated to meeting that demand. The regulator, collective consumer demand, is the sum effect of individual consumer choices. Participation in the market and the expression of preferences by consumers are the same act; markets, therefore, do not coerce in the way that regulation by government does. If a market is working reasonably well—that is, barring serious market failure caused by government regulation or otherwise—all legitimate concerns of consumers about EFTS will of necessity be accounted for. If there are dimensions which consumers dislike, such as the risks to privacy, their failure to use the service will result in its change—the deletion of the objectionable features for those willing to pay the new price. So long as the market does all this, responding to the pluses—time and convenience—and the minuses—the instrumental consequences of losses of privacy—to consumers of this proposed evolution in the payments process, regulation by some nonmarket force will do nothing but perturb the optimal set of outputs. EFTS, so far as consumer issues are concerned, should be left alone.<sup>229</sup>

This affective commitment to the market is, if not an ideological choice, at least a methodological one. It places the burden of proof on the proponents of regulation by government; if the burden is not met, the policy recommendation must be to let the market decide. Markets and politics do not begin the race evenly. The justification for casting the burden in that way comes, inevitably, from a confidence that the model of market performance is descriptively correct. Hence the normative content of the neutral science. A closer look at the model in the context of EFTS suggests that the burden is unfairly cast.

#### A. A Narrowed Gaze

The easy transition from the application of a model to the postulation of a policy requires that the model consider all of the things that social regulation might wish to embrace. Baxter, Cootner and Scott's model does nothing of the kind. It focuses on a single kind of output<sup>230</sup> and counts as costs and benefits only those things that can

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<sup>229</sup> Some of this is obviously caricature, though not by much. Some of it is only implicit in Baxter, Cootner & Scott, though again not hidden by much—the authors were not always explicit about their methodological predicates, as I have previously suggested, see page 451 *supra*. The stated conclusion, however, is neither implicit nor caricature. "Private EFT systems are voluntary and nonexclusive systems, so consumer preference will play a powerful role in forming their practices as to information gathering and access." BC&S at 174. And, "The benefits to consumers from *unfettered* development of EFTS in banking far outweigh its associated risks . . . ." *Id.* at 181 (emphasis added).

<sup>230</sup> See text accompanying note 233 *infra*.

somehow be translated into a single currency. An example or two might illustrate the texture that this omits.

As the authors themselves say, it will not be possible in the near future to have POS terminals at every retail point of sale.<sup>231</sup> The hardware cost alone will initially restrict installations to retail outlets with large unit sales and gross revenues. If it is true that POS is seen by consumers as a valuable shopping economy, and if it reduces the net costs of retailing, then it is not unlikely that smaller stores would be competitively handicapped by the ability of larger stores more profitably to employ POS terminals.<sup>232</sup> To state the same thing another way, the cost effects of POS technology may increase the minimum efficient size of retail firms by introducing a further economy of scale.

There may be some matters worth worrying about here: even if society would on the whole be functionally better off if it had a more efficient retail process, there are uncompensated internal redistributions of the kind that might concern policymakers. Existing small-store entrepreneurs may find themselves displaced; putative small-business entrepreneurs may face higher entry barriers in the form of larger minimum capital necessary to become an "owner." These are losses in human satisfaction as well as being social perturbations.<sup>233</sup> They are not easily assessed by a model which counts only efficient output on its measuring stick.

Likewise on the consuming side. POS technology will encourage the further development of centralized billing and credit systems, with concomitant changes likely in the cost and availability of credit,<sup>234</sup> perhaps most notably in its individuation.<sup>235</sup> Consider, too, the fact of income disparity and the clientele history of retail banking: Will the poor have equal access to POS accounts and to retailers with

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<sup>231</sup> See BC&S at 63, 68.

<sup>232</sup> See NSF/RANN, *supra* note 5, at 119.

<sup>233</sup> Baxter, Cootner & Scott work right up to but do not see this problem, almost as if to prove the case being made here. One particularly interesting passage, dealing with the reduction in branches that ATM's may make necessary—whole banks, in unit banking states—is this:

One way to reduce the number of banks is through bank failure. These words still convey a rather special sense of catastrophe and disaster, derived from the Great Depression and the Bank Holiday of 1933. . . . If bank office reduction took this form, the overwhelming preponderance of failures would be of small banks in unit banking states, and there can be no question of the adequacy of the deposit insurance fund to deal with that type of situation. Despite the fact that the subject is still somewhat emotionally charged, exit by failure of the firm is not really an unthinkable way of reducing excess capacity in banking.

BC&S at 178 (footnote omitted).

<sup>234</sup> NSF/RANN, *supra* note 5, at 90, 199, 201.

<sup>235</sup> A concept I have discussed elsewhere. See Dauer, *supra* note 116, at 155.

POS capability? If not, they will be disadvantaged again with respect to more affluent EFT users.

If left to itself, EFTS might well have these and other distributive implications. They are not the sorts of things (*e.g.*, the values of access to entrepreneurship, to individuated service and credit, and to nonregressive consumption costs) for which a market will effectively correct. The classical market model does not see these losses as necessarily being *incorrect*.<sup>236</sup>

A final example bridges two critiques: it is an example of market failure as well as an instance of values "irrelevant" to an efficiency process. Markets work on the basis of bids. "Efficient allocation" itself means a set of arrangements that optimally deploy resources as that is measured by consumers' willingness to pay.<sup>237</sup> This ignores the fact of disparate and constrained wealth.

If for example A is about to impose a cost on B, some market theorists would say that A will internalize that cost even without a rule of legal liability, by foregoing the bribe that B would pay him not to cause the harm.<sup>238</sup> Fair enough. But suppose that what B wants to protect is a value of an illiquid sort. Protecting it will not generate a revenue that will pay the cost of the bribe. And suppose that, for one reason or another, B has no liquid assets that can be devoted to the purpose. Can a market work without bids? Or are markets efficient preservers of only those values that are either held by owners with sufficient discretionary wealth to buy their protection or that are themselves *transferable* utilities that others will value? An analysis of how the market will adjust might not direct one's attention to *whether* it can adjust for a nonmarketable sensibility. To take the point closer to home, physiological sustenance is usually more important than existential and psychological serenity. "Buying out" of EFTS is therefore a luxury<sup>239</sup> for one who faces a foreclosure of his other options. And if powerlessness in general is inversely related to wealth, those

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<sup>236</sup> A model that does not include a well-stated theory of social distribution goes even further: it would assert that allocating higher costs to higher-risk—often, lower income—groups is efficient and therefore correct.

<sup>237</sup> See R. POSNER, *supra* note 159, at 10-11.

<sup>238</sup> Absent transactions costs, to be sure. See Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 15-16 (1960).

<sup>239</sup> Availability is functionally related to increased cost. Thus, for example, if checks come to be acceptable only if a 25 cent fee (for the increased fraud and credit risks, see page 462 *supra*) were added, less affluent individuals might not be able to afford the choice of checks over EFTS. For them, the availability of alternatives has dropped considerably. As to the ascription of "cause" in this regard, *i.e.*, whether a 25 cent fee should be assessed against the check user because of that individual's desire to deviate from the least-cost norm, see my discussion in Dauer, *supra* note 116, at 135 nn.10 & 11.

demographic strata with the least reserves of autonomy have the least chance to avoid the most "efficient" financial systems.

An analysis that begins with a descriptively incomplete model is not likely to consider important those things the model elides.

### B. *Consumer Markets*

Not only is the market-model narrow in the sense that as a heuristic device it fails to wrap the analysis around all of the relevant issues, it is descriptively questionable as well.

A market economy produces a hundred kinds of applesauce and a thousand brands of mouthwash. If production decisions were left entirely to some well-intentioned central planner there might not be lemon-scented, puce-colored soap balls in the shape of rose buds. (Or there might be only those.) Concomitantly, it is a freely functioning and competitive market that normally eliminates, with minimum waste, expenditures for the production of goods (like Edsel automobiles) that people do not want. But it is a long leap from these and similar observations to the conclusion that consumer sovereignty is unvaryingly effective. Banking is not like soap making; payment systems are not like cars.<sup>240</sup> Even when it does work, consumer sovereignty can be a crude device. When uniformity has significant cost advantages to producers, for example, consumer markets are often unable to regulate producers and production except in very gross ways, or to discriminate finely among the various individual elements that combine to form aggregate consumer demand.<sup>241</sup>

The National Commission on Electronic Fund Transfers reached this very conclusion when it "recognized that social and economic pressure to conform and accept an unwanted service might be overwhelming"<sup>242</sup> in the near future of EFT. When considering, for example, the allocation of liabilities for theft, error and EFT system malfunction, "the Commission viewed as unequal the bargaining power between EFT providers and . . . [individual] customers, and therefore rejected private contract [in favor of federal legislation] as an appropriate vehicle for establishing these rights and liabilities."<sup>243</sup>

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<sup>240</sup> *But see* note 245 *infra*.

<sup>241</sup> See discussion at pages 452-53 *supra*, and my earlier discussion in Dauer, *supra* note 116, at 130-36.

Markets that suffer high discrimination costs treat aggregate consumer preferences in the way that least common denominators treat fractions. If we have 1/8, 1/6, 1/24, 1/24, 1/24, 1/2, treating the whole as composed of 24ths is not too bad. But calling all the components 24ths doesn't work quite as well when the members of the group are only 1/3, 1/4, 1/6, 1/8 and 1/2.

<sup>242</sup> NCEFT FINAL, *supra* note 3, at 41-42.

<sup>243</sup> *Id.* at 55.



That is to say, not every issue is equally susceptible to resolution by fine-tuned consumer marketplace choices. Some are, but some aren't.<sup>244</sup>

For one thing, manifest consumer preferences in the market yield neither individually nor socially optimal results if the choosers are unable to make intelligent comparisons of available alternatives. With respect to banking transactions generally there is a "pervasive economic illiteracy."<sup>245</sup> This illiteracy goes further than a mere unfamiliarity with the whys and wherefores of retail banking and the law and custom that govern its several modes. It is a species of ignorance—wholly understandable and forgivable—that goes to a misunderstanding

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<sup>244</sup> As the NCEFT again recognized. In discussing the need for maintaining consumer choice among payments systems, for example, the Commission recommended that it be made unlawful for a lender to condition the granting of consumer credit on the consumer's agreement to PAD repayment; and that (more understandably) with respect to DDP, the individual worker should be permitted freely to choose the depository institution. *Id.* at 42. However, no such recommendations (e.g., accepting only certain forms of payment) were made with respect to merchants because, *inter alia*, there will be among merchants "corrective market forces." *Id.* at 43-44. Why among merchants, but not among lenders? And even with respect to banking institutions, the Commission felt that privacy matters should, in the main, be regulated—unwaivably—by legislation, *id.* at 36; but that questions of "stop-payment" rights can be left to be resolved by the market. *Id.* at 9. Unless the Commission was being entirely disingenuous—such that "leave it to the market" means a "pro-bank solution is acceptable"—it must have concluded that, realistically speaking, markets work with respect to some issues and not others, and with respect to some kinds of firms but not others. The choice is empirical. See page 477 *infra*.

<sup>245</sup> NCEFT INTERIM, *supra* note 3, at 8 (quoting Richard J. Francis, Commissioner, Michigan Financial Institutions). Ignorance has, of course, several dimensions, some immediate and some remote. Thus, one commentator analogized the problem of consumer choice in EFTS to that of automobiles:

[F]ew of [the social costs] were foreseen either by the promoters of the automobile or by its consumers. Had they been foreseen, the technology might have taken a radically different form, or alternatives to the automobile might have been preserved and developed or both. In their roles as taxpayers, consumers, and voters a more clairvoyant American people might well have insisted upon controlling and humanizing the automobile before the technology had become economically, politically, and socially institutionalized—in short, before it became too late.

Schuck, *supra* note 74, at 151-52.

The most cogent analysis thus far of the relationship between the problem of imperfect information and the remedy of legal intervention, appears in Schwartz & Wilde, *Intervening in Markets on the Basis of Imperfect Information: A Legal and Economic Analysis*, 127 U. PA. L. REV. 630 (1979). Schwartz and Wilde conclude that the preferable solution for noncompetitive market behavior is not term regulation, but intervention by legislative and administrative, not judicial, agents to attempt to increase competition in the market. *Id.* at 682. Their research has suggested to them that markets *will* behave competitively even if a majority of consumers are ignorant, so long as a substantial minority are informed. Their work, however, is thus far restricted to the case of homogenous goods and ignorance about alternative prices. It is extraordinarily difficult, I believe, to move their theories over to the case of choices about nonhomogenous alternatives offered at different prices. Their continued research should be interesting to watch.

ing of the remote, future and wider consequences of the single simple choice.

The present can never be a perfectly discounted future. Sometimes, as is the case for EFTS, the core of a rolling snowball is made of very different stuff than that which later adheres to it. EFTS machinery will at first be a gadget—an optional toy, even an interesting convenience—to be used or not used entirely at will, a benign novelty, hardly a patent threat to anything. At the outset EFTS may indeed increase consumer choice.<sup>246</sup>

But choices made on the basis of a present seemingly unconnected to a very different future may bring that future on. As Professor Rule has argued, faith in the tenet that the market will decide—that if consumers do not want EFT it will not come into being—confuses two different kinds of decisionmaking. A consumer's most immediate decision is often a response to what is the only manageable question: "Will this serve my purpose at this time?" That issue is very different from: "If I and everyone else do it, will it create a system with implications that will injure some other interests at some future time?" Many persons, Rule points out, continue to use their

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<sup>246</sup> This was the explicit conclusion of the National Science Foundation research group, *i.e.*, that while EFTS will increase consumer choice in the short term, in the long run it may not: lower socioeconomic status groups will likely be pressured into using things like DDP and PAD for rent and loan repayments. NSF/RANN, *supra* note 5, at 212. These pressures could later on come to affect higher socioeconomic status groups. *Id.* Competition among payments system operators can cure this contraction of choice only when the costs of entry are low, which, in many versions of the EFTS future, they are not.

Another point tending in the same direction, though, I believe, a somewhat less persuasive one, is that

[e]ven if benefits are provided to the consumer to participate in a new system, he may well have questions as to whether these benefits will continue once the new system is operating. At that time, when he may have no other alternatives, the rules of the game may be changed; and he has no confidence that a sufficiently strong spokesman will be available to protect his interests.

NSF/RANN, *supra* note 5, at 85.

Once EFT is underway, in place and operating—albeit, for lack of volume, at a loss—the nature of the remaining "choices" may change drastically. There is some critical degree of penetration, probably unknowable in advance but clearly less than the point of financially optimal usage, at which it will become possible for payments-makers (governments, employers, dividend-granting corporations) and payments-takers (utility companies, lenders, landlords) to insist upon dealing in a single form of payment. Prior to that point the adverse reaction of consumers would be intolerable; after that point the numbers of individuals and the alternatives open to them will have declined to the point at which "coercion" of this gentle kind becomes entirely possible. See discussion at pages 460-63 *supra*; NSF/RANN, *supra* note 5, at 194-95. The critical juncture will vary, of course, for each good and service, coming later for luxuries than for necessities, and earlier for institutions with larger degrees of market power and for those whose payments processes are consciously paralleled by their competitors. Thus, some day, one may either need a debit card, or be left out. See generally M. WESSEL, *supra* note 137, at 21-22 (regarding access to credit card system).

private automobiles while wishing that an earlier policy decision had been made which would have made it possible now to get along without them.<sup>247</sup> The two kinds of decisionmaking are fundamentally different: One "addresses the question of what sort of social world is to be sought; the second is . . . how to deal in one's own right with the world as it is, like it or not."<sup>248</sup> Information sufficient to determine the present, immediate issue is typically much easier to come by than is the prescience needed to determine the other.

Even if any one (or every) individual is capable of accurately discounting the future to the present and foreseeing the causal links between them, the sum of atomistic choices may still not faithfully reflect the "real" social preference. The process of choosing is then a classic prisoner's dilemma: "If no one does it, we will all be better off; but if others do it, I am less badly off if I do it too." EFTS (or other payment systems) demand uniformity of format, access, and—to a very great degree—operation. The individual calculus, facing such problems of scale, is a serious distortion of the social. Baxter, Cootner and Scott, on the other hand, seem to begin with the contrary proposition as a fundamental though unexpressed definition: optimal collective choice is equal to collected atomistic choice.

Charles Lindblom hit it precisely:

Voting puts the selection of an official on every voter's agenda. The voter recognizes the problem and deals with it deliberately. Buying puts the allocation of resources into every buyer's hands. But he does not necessarily know it. He need not know that his purchases affect resource allocation, certainly need not feel any responsibility to deliberate on resource allocation before he decides what to buy. He participates in an interaction that solves the problem of resource allocation as a by-product or epiphenomenon of his own private problem solving.

[Thus] the design of a city may be left to emerge as a by-product—that is, epiphenomenally—from individual decisions on land use.<sup>249</sup>

Neither should one expect there to be much active consumer involvement in the planning of longer-range consumer affairs. The individual consumer's interest in most things, even important ones, is generally of a low intensity simply because it is so diffuse: everyone is

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<sup>247</sup> J. RULE, *supra* note 20, at 41-43.

<sup>248</sup> Hence another fortification for the choice of decisionmaking through legislation (with its collective information channels) rather than through markets (with their inefficient long-range information submarket).

<sup>249</sup> C. LINDBLOM, *POLITICS AND MARKETS* 257 (1977).

a consumer, and consuming is a large part of everything that one does.<sup>250</sup> Thus consumers as individuals tend to respond only to the dramatic, pressing issues, and not to clamor about the long-range.<sup>251</sup> The free-rider paradigm explains this phenomenon: since most of us are producers in one area but consumers in many, we devote our energies to issues that affect us as producers; otherwise we would invest far more than we would gain.<sup>252</sup> This is simply a statement of a familiar theory: since one's political capital is limited, each of us will expend it on those things which affect us most specifically and directly.

Avalanches nevertheless may come from unwatched snowballs.

There is, finally, a curious tendency on the part of some to place too much weight on the usual meaning of the word "demand" when it appears in the phrase, "consumer demand." Consumers do not get what they demand; they very seldom "demand" anything. Consumers either accept or reject things. There is a difference in degrees of acceptance that may approach a difference in kind. At one end of the continuum we have the purchase—even a queuing-up for the purchase—of faddish items such as pet rocks. Those who bought them accepted them at the prices charged. At the other end is the "acceptance" of emergency medical aid, or the acceptance of electricity and subway rides at the fixed prices charged. On a parallel continuum we have "information" at one end, psychological coercion at the other, and most "advertising" somewhere in between. At some point on these continua the identity of demand with acceptance breaks down, as does the fragile equation of free choice with manipulation.

Baxter, Cootner and Scott are constrained by their method to see consumer *want* as the motive force for the introduction of EFT services. This does not jibe well with the observations of commentators whose views are more directly empirical. "The EFT establishment still tends to view customer satisfaction as a residual marketing question."<sup>253</sup> Consumer *wants*, that is to say, play no instigative role; EFTS is being motivated by other forces. Most observers agree that consumer *acceptance* is the best that can be expected. The evidence

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<sup>250</sup> See M. NADEL, *THE POLITICS OF CONSUMER PROTECTION* (1971).

<sup>251</sup> Therefore, "there are likely to be instances when the perceived needs of the public differ from its objective needs" because, *inter alia*, few members of the public can be specialists (or even adept) in all of the relevant areas of consumerism. *Id.* at 236.

Another point is raised mostly by the active participation in ACH, DDP, etc., of government: "In consumer protection, a citizen is likely to be misled by 'the symbolic uses of politics.' . . . [T]he citizen is more likely to assume contentedly that the government must be doing something about it." *Id.* (quoting M. EDELMAN, *THE SYMBOLIC USES OF POLITICS* (1964)).

<sup>252</sup> *Id.* at 240.

<sup>253</sup> *Bus. WEEK*, Apr. 18, 1977, at 80.

has already been reviewed,<sup>254</sup> showing that consumers are neither displeased with the present payment system nor, in the main, favorably disposed toward the ones coming. EFTS' promoters seem not to be particularly disturbed about that. Many believe that this "residual marketing question" can be "overcome." The Monetary and Payments System Planning Committee of the American Bankers Association announced, for example, that "[t]hrough qualitative research, we have identified certain areas of *customer attitudes which must be changed*,"<sup>255</sup> as well as those areas of EFTS which show the least "resistance" and therefore the most promising possibilities for consumer "acceptance." This perception is widely shared by industry spokesmen<sup>256</sup> and outside consultants.<sup>257</sup> It bespeaks a confidence in the industry's ability to effect the necessary preference changes.<sup>258</sup> Its message is clear: such inroads as EFTS will make (with the possible exception of ATM's) will not be the result of consumer demand; they will be the result of industry salesmanship. Again to quote Lindblom: "Corporation executives also decide on the magnitude and character of the massive attempt at public information and thought control that goes by the name of public relations and commercial advertising."<sup>259</sup>

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<sup>254</sup> See pages 420-24 *supra*; IV APP/GIT Phase III, *supra* note 6, at 172: "In the traditional new product sense, the cash card does not appear to have great potential. There does not seem to be strong interest in having this service, much less in having to pay for the privilege."

<sup>255</sup> AMERICAN BANKERS ASS'N. REPORT OF THE MARKETING TASK FORCE TO THE MONETARY AND PAYMENTS SYSTEM PLANNING COMM. 2-4 (1971) (emphasis added).

<sup>256</sup> See, e.g., 13 FEDERAL RESERVE BANK OF BOSTON CONFERENCE SERIES 34-35 (1974) (comments of R. Long, Director of ACT, Bank Administration Institute).

<sup>257</sup> "[M]arket research reveals high consumer satisfaction with the current payment system. Consequently, strong efforts will be required to convert customers from paper-based to electronic systems." THE BANKERS' EFT HANDBOOK, *supra* note 80, at 14.

<sup>258</sup> There seems to have been a consensus among the seers, that EFTS is a manifest destiny, due sometime in the 1990's. The A.D. Little analysts, for example, see the "ultimate penetration date" being as early as 1992. NSF/RANN, *supra* note 5, at 90-93. M. BENDER, *supra* note 135, at 84, has EFTS well underway and seemingly irreversible. And from *The N.Y. Times*: "'We have passed the point of no return,' said John J. Poppen, a vice president of Booz Allen & Hamilton, management consultants. 'We are reaching for the forms of full implementation, like it or not.' But he sees a final E.F.T. victory as much as a quarter century away." Flint, *Quick Electronic Banking Slowed by the Public's Habits and Fears*, N.Y. Times, May 31, 1977, at 1, col. 1.

<sup>259</sup> C. LINDBLOM, *supra* note 249, at 155. After an extended discussion Lindblom adds: "The result is that, although people do not always do what leadership wants, they are incapable of knowing and protecting their own interests." *Id.* at 219.

It may be appropriate here to make one brief comment about the very interesting philosophical imbroglio present in much of the discussion about advertising and its regulation, particularly in what has been styled "psychological advertising." For the sake of illustration assume the extreme case: at some point in time, A prefers X to Y. Then by some form of magic an

Consumer markets, in short, do not always conform to the model the report seems to have adopted.<sup>260</sup> One consequence is a reduced confidence in the analysis as a whole. Another is the rejection, from a policy point of view, of the entire burden of persuasion that it casts.

### C. *Two Mechanisms of Social Choice*

There is, to mention it once again, a risk of a subtle equation of the descriptive parameters of the Baxter, Cootner and Scott model with the prescriptive agenda of social policy. At some points the equation is even explicit. That is the burden of this entire review: if some unrealistically skinny assumptions—about consumer behavior and market performance, to be precise—mark the basic model from

outside agency causes A to reverse his preferences. Suppose further that A once regarded act Y as wrongful. At the later time A reports that the gain he derived from the induced change exceeds the loss from the intrusion, but before it occurred he would have reported to the contrary. Should the desirability of Y be assigned proleptically? Or, is the intrusion by the outside agency wrongful retrospectively, as it would be prospectively? I don't know.

There is a rabbinic maxim, used to justify the ritual conversion of infants: "One may act for a person in his absence to his advantage . . . ." KETHUBOTH, THE BABYLONIAN TALMUD, at Folio 11a (Heb.-Eng. ed. 1971) (Soncino Press). Its place in rabbinic philosophy is carefully controlled, of course, so that its actual application is not so perverse, and it is a presumption that may be rebutted (*e.g.*, the child, upon reaching maturity, may reject the conversion). *Id.* But it does raise the issue as to when one can traverse the preferred presumption—the presumption against substitution of judgment. Consider:

The problems that EFTS developers have been having in getting marketplace support for their new systems is natural. They simply have not yet strengthened the perceptions of the fears that cause people to move, nor weakened those that anchor them in place.

13 FEDERAL RESERVE BANK OF BOSTON CONFERENCE SERIES 34 (1974) (remarks of R. Long, Director of ACT, Bank Administration Institute).

What is mainly lacking [in achieving a comprehensive implementation of EFT systems] is a clearly effective strategy for inducing consumer acceptance and utilization of the electronic capacity . . . .

T. KLEINSCHMIT, *supra* note 1, at 15.

Note, also, the sanguine report that "strong promotion" can overcome the public's present resistance to payments systems change, in THE BANKERS' EFT HANDBOOK, *supra* note 80, at 18. Moreover, "[B]anks should not hesitate to rely on creative marketing strategies similar to those used by other industries to educate and motivate the consumer." *Id.* at 15. Unlike the situation when a child reaches maturity (or perhaps like that situation) the early decisions regarding EFTS may prove to be irrevocable. See discussion at pages 458-64 *supra*.

<sup>260</sup> There are other sources of imperfection in consumer markets that could be added to this list. One, alluded to briefly here, is that of "externalities" in market-place choice, both as to costs and benefits. A thorough catalogue appears in C. LINDBLOM, *supra* note 249, at 152, 200-21.

Banking, to boot, is not a competitive industry. It is a carefully controlled and regulated industry. That is not Baxter's fault—indeed, I suspect he might have done it otherwise. But concentration is a fact of banking life, making it legitimate to ask whether EFTS can be left "unfettered" without a full deregulation of the industry.

which the analysis proceeds to its pronouncements, there is reason to doubt the comprehensiveness of the exercise. If the model departs from reality in relevant ways, there is reason to doubt the wisdom of the proposals the analysis offers. Before going to a final restatement of that argument, however, it is appropriate to comment briefly on two additional pieces of the analytical regime—two that might be urged in response to the arguments offered thus far.

The first can be dismissed quickly. Baxter, Cootner and Scott did not say this expressly; whether it is a reasonable implication or not the student of their work can decide. It goes like this: issues which the model of a competitive market does not illuminate, are not issues to which public policy need respond.<sup>261</sup> That would have been, had it been said, quite at odds with what law has always thought its province to be. The values discussed here and lumped under the head of “dignity” are things that in the usual course do not fare well in private markets, not because they are not valued, but because their preservation is not something that can be achieved by atomistic consumer choices in a setting of economic exchange, for all the reasons so far advanced. It is precisely for the protection of these things that government must accept the responsibility.

The second point is related to the first. It deals with the a priori preference for market solutions that the balance of the analytical structure seems either to require or invite. Implicit is a premise that while market regulation is the sum of the behaviors of fully autonomous individuals, government is something distinct from that collectivity—that its choices do not as accurately reflect individual preferences as do those of the market;<sup>262</sup> that government, in short, is inherently coercive. As I have argued elsewhere,<sup>263</sup> the idea of “freedom” in a marketplace has its curious dimensions.

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<sup>261</sup> The point seems, however, to be clearly implicit in the choice of the heuristic model. See note 159 *supra*.

<sup>262</sup> In discussing the issue of rate regulation versus market-set pricing, the authors portray a scenario of bumbling incompetence on the part of government regulators, a nearly comical caricature that demonstrates their view of a regulatory analogue to “market failure.” See BC&S at 142-43.

<sup>263</sup> See Dauer, *supra* note 116, at 134-35:

[W]e should not, in a world doomed to be imperfect, accept *a priori* Milton Friedman's dictum that markets are more democratic than political institutions. The rejection of that axiom leaves us free to view markets and legislatures as alternative forms of collective decision-making. Permit me to “unpack” that just a bit.

Friedman's view is, essentially, that markets are based on unanimity—that no one is coerced to abide by the decisions made by others. Political decisions, on the other hand, are in their nature coercive—majorities vote for laws which, because they are laws, minorities must obey. Therefore, Friedman concludes, substantive

For example, the permissible rates of exchange of labor (income) for consumption (goods, services) are determined wholly by the collective choices of all of the other market participants. While one may possibly, though not likely, forego purchasing any gasoline at all, once he has determined or once it has become necessary for him to make the purchase, the rate and the terms of the exchange are set not by his own consumption, but by that of other purchasers. And, to extend the point out toward a more general equilibrium, the price of gasoline is affected by other people's demand for, say, refrigerators, if the production of both requires a common input such as steel. I do not wish to quarrel at present with the allocational claim that atomistic markets result in the "efficient" distribution of all resources—that all goods find their way to the hands of their highest valuing users. I believe that is true only within a tightly bound definitional system,

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regulation of markets by the less democratic legislature is inherently suspect. Friedman's view is, in my opinion, subject to at least three criticisms. First, there are some issues on which votes cannot be cast in marketplaces. If, for example, I would gain satisfaction from seeing greater protection for members of *other* social or economic classes, there is normally no practical way my vote can be cast in the market; since I do not participate in the relevant market stratum, I cannot express a willingness to incur, say, a slightly higher cost of credit in return for substantive protections for very different groups of people. (And there are such things as vicarious and cross-utilities.) Second, it is not always true that each individual may opt in or out of any given market. Some goods (for many people, most goods) are indeed necessities, and the prices paid for those goods are indeed determined by others. The cost of gasoline to drivers of "efficient" automobiles is increased by the excess demand for the common product generated by drivers of *inefficient* cars. A legislature could, following a majority will, impose graduated consumption taxes to prevent the "wasters" from imposing costs on the "savers." On the other hand, a market leaves the wasters freer and the savers more bound. I see no reason to prefer one solution over the other *a priori*.

Third, Friedman might be correct if markets were perfect, but they are not. The costs to sellers of finely differentiating among their buyers often exceeds the revenues lost by not differentiating quite so much. Thus consumers are "averaged" into lumps. To purchase individual attention or customized goods, services, or—especially—contract terms, is often impractical. Thus, for example, a creditor may have only one policy about post-default remedies and one attendant price. The deviant individual, who would prefer a different risk-cost mixture, may not be able to purchase it: The costs to the seller of dealing individually would be extraordinary. Thus private bureaucracies have an impetus to adopt some optimal amount of inflexibility. The characteristics of the market-segment group control the opportunities of the individual. Thus do imperfect markets coerce, just as do imperfect legislatures.

Given this, it seems reasonable to reject the burden of persuasion which Friedman's hypothesis would force on the substantive regulator. A market is one integrative way for us to allocate values; a political system is another. When we should prefer one to the other is still an open question, the answer to which may vary from case to case.

(footnotes omitted).



from which the dictum too often escapes. The present point is a sharper one. It is quite wrong to say that markets wholly preserve individual freedom while political institutions wholly constrain it. Both markets and legislatures are mechanisms for exercising collective choice. It may be that for some purposes (allocative efficiency) markets are to be preferred, while for other purposes (redistribution and the expression of altruistic cross-utilities) legislatures are.<sup>264</sup> It is more correct to say that markets can respond better to individual choice as to some goods (stocks and bonds) than they can to others (police and fire services, social welfare); or that legislatures can, through the processes of democratic representation, effect choices on the basis of information richer than (or at least different from) that possessed by the economically most significant market participants.

This is not to say that legislative activity is to be preferred whenever any imperfection in the market presents itself. It is only to suggest that there is no intrinsic moral or autonomy-preserving superiority in the use of markets rather than legislatures. The differences are wholly empirical. Sometimes autonomy is better preserved when an area of interactive life is left to a market; sometimes, when it is left to a legislature. Neither process is perfect, both have flaws, and—most notable of all—both are inherently coercive at different times. Because of these empirical differences, we can minimize the total amount of coercion present in social and economic life only if we are prepared to use some optimal combination of collective-choice strategies—if, that is to say, we do not unjustifiably cast an ideological burden of persuasion on one of them. There is no coherent reason always to prefer marketplace coercion to democratic coercion *ab initio*. There is, of course, an inertia, combined with an appearance: unless there is some apparent consensus about goals and values as to any particular question, it *looks* less intrusive (of the collectivity upon

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<sup>264</sup> Lindblom offers a related criterion:

[A] market system is a limited-use institution. Some tasks no market system can attempt or achieve. In simplest and very rough form, the distinction between what markets can and cannot do is this: For organized social life, people need the help of others. In one set of circumstances, what they need from others they induce by benefits offered. In other circumstances, what they need will not willingly be provided and must be compelled. A market system can operate in the first set of circumstances, but not in the second. Its limitation is conspicuous when compared to an authority system. Although authority is not required in the first set of circumstances, it can be used for both.

C. LINDBLOM, *supra* note 249, at 89 (footnote omitted). The most interesting feature of Lindblom's entire work is that it intensifies the difficulty of choosing between markets and politics when the occasion for choosing is the need to preserve one-person-one-vote rather than one-dollar-one-vote. Large corporations, for example, occupy privileged positions in both market and polyarchic systems. See *id.* at 152, 171-94.

the individual) to do nothing—to let the “market” decide. But that is not necessarily an optimal strategy in fact for the protection of individual autonomy.

## VII. A POSTSCRIPT ON METHOD: CONCLUSIONS

There is much more to be said about electronic funds transfer systems than what has been said here. There is more to the Baxter, Cootner and Scott report than has been examined here: discussions of branching and banking law, “sharing statutes” and antitrust, a quiltwork of legal controls that EFTS confronts. Much of it is very interesting and often illuminating work. This essay has focused selectively on both the report and the subject of EFTS: The report, because of what it omitted to say (consumer protection issues) and only a bit of what it did (its very unsatisfying analysis of privacy and the preservation of choice); and electronic banking, because the burden of this review has been not to comment on EFTS, but to comment on how the policy issues of developments such as EFTS might be commented upon. The report is an example of one such genre of policy analysis; EFTS was the context in which its methodological structure could be tested.

The results were not altogether happy. To review briefly, and to relate the several strands of the discussion, the argument has been as follows. The methodology implicit in the Baxter, Cootner and Scott report is built upon two related descriptive models. One concerns the preferences and behavior of consumers; the other, the behavior of consumer markets. Between them was a derivative proposition: that because consumers behave so as to maximize the satisfaction of their preferences, and because markets are controlled by the collective choices of individuals, markets will, if left unfettered, generally produce the greatest degree of consumer welfare possible. Of this, there are two corollaries: (1) Political solutions are (therefore) inferior to and more coercive than market solutions; and (2) markets do not impose artifacts of product development that are distasteful to any substantial number of consumers. The net effect of this construct is to build a very close nexus between its policy output—regulation of EFTS by legislatures should be avoided—and its inputs—the descriptive models of consumer and market behavior.

What the preceding pages have attempted to show is that both models are descriptively questionable; both omit dimensions of individual preference and institutional behavior that are important to any comprehensive policy analysis of a matter such as EFTS. EFTS can possibly traverse noneconomic values; those values are not validly

expressed in marketplace choices; markets do not well account for or consider them. A tightly bound analytical system will only include in its catalogue of policy variables those things that work their way into its queue of inputs. Policy analysts who, like Baxter, Cootner and Scott, employ these methodological apparatus ought, on issues such as EFTS, to be more patently aware of the heuristic parochialism of their system. The policy choices made necessary by a technological future are too important to be left to modes of analysis that embrace them incompletely.

