Checks and Balances: Publics, Interests, and the Development of Electronic Fund Transfers in 1970s US

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Abstract: This article examines the work of the National Commission on Electronic Fund Transfers to understand the emergence of electronic banking in 1970s US. Reviewing reports and papers prepared by the Commission and analyzing them in light of an influx of letters it received from the general public, this article explores how public interests were defined in debates over electronic banking, providing perspectives from both consumers and policymakers. Building on literature on the binding of collectives in relation to and through information technologies, including payment technologies, I demonstrate how certain visions of the public are formed to cohere with economic and technological desirable futures. I argue that the Commission reworked a number of public concerns—about automation, loss of privacy to the "databank," and the "checkless" society—into technical matters, resulting in a new vision of the "public interest" in a time of electronic connectivity.

Keywords: Electronic Fund Transfers, electronic banking, checkless-cashless society, politics of payment, governance

"The way a banker makes money is to move money around as fast as he can. The faster it moves, the more money the banker makes." Introducing a segment on the pitfalls of electronic financial crime in October 1976, "60 Minutes" presenter Dan Rather summed up the business model for commercial banking as a mere matter of velocity. "So, it's no surprise that the bankers are hell-bent to speed up their systems…with instant communications and electronic wizardry."[1] The computer, as it entered public debates in the US in the 1970s, was often described with such mystical reverence and fear. It was at once a black box, unknown and unknowable to its users; and yet it promised to make information more accessible, and the institutions that deployed it more efficient and accountable.

Historians of computing and payment technologies have recently turned to this very moment to understand the ways the banking industries of the US and UK imagined and implemented the electronic processing of money in the 1960s and 70s. These scholars have

challenged the notion that transformations in the form of money are reducible to matters of velocity or mobility, and argue instead that the new form money took in this electronic era meaningfully changed the banking industry itself.[2] Recent critical work on capitalism has argued that money is not only a convenient mode of transacting, but a defining feature of modern capitalism, the design of which creates economic winners and losers. These scholars urge us to view money and its technologies as a site of political contestation, where new subjectivities and modes of governance emerge.[3] Similarly, Science, Technology, and Society (STS) scholars have pointed to the constitutional position of science and technology, emphasizing that the social and political context in which new technologies are produced and deployed is not static, but rather is remade alongside science and technology. [4]

The intersection of specifically economic and technological politics became apparent to policymakers and industry leaders in the 1970s who grappled with the emergence of electronic banking. At the center of this article is the National Commission on Electronic Fund Transfers (NCEFT), a body tasked with evaluating the "public interest" in relation to the new technological-economic landscape. I analyze the Commission's internal working papers and reports, communications with other agencies, lawmakers, and interest groups, congressional hearings, news media coverage. I draw on a collection of thousands of letters from the public received by the Commission to understand how these policymakers constructed their notion of the public and their interests in the making of electronic banking. The "public" as it was understood in these debates was constituted in this process, not prior to it.

The collection of consumer letters provides a rare glimpse into the concerns and anxieties of individuals rarely captured in the archives of policymaking bodies. Contrasting the voices expressed in these letters with those of the Commission shows not only how a new technology

Preprint of forthcoming *IEEE Annals of the History of Computing* article; DOI: 10.1109/MAHC.2020.3008921

was imagined as serving the public interest but how the public itself was reconstituted to accommodate it.[5] Parsing out what was the public's interest in relation to electronic banking was not a straightforward task of mapping costs and benefits. The Commission was engaged in defining the characteristic of the public in whose interest a new electronic payment system would operate. I thus argue that in understanding the relationship between the history of computing and the history of capitalism, we must attend to the work of governance that reimagines publics and their interests as constituted through market technologies.

The first section of this article describes the emergence of EFT as a nebulous concept at the nexus of three major sites of public distrust in 1970s US—computers, banks, and the state. I trace the concern over the costs associated with paper-based transactions and the banking industry's embrace of a "cashless" and "checkless," inspiring the formation of the NCEFT. The section concludes with an analysis of the loose mandate facing the Commission in articulating the public interest vis-à-vis a technology that did not yet have any consensus about its definition. I argue that these early discussions often considered the electronic novelty of EFT as rather benign and presupposed its desirability and inevitability. The second section analyzes the letters received by the Commission and the way they were read and parsed. I demonstrate that a presumption of inevitability about the uptake of EFTs shaped the way public concerns were categorized and understood by the Commission. Concerns over electronic banking were divided into reasonable ones (privacy, cost of services) and paranoid or ill-informed ones (loss of autonomy over one's finance, computerization's dehumanizing effects). In the third section, I return to the Commission's own vision of a public with a vested interest in the adoption of EFT. I look at how the Commission addressed a specific concern about "float" in the transition from paper checks to electronic transfers. In responding to this concern, they called upon the idea of a

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"responsible" user who would never encounter an issue maintaining a positive balance, and would, therefore, only benefit from the increased speed of payment processing. But this was, of course, not the case for all check users. As a result, in the process of planning a new technology, the Commission was constituting a public that would benefit from it—one that prioritized the features they were designing—and discounting the concerns of others. To have an interest in the payment system was to be an EFT consumer.

In her survey of privacy in 20th century US, Sarah Igo points to the 1970s as a time when "computerization and record keeping proved an especially combustible combination, and their coupling could cause unremarkable features of modern life to take on a sinister aspect."[6] The experience of such mundanity alongside a sense of impending doom soon became apparent in the deployment of computers in commercial banking. While computers had been used in banks beginning in the mid-1950s, it was only in the later that electronic banking became a concrete consumer experience. Electronic banking was experienced by consumers as both already ubiquitous and not-yet familiar. The form such record-keeping took was fundamental to the debate. The imagined imminent substitution of paper checks and cash with electronic forms of transferring funds even received its own societal neologism— "the cashless-checkless society."[7]

Bringing about such a vision proved to be more than the doing away with sticky paper notes. The term "electronic," as the specific virtual media for visions of frictionless transactions, held a lot of significance and itself came under increasing public scrutiny. Information was packaged in a variety of media and the particularities of paper, phone calls, and electronic transmission were themselves matters of public debate. Daniel Rodgers has characterized the period between the 1970s to the end of the century as "the age of fracture" in US public life. The period, he argues, "was not a literal thinning out of associational life." Instead, what changed—

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what was fractured—"were the ideas and metaphors capable of holding in focus the aggregate aspects of human life as opposed to its smaller, fluid, individual ones."[8] The computer, as it was imagined throughout the debates over electronic banking, I argue, was a key site for this process of shifting representations of collectivity and individuality.

By focusing on the Commission, I look to the work of governing bodies in binding the public and the technology together. In the 1970s, a sense of autonomy and economic participation came in many forms, both collective and individual, and it was the introduction of electronic money that threatened to unravel that sense. To think electronic technology otherwise, to make it seamlessly synonymous with access, convenience, and security, required enrolling citizens in the new structures of the payment system, recasting their roles in relation to their money, their banks, the state itself, and instilling a new financial subjectivity that would be mediated through computers. By attending to the work of the National Commission for Electronic Fund Transfers in parsing out the public interest, this article proposes we understand the interaction between capitalism and computing as mutually constituted through the world-making acts of such governing bodies.

The link between information and communication technologies (ICTs), capitalism, and the bounding of a collectivity has been studied by scholars across a variety of contexts, from print capitalism to open source software, and most recently explored in relation to payment technologies by media scholar Lana Swartz.[9] Implicit in the constructivist understanding of the formation of publics presented here, is the presumption that ICTs do not simply or neutrally connect individuals or holds collectives together. Rather, ICTs are the output of a process of political negotiations among groups with varied interests who take up and reshape them. Building on this key idea, I argue that publics are also remade to fit with visions of desirable

economic and technological futures. At the time of the Commission's work, there was no stable thing called Electronic Fund Transfers. The Commission set out to articulate what potentially it could be. But equally malleable in their hands was the public to be served by a revamped payment system. To say these are constructed in tandem does not mean that any vision of any future was equally likely to take hold. Rather, this history shows how some expressions of public concerns and interest were legible while others, more skeptical towards the centrality of computers in the fashioning of the payment system, fell by the wayside.

Papercuts

"Stop! Stop! Stop! The electronic funds transfer system is a threat to our personal freedom as American citizens."[10] This letter from an Indiana resident was one of over 6,000 to arrive at the offices of the National Commission on Electronic Fund Transfers (NCEFT) within the span of about a week in November of 1976.[11] Coupled with petitions bearing the signatures of about 13,000 concerned citizens, the volume of responses required contracting an external consultant to analyze the appeals.[12] After a couple of months, the contractor served the Commission with an invoice for 52 billed hours, a short report including an analysis of a third of the letters, and a hypothesis about the reason for the outpour and its timing. Almost all the letters' address field included the same typo, also found in a recent Associated Press story by Louise Cook published across a large range of local newspapers around November 8, through the AP wire subscription service. The article stated the Commission was seeking public comment by a November 18 deadline, and that anyone who wants to express an opinion should write to the offices of the Commission, located on "100 Connecticut Ave." instead of "1000 Connecticut Ave." Since the article was syndicated across so many publications, it came with a variety of headlines. One

example from Massachusetts, included in the consultant's report, read, "Government asks: Would you trust an all-computer bank?"[13] Another version of the article, appended to a letter protesting the idea of banks attaining even greater power through the proposed system, went with, "Computerized Banking: Good or Bad?"[14] The variations were plentiful, but almost all articles included Cook's enticing lede: "The experts have testified. Now it's your turn to tell the government what you think about the idea of electronic fund transfer systems designed to computerize billing and banking services in the United States."

It is not clear what compelled Cook to frame her coverage of the late October hearings the Commission held on "Consumers" as the beginning of a public comment period, or from where she derived the November 18 deadline, but many letters expressed outrage at the limited timeframe provided for commentary. This was especially questionable, given the pride of place the article reported bank representatives ("who were for the plan," Cook reported) and consumers' groups ("who were generally against it") received at the hearings, and the oft-cited fact that the Commission was created all the way back in 1974, but only now was reaching out to the public and providing them with 10 days for comments.[15] The article also compared the processing costs of various payment methods for the bank, stating that each check cost 32 cents, compared with 55 cents for credit card transactions, and surprising many readers with the knowledge that even cash came at a cost: 15 cents per transaction.

Solving the mystery of the timing of letters, however, did not quite account for the concerns expressed in them. The "Report on Consumers Letters" (as almost all non-industry individuals were referred to),[16] concluded: "For such an obscure story on such an abstract subject the amount of mail that was generated and the strength of sentiments they expressed is astonishing."[17] Though Commissioners came to see their charge as concerned with protecting the

public interest in the face of new technological changes to the banking industry, their staff was surprised to discover the public indeed had any interest.

Typo or not, the National Commission on Electronic Fund Transfers did have an address in Washington. The continuous shift in executive authority that characterized the 1970s rerouted a range of public concerns and anxieties about computerization, central power, and financial agency onto the doorstep of the Commission. The particular domain in which the Commission was to make recommendations intersected with key sites of public distrust—computers, the banking industry, and the role of the federal government in developing and regulation both. The letters were not simply a referendum on a specific proposed electronic payment system. The question most letter-writers sought to raise was: could a "cashless" and "checkless" society, run by computers, still have checks in place that secure the rights of citizens?

Computers were not fixed objects in time, and there were various attempts to capture what kind of novelty they presented. A. G. W. Biddle, Vice President at National Cash Register, characterized the current moment by the onset of "compunications." Testifying before the Commission, Biddle argued that small data processing equipment producers found themselves as a "nut pinned between the jaws of a giant nutcracker" consisting of Bell on the communication side, and IBM on the computing side.[18] This convergence of two functions, analyzed in terms of their effects on market monopolization, can only go so far in explaining the hold the image of the computer had in the minds of consumers. But interfacing with their banks through an electronic system was one of the first few instances in which individuals came to see themselves as "computer users" outside the workplace, assessing what this new object might mean for them as citizens and consumers. Sarah Igo has argued that in the early 1970s, public concerns shifted away from the machines themselves, and criticism of computers focused more on the data they

stored.[19] Yet, throughout the debate over electronic banking, the form that capitalism was now taking—having financial transactions as well as personal information handled by the machines—moved individuals to write in protest, highlighting the concern over the introduction of computers into their lives.

The paper and teller-based bank still provided a source of public consternation on its own. In 1973, the trade journal *Banking*'s segment, "Focus on Washington," ran a feature under the headline, "Bankers get new warnings on 'consumerism.'" The rise of consumers' rights groups, as well as a series of proposed legislation targeted at increasing banks' transparency around their lending practices evidenced that consumerism was "a national movement," one which was an "accelerating force."[20] If banks did not do more to demonstrate their commitment to social responsibility, newly empowered consumers will not merely vote with their wallets, they will call in the regulators. "Public confidence in banking requires more than stability and profitability," the report concluded. Such dispatches from within the banking industry evidence a growing awareness that customers also help power as citizens and saw their financial identity as intersecting with their political one.

And while "consumerism" invoked the specter of state regulatory action, the state's access to financial information was also brought into question. A 1974 Supreme Court decision upheld the constitutionality of the Banking Secrecy Act of 1970, requiring banks to keep records of all the financial transactions they process for the potential future use of law enforcement. In his dissenting opinion on *California Bankers Assn. v. Shultz* (1974), Justice William O. Douglas argued, "In a sense, a person is defined by the checks he writes."[21] Concurring with Douglas, Thurgood Marshall added the First Amendment concerns that relate to the potential disclosure of political donations raised by the ACLU, writing, "The threat of disclosure entailed in the

existence of an easily accessible list of contributors may deter the exercise of First Amendment rights as potently as disclosure itself."[22] These assertions, later on cited in hearings and reports about electronic banking, reflected a sense that linked the fundamental rights of citizens—concerning both one's identity and freedom of association—to the ability to carry out financial transactions.

The rise of Electronic Fund Transfers (EFT) into public consciousness exemplified how these three sites of contestation—computers, banks, and the state—intersected in everyday life, raising the stakes of the "abstract subject" for consumers.[23] Yet, proponents of EFT described it as at once necessary, inevitable, and completely banal from the perspective of consumers. The crisis necessitating the shift came from paper. The increasing volume of individual transactions using checks had increased steadily and by the late 1960s, industry projections warned of the "anticipated paper-crunch of the 1970s."[24] Bátiz-Lazo et al. have documented how both the electronic data processing and the banking industry constructed the urgency of eliminating paper from the payment system. Early attempts at automation of check processing through standardization of the check's format into a machine-readable form focused on reducing the costs of paper associated with each individual transaction. But conducting the transaction with no paper, thus reducing the time it took for each payment to clear, promised a way to reduce and perhaps even eliminate the "float"—the dollar amount associated with a check transfer that has been credited to one account but not yet debited from the other.[25] Paper was double-charging the banks.

Geroge W. Mitchell was a key figure behind the vision of the "cashless-checkless" society. A governor, and eventual vice-chairman, of the Federal Reserve Board and commissioner on the NCEFT, he decried the cost that the check clearing system placed on the

economy as a whole, borne primarily by the commercial banks themselves. These pressures, he argued in a speech in 1966, demand an alternative method of payment settlement, one that is not just faster in sorting paper checks, but one that bypasses the medium altogether. "In this system there is no check sorting and re-sorting, no shipment of checks from bank to bank or bank to customer, no storage requirements for checks, no kited checks, no endorsement, no N.S.F. [non-sufficient funds] checks, no float, and a minimum of manual processing."[26] In short, paying will stop being so expensive. Mitchell's address, "Effects of Automation on the Structure and Functioning of Banking," linked the notion of computer-enabled automation to a reduction of costs and increased benefits to both suppliers and consumers.[27] Mitchell was considered a visionary by his peers, if somewhat optimistic about the timeline. But he was convinced that the direction was mostly clear, with outstanding questions remaining at the level of hardware cost-reduction and ownership of the infrastructure. As Mitchell's wife and biographer described his attitude towards achieving a paperless system, "he was not averse to announcing a fait accompli before the principals even knew what was happening."[28]

The extent to which electronic banking, and specifically EFT, was already a fait accompli was first put to a public hearing in early 1975. Senator Bill Proxmire, a democrat from Wisconsin who took over Joseph McCarthy's seat and ran on a platform of increasing public accountability, cutting government spending, and protecting consumer rights, introduced a bill to enact a moratorium on EFT. Proxmire was moved to propose the bill in reaction to an interpretation by the Comptroller of the Currency, James Smith, which excluded customer-bank communication terminals (known by bankers as CBCTs, a term inclusive of both ATMs and point-of-sale terminals at retailers) from the category of branches, thus, sidestepping a variety of regulations, including limitations on interstate banking. The NCEFT, Proxmire argued, had just

recently been established and it should be able to conduct a full study and make recommendations before any sweeping changes to the payment system are allowed to take hold.[29] If limits would not be temporarily placed in that moment, there may not be a way back.

EFT advocates challenged the idea that there was a "pre-electronic" state of affairs that was under threat. Industry representatives, the Comptroller, and the director of the Washington Consumers Union all opposed the moratorium as a panicked response to a benign extension of convenient services to consumers. In fact, most witnesses argued that without continued experimentation in EFT, the Commission will not have any empirical data on which to base its study and recommendations. Thomas Bomar, Chairman of the Federal Home Loan Bank Board, argued that the moratorium "would be anti[-]consumer, anticompetitive, anti[-]small business, anti[-]progress and anti[-]home financing."[30] Electronic banking was offering all these groups greater convenience, increased access, and reduced operational costs, her argued. Perhaps the most compelling objection to the moratorium was provided by Anthony G. Oettinger, a Harvard Professor of linguistics who founded the Program on Information Resources Policy. He had recently finished consulting on a National Science Foundation commissioned study on EFT conducted by the Arthur D. Little company. Oettinger challenged the broad definition of the moratorium as applying to "any kind of device operating on the basis of electronic impulses." Not only were computers used in banking facilities for over two decades, but almost any accounting and communication machine, including the telephone, involved a basis of electronic impulses. "A moratorium would be perpetrating a fraud on the public, a pious fraud perhaps, but nonetheless something really quite unenforceable and therefore illusory," he concluded.[31] The bill did not make it out of committee.

Preprint of forthcoming *IEEE Annals of the History of Computing* article; DOI: 10.1109/MAHC.2020.3008921

Proxmire, in response, refuted the alleged unknowability of the object(s) of regulation. Thomas Bomar argued that without continued experimentation in EFT, there is no knowing what ought to be limited or why. Proxmire retorted: "We know what we are trying to limit and we know why. We have a Commission to study this, to set forth what kind of guidelines we are going to have."[32] If there wasn't a "there" there, how would the Commission go about studying it?

But when the Commission finally first met about a year later, uncertainty about their charge, scope, and course of action abound. The NCEFT comprised of 26 Commissioners, all-but-one a men, representing various groups within the banking and retail industry, as well as regulatory agencies such as the Federal Reserve and the Federal Communications Commission (FCC), and designated public representatives, such as Commission chairman William B. Windall, a former Republican congressman from New Jersey. Their first order of business was to decide whether they would endorse Jack Benton's nomination for the Executive Director position. Benton, a 33-year-old from California with managerial experience in implementing EFT systems, lobbied for the position, was nominated by Ford, and was eventually confirmed by the Senate after some questioning about his potential conflict of interest if he were planning to return to the industry. During this initial discussion, the uncertainty about the Commission's charge already caused some confusion. One commissioner, Garth Marston, requested to be recorded as abstaining, since he did not know what the objectives were. "If our job objectives are going to be in the area of consumer protection, I don't hear things that lead me to believe he is the one. If it is technical, he is admirably suited for it."[33]

Confusion continued into the afternoon session, as Commissioners attempted to decipher the task set for them by Congress. Were they to focus on developing regulation that will set

standards to be met by the industry, or where they to assess specific systems already in place? Were they to develop a specific position on whether a national payment system should be publicly or privately managed, or were they to take their charge to "preserve competition among financial institutions" as preventing them from making such judgements? Are the nine points defining the Commissions' tasks intended as a ranked list of priorities, or comprehensive criteria for evaluating any proposal that came their way? Should they assume that each of those points implicitly included the term "in the public interest"? Where was the boundary between public policy and technical questions and how ought they proceed to organize their workplan? With judgement deferred on so many of these key issues, Verne Atawater, representative of the Mutual Savings Banks, tried to recover some common ground: "We are concerned with EFT policies, which will in some way serve the public interest, and which is pretty broadly defined."[34]

Settling on such a loose charge, the Commission then turned to establishing some common understandings of just what EFT was. At a 2-day workshop held about a month after the first meeting, the commissioners gathered to define both their object of study and their measure of success. Perhaps none of the definitions went as far as Proxmire's in his proposed moratorium, but, in the spirit of deferred judgement, all provided definitions which seemed too narrow were discarded. What is illuminating about the variety of definitions is how EFT was analogized with and integrated into existing payment settlement processes. Some definitions focused on the ways in which electronic systems substituted for paper-based means, while others ignored the medium altogether, only to focus on the fact of communicating financial information.

Still others defined the object through its own desirability and inevitability. From the tautological ("EFT is a means of providing financial services to the consumer which offers greater

convenience, cost savings, timeliness, reliability, and more efficient use of funds than the traditional financial services,") to the teleological ("EFT is a step in the continuing evolution of the national and international payments system").[35] The self-referential and self-justifying dynamic of EFT was captured in trade journals coverage of the issue. *Banking* published a timeline with the heading, "Major events in evolution of EFTS are occurring with rising frequency."[36] Many of the events that constituted the timeline referred to the establishment of American Bankers Association committees and studies, the trade association behind the journal.

The ambiguity about the meaning of electronic systems desensitized Commission members to some of the practical considerations involved in the everyday exchange of money and uses of checks. Notwithstanding this ambiguity, the Committee assumed technological change would have an essentially banal effect on payment systems. This was in stark contrast with prevailing public anxiety about the arrival of machines into more and more aspects of daily life, concerns amplified in media coverage. In his study of the development of VISA, David Stearns argued that EFT was often invoked by the major banks as a utopian alternative to the perceived foils of credit cards, associated with irresponsible spending and debt. If the definition of EFT and the characterization of their inevitable desirable development was self-referential, the "public interest" soon came to be defined in similar terms.

Sparing the Electronic Scapegoat

In 1974, then Vice President Gerald Ford addressed the National Computer Conference in Chicago Illinois. Ford was recently appointed by Nixon as the head of the Domestic Council Committee on the Right to Privacy. The appointment, Ford told the audience, came out of his personal concern based on his experience of being subjected to intense investigation as a vice

presidential nominee. But Ford came to the conference to reassure: "In dealing with troublesome privacy problems, let us not, however, scapegoat the computer itself as a Frankenstein's Monster."[37] The mixed-metaphor perhaps adds one too many layers to what Ford was trying to say, but he wanted to dissuade his audience's concerns over two implications of the government's recent turn to privacy. It wasn't simply that the computer was the innocent monstrous object of mad scientists against whom the mob turned, but the mere monstrous association was scapegoating the industry for its otherwise innocuous creation. "It is not the technology that concerns me but its abuse." If anything, Ford was appealing to the computer industry to join his efforts: "I am also confident that technology capable of designing such intricate systems can also design measures to assure security."[38] The computer's innocence had to be preserved because it was the computer that was going to solve these challenges.

The concern that the computer was already embroiled with contemporary anxieties was not unfounded. The letters sent to the NCEFT covered a variety of issues associated with the electronic aspects of the proposed system. In addition to Cook's AP story, many letters referenced the recent episode of the CBS show "60 Minutes" on electronic banking, which demonstrated "live" the ease with which technologically savvy thieves could take advantage of the new electronic system. In a segment titled "Dial 'E' for Embezzlement," Dan Rather's narration warned viewers that, "some of the thieves know more about these new electronic systems than the bankers. Faster banking can lead to faster stealing."[39] Other letters reported the frustration they experienced when trying to amend a mistake made by a computer or those who operated it. A retired electric engineer from Ohio appended a local newspaper clipping featuring the headline, "Checking the checkless." The article asserted that citizens were questioning the infallibility of machines and their operators, and "have had sad experiences in trying to argue

with a computer and convincing it that it goofed." That same retired electrical engineer also wondered at what level of electronic manipulation of his own making at home would he become a ward of the bank.[40] Familiarity with computers did not always mean an embrace of their alleged benefits in managing personal finance.

Other responses spoke of the dehumanizing effects they felt computers had on human relations. An 18-year-old resident of Washington, who identified simply as a registered voter, expressed concern over the devaluing of a person, as a computer would be installed in their stead. She referred to both the potential job loss of tellers and bookkeepers, and the autonomy associated with people "taking care of their own checks, their own financial responsibilities."[41] This sense of autonomy associated with checks was attached to both their function in making payments visible and traceable, and allowing for the possibility of stop-payments. A couple of Retirees from Nebraska expressed concern that an electronic system will further shift power away to the bankers, who make their money by lending their deposits to others, while paying no interest back to the depositors—an arrangement that should be sufficient to fund the cost of paperwork. "A checking and savings account are practically the only thing, other than voting, over which we still have control," they wrote. This connection between citizenship, autonomy, and the unmediated management of one's personal finance was further emphasized in the postscript, through the figure of the uninitiated grandchild:

> P. S. How are we going to teach our grandchildren to handle their money unless they receive a check (which they understand) for their labor, write a check for what they purchase and realize how much they have left, if they are not taught to understand the "ins and outs" of a checking account and the value of systamatic(*sic*) savings?[42]

Paper checks served a presumed self-evident function in the cultivating, even disciplining, of future financially responsible citizens.

In her study of payment technologies, Lana Swartz describes how different modes of payment create different ways of managing information about transactions and, in so doing, one's memory of expenses. Checkbooks, she argues, are a way for individual users to maintain their own records of expenses in parallel to the institution's own record.[43] Letter writers repeatedly described how much they valued the use of cancelled checks as such a memory practice, alongside the worry that correcting the institutional official record as recorded in a computer would take a much longer time than relying on the use of cancelled checks as receipts. While the monthly statement was marketed by card issuers a service to elites that freed them of the need to balance checkbooks, the letters reveal a more complicated relationship to financial recordkeeping—a distrust of the authoritative institutional record, especially one mediated through computers.

Larry Schwartz, the consultant contracted to review the thousands of letters, called such expressions "an interesting and somewhat surprising opinion." He characterized these voices as expressing "an appreciable aesthetic pleasure" in cash and checks. Schwartz categorically distinguished such concerns, along with privacy, unemployment, or the suspicion that EFT entailed hidden costs that would be passed on to the consumers, from what he describes as "a series of metaphysical issues which one might not normally associate with electronic fund transfer systems," which implied "a more visceral than rational approach to EFT."[44] While aesthetic pleasure in cash and checks, privacy, and autonomy (at least as expressed in the ability to issue stop-payment orders) were deemed as rational grounds for objection, the expression of religious beliefs about the mark of the Beast prophesized in the book of Revelations, distrust of financial institutions and their reported diminishing profit margins, fear of EFT as ushering in more oppressive or extremist forms of political power, insistence on individual freedom of

choice in the face of a developing new large-scale system, and the dehumanizing effects of interaction with computers were all relegated to a different domain, one of fears rather than concerns. It was through such moves that public interest was interpreted and dissected into rational concerns and visceral fears. During its first meetings and workshops the Commission seemed to be incapable of articulating its charge or even object of assessment. By the time the letters poured in, as Cook put it in her AP story, "the experts have testified," the possible domains of concern charted. The various interests expressed in the letters were interpreted with the presumed ubiquity of computer use in mind. An electronic public was first conceived, and only afterwards came the assessment of validity and relevance of public opinion. The computer did not only "rationalize" the practices of the banking industry, it also required very specific modes of political expressions in order to be deemed legible. The computer rationalized its publics.

Projecting Publics

What public interest was the Commission serving then? Or indeed how was the public configured in the making of EFT a possibility? To argue, as I have above, that the presumed inevitability of an electronic future created a new kind of public for EFT is not to suggest that society is merely reactive to the arrival of new technological objects. Ideas about technology itself, if projected with conviction by powerful actors or groups, can rework the very ways in which people will interact with the technology, with their governing institutions, or indeed how the collectivity will be defined.[45] The work of making EFT possible necessitated not only the translation of concerns into solvable legislative and technical issues, but also the projection of a

public who is being served by the system. To demonstrate how such projections take shape and then take hold, I focus the discussion of the moral status of the "float."

While much of the discussion around the costs of the check-full society focused on the physical burden and the associated labor and transportation costs processing so many checks inflicted on banks, as Bátiz-Lazo et al. have argued, the time this mode of clearing took was counted in more than human labor hours.[46] The "float" was a redundancy that EFT was going to eliminate. Less than a week after the very first February 1976 meeting of the Commission, Robert E. Lee, the FCC representative, delivered a speech titled "No More Float." Invigorated by the energy he experienced at the NCEFT meeting, Lee described the various wonders that a communications approach to payments, rather than the physical movement of paper, would soon bestow on bankers and customers alike.[47] In an interview ahead of the October "Consumer" hearings (covered by Cook in her AP story inviting public commentary), Jack Benton, the Commission's executive director, explained why the elimination of the "float" is a key desirable feature of the payment system to come:

> The most exciting aspect is that for those of us who pay our bills on time and cash checks only when we have money in our accounts … for those of us who are in this position, merchants all around the country and department stores and supermarkets will have much less expensive access to the records and information which describe the fundamental fact that we are a responsible, paying customer.[48]

Paper was clearly an inconvenience for responsible consumers just like Benton. It stood in the way of merchants getting access to that particular profile of consumer spending. I have argued above that the inevitability and desirability of EFT was determined in a self-referential logic, in which the very system was defined in terms of its efficiency and worth. In conjuring up a public to benefit from its various features, Benton, a 33-year-old with a doctorate who was just handpicked by the president for his current job, suddenly became the everyman. In the

Commission's final report, released in October 1977, the desirability of the float was again questioned. The report noted that in hearings consumer advocates expressed concern over the elimination of the float, and even cited a Kansas survey that suggested "the majority of consumers at some time have written checks knowing that their accounts had insufficient funds." But, the report still concluded, that the "Commission was not able to determine to what extent consumers need and value float."[49] If consumers truly valued it as a feature, the report recommended letting market forces do their work and allow banks or merchants to offer deferred payment as a service of their own volition in an EFT environment. Kansas was not sufficiently tangible to make the float seem like anything but a redundancy.

Banking on Connectivity

The cover image of the NCEFT's final report, "EFT in the United States: Policy Recommendations and the Public Interest," published in October 1977, shows the silhouettes of a group of people huddled together in the image's foreground. A few of the white silhouettes have been cut through to reveal the background image behind them—a field of lightning-icon circles that fills the entire space of the image (see Figure 1). The people are connected, but they have also maintained their individual figure intact. This is the image of the EFT public on whose interests the Commission acted. Electronic connectivity was the very medium through which these figures became a transacting public. To be belong, one has to plug in.

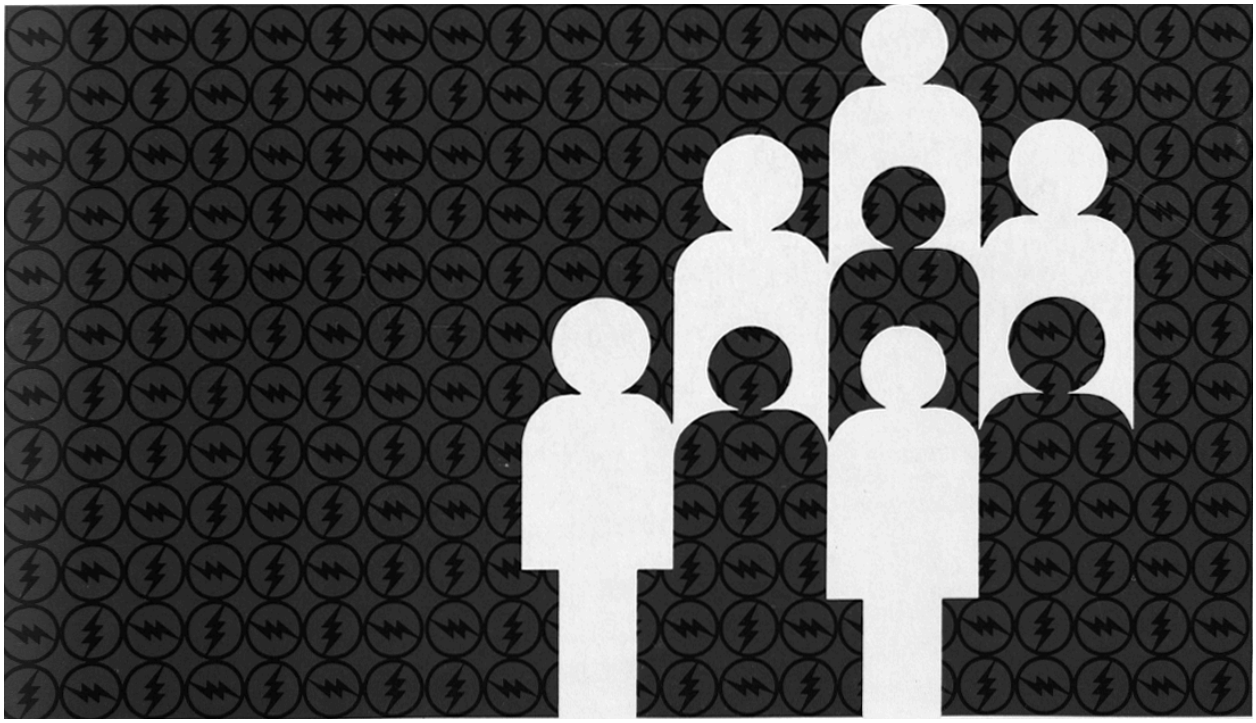

Figure 1: "EFT in the United States: Policy Recommendations and the Public Interest," Final Report of the National Commission on Electronic Fund Transfers, October 28, 1977.

If we look past the lightning icons, to the materials left outside the final report, glimpses of other possible formulations of public values become visible. Thanks to AP contributor Louise Cook's unsolicited solicitation, the bureaucratic state archive maintains a record of these voices and allows us to think both before and outside the electronic. But these voices rarely got a seat at the table. Whether the Commission intended to be a vessel for the various anxieties associated with computerization, the banking industry, and the state itself in the 1970s or this role was thrust upon it, a commitment to the inherent value of EFT meant that the Commission was first and foremost attuned to the voices of technical experts and industry representatives. Charles Goodwin argued that professional visions, the privileged positions from which experts get to put forward the authoritative record and parse out what qualifies as rational statements, are unequally allocated.[50] In the case of the "Consumer Letters," the category of a member of the public was

not afforded the same status as other, more legible, even if imagined social groups. This was not simply a distinction between informed and uninformed views about the nature of EFT. The commitment to EFT required understanding the public in terms already premised on the added value of the system-to-be.

This is not simply a story of industry lobbyists capturing and gaining privileged access to policymakers. Rather, it reveals how even when the market and technology are explicitly recognized as matters of public concerns, central to and embedded within the everyday experiences of the public, the notion of that public itself is reconfigured to accommodate them. By bringing together the analysis of payment and banking, computing, and state expert bodies, I explored how vision of a public connected through electronic transactions came into being. The development of EFT was made possible through eschewing concerns expressed in the letters as unrelated to the technology, dreamed up by the Frankenstein's Monster-charging mob. The public that was allowed to populate the EFT future was physically burdened by cash and could stand to benefit from an easily accessible record of their financial good behavior without waiting for the check-clearing cycle. If EFT was inherently serving these conjured publics, how could it not be in the public interest?

Reading through these letters four decades after they first arrived at the offices of the NCEFT, it is striking how relevant their concerns still seem. With present concern over capitalism's connection with information accumulation,[51] the many authors of these letters appear no less prescient about the political economy of computerization than those viewed as sages at the time: George Mitchell or Jack Benton. Running parallel to the NCEFT's welcoming of increased access and convenience and reduced time and costs there was also a vision of who got to populate this society and benefit from its features. Anthropologist Lisa Servon has

documented an increase since the late 1970s in what she describes as "the underbanked"—people who turn to alternative, often more costly, financial services such as check-cashers for their perceived transparency, predictability, and personally-tailored flexibility, no longer deemed a feature of most commercial banking.[52] The historical analysis of the NCEFT shows some of the shortcomings of today's payment system result from state action, not neglect or lack of foresight. EFTs did not emerge onto the scene as a service offered up by the electronics industry and taken up by the banking industry, but as a state-sponsored vision of the public good.

Acknowledgements: I would like to thank the Lemelson Center for the Study of Invention and Innovation at the National Museum of American History, Smithsonian Institute for their support of this research, Jacob Moses and Devin Kennedy for providing feedback on early versions of this research and transportation to the archive, the anonymous reviewers and the editors for their helpful suggestions, and Dylan Mulvin and Devin Kennedy (again) for their generous reading of the manuscript.

Notes:

[1] 60 Minutes, "Dial 'E' for Embezzlement" transcript. Vol. IX, No. 4, October 10, 1976.
[2] David L. Stearns, *Electronic Value Exchange: Origins of the VISA Electronic Payment System*, History of Computing (London: Springer-Verlag London Limited, 2011); Bernardo Batiz-Lazo, *Cash and Dash: How ATMs and Computers Changed Banking* (Oxford, United Kingdom: Oxford University Press, 2018).
[3] Christine Desan, *Making Money: Coin, Currency, and the Coming of Capitalism*, First Edition (Oxford, United Kingdom: Oxford University Press, 2014); Mehrsa Baradaran, *The Color of Money: Black Banks and the Racial Wealth Gap* (Cambridge, Massachusetts: The Belknap Press of Harvard University Press, 2017).
[4] Sheila Jasanoff, "Future Imperfect: Science, Technology, and the Imaginations of Modernity," in *Dreamscapes of Modernity: Sociotechnical Imaginaries and the Fabrication of Power*, ed. Sheila Jasanoff and Sang-Hyun Kim (Chicago, IL: University of Chicago Press, 2015), 15.
[5] Historians of technology have long recognized this broad dynamic in focusing on the figure of the "end-user" and the ways this figure is co-constructed with the technology itself. In this article, I wish to look beyond the figure of the user and the often accompanying analysis of skills and affordances, and instead focus on the normative vision of the "public" and its interests. For a rich set of studies of the "user" in STS and history of technology, see: Nelly Oudshoorn and Trevor Pinch, *How Users Matter: The Co-Construction of Users and Technologies*, Inside Technology (Cambridge, Mass.: MIT Press, 2003).

[6] Sarah Elizabeth Igo, *The Known Citizen: A History of Privacy in Modern America* (Cambridge, Massachusetts: Harvard University Press, 2018), 240.
[7] Bátiz-Lazo, Haigh, and Stearns described this collectively held belief about the future as an *imaginaire*, but the collectivity among whom they trace its development and articulation is primarily internal to the banking and payments industry. See: Bernardo Bátiz-Lazo, Thomas Haigh, and David L. Stearns, "How the Future Shaped the Past: The Case of the Cashless Society," *Enterprise and Society* 15, no. 1 (2014): 103–131, https://doi.org/10.1093/es/kht024.
[8] Daniel T. Rodgers, *Age of Fracture* (Cambridge, Mass.: Belknap Press of Harvard University Press, 2011), 6.
[9] Benedict R. O'G Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism*, Rev. ed. (London ; New York: Verso, 1991); Christopher M. Kelty, *Two Bits: The Cultural Significance of Free Software*, Experimental Futures (Durham: Duke University Press, 2008); Lana Swartz, *New Money: Currency, Community, and the Future of Payment.* (Yale University Press, 2020).
[10] Letter, Shirley Ann Kunkle to National Commission on Electronic Fund Transfers November 1976. National Commission on Electronic Fund Transfers, Record Group 220 Box 50. National Archives, College Park MD.
[11] The letters are archived alongside the rest of the Commission's papers at NARA II in College Park, MD and were accessible to me there. They are filed separately from communications from legislators, other agencies, and interest groups. While all letters appear to have been opened and filed alongside the envelopes they came in, the consultant the Commission contracted to analyze them states in his report that he has reviewed about a third of the letters. His report to the Commission includes photocopies of a handful of letters as a sample.
[12] Initially, the Commission's technical staff attempted to tackle the task internally, assigning 250 letters to each staffer and asking them to encode each letter according to its contents. Kathryne Humes, who led the charge, reassured the staff that, "the letters are interesting to read, and the themes repetitive." By the end of December, the analysis has been formally contracted out. Memorandum, Kathryn H. Humes to Technical Staff, November 19, 1976. National Commission on Electronic Fund Transfers, Record Group 220 Box 56. National Archives, College Park MD.
[13] The South Middlesex Daily News, Nov 8, 1976 Louise Cook in "Report on Consumer Letters" by Larry Schwartz, February 7, 1977. National Commission on Electronic Fund Transfers, Record Group 220 Box 56. National Archives, College Park MD.
[14] Letter, Larry O'Brien to National Commission on Electronic Fund Transfers November 9, 1976. National Commission on Electronic Fund Transfers, Record Group 220 Box 46. National Archives, College Park MD.
[15] The creation of the Commission was indeed signed into law back in 1974 under Nixon, but both the Chairman and the Executive Director positions required approval from the Senate, which did not happen until much later. The Commission's first meeting took place in February 1976.
[16] The category of "general public" was at times grouped under the label "users" of EFT together with the government or retailers and at times categorized as banks' customers, but almost always when their concerns, benefits, or rights were discussed, they were being referred to as "consumers."

[17] Larry Schwartz, "Report on Consumer Letters," February 7, 1977, p. 2. National Commission on Electronic Fund Transfers, Record Group 220 Box 56.
[18] A. G. W. Biddle, Testimony before the NCEFT Technology Hearing, December 14, 1976, San Francisco. National Commission on Electronic Fund Transfers, Record Group 220 Box 12.
[19] Igo, *The Known Citizen*, 235.
[20] Richard M. M. McConnell, "Bankers Get New Warnings on 'Consumerism,'" *Banking* 66, no. 2 (August 1973): 8.
[21] 416 U.S. 21 (1974), p. 416 U.S. 89.
[22] 416 U.S. 21 (1974), p. 416 U.S. 95-96.
[23] EFT appears to have a floating S problem. While the National Commission pluralized the transfers, the National Science Foundation, for example, chose to focus on the plurality of funds. On some occasions it appeared as EFTS, referring to the system(s) of EFT. Preserving the term's own ambiguity, I use "EFT" unless directly citing a source that states otherwise.
[24] "Major Events in Evolution of EFTS Are Occurring with Rising Frequency," *Banking* 67, no. 5 (May 1975): 80.
[25] Bátiz-Lazo et al. describe the "cashless/checkless society" of the late 1960s and 1970s as an *imaginaire*—a shared vision that takes hold over an industry or a profession, and then breakdown the meanings that competing sets of actors attributed to that vision, pointing to the imaginaire's interpretative flexibility. In focusing on the ways consumers came to see themselves as populating that computerized, checkless world, one to which many initially resisted, I seek to understand how this vision travelled outside the profession of banking, how it became politically significant and viable, and in what ways it came to redefine the collectivity itself. See: Bátiz-Lazo, Haigh, and Stearns, "How the Future Shaped the Past."
[26] George W. Mitchell, "Effects of Automation on the Structure and Functioning of Banking," *The American Economic Review* 56, no. 1/2 (1966): 160.
[27] This link between computer-enabled automation, cost savings, and the elimination of paper was shared with another key early proponent of EFT, John Diebold, who coined the term "automation" in relation to increasing factory efficiency. Diebold's company conducted early studies in the 1960s, surveying banking industry leaders' attitudes towards EFT and helped propagate the notion of the cashless society. Though Diebold took a less definitive stance on just how cashless the future ought to be, highlighting the need for maintaining certain features of "older forms of payment" that would protect individuals from a "relentless, inhuman system automatically disposing of their money regardless of human error and the individual's right to change his mind." John Diebold, "When Money Grows In Computers," *Columbia Journal of World Business* II, no. 6 (November 1967): 39–46. For more on Diebold's work on automation in the factory, see Amy Sue Bix, *Inventing Ourselves out of Jobs? America's Debate over Technological Unemployment, 1929-1981*, Studies in Industry and Society (Baltimore, Md.: Johns Hopkins University Press, 2000).
[28] Mary T Mitchell, *A Search for Understanding: A Biography of George W. Mitchell, Member of the Board of Governors of the Federal Reserve System, 1961-1976*, 2008, 188.
[29] S.245 March 14, 1975 Hearing, Subcommittee on Financial Institutions, p. 74.
[30] S.245 March 14, 1975 Hearing, Subcommittee on Financial Institutions, p. 60.
[31] S.245 March 14, 1975 Hearing, Subcommittee on Financial Institutions, p. 183.
[32] S.245 March 14, 1975 Hearing, Subcommittee on Financial Institutions, p. 85.

[33] Transcripts of Proceedings, National Commission on Electronic Fund Transfers, Commission Meeting, February 6, 1976, Washington D.C., p. 18. National Commission on Electronic Fund Transfers, Record Group 220 Box 4. National Archives, College Park MD.
[34] Transcripts of Proceedings, National Commission on Electronic Fund Transfers, Commission Meeting, February 6, 1976, Washington D.C., p. 91. National Commission on Electronic Fund Transfers, Record Group 220 Box 4. National Archives, College Park MD.
[35] John B. Benton, "Internal Working Document 1: A Summary of Opinions Expressed at the NCEFT Workshops on March 2 and March 5, 1976," March 10, 1976, p. 1. National Commission on Electronic Fund Transfers, Record Group 220 Box 4. National Archives, College Park MD.
[36] "Major Events in Evolution of EFTS Are Occurring with Rising Frequency," 79.
[37] Emphasis in original. Box 132, folder "May 9, 1974 - Speech, National Computer Conference, Chicago, IL" of the Gerald R. Ford Vice Presidential Papers at the Gerald R. Ford Presidential Library, p. 16. Available at: https://www.fordlibrarymuseum.gov/library/document/0023/1686369.pdf.
[38] Emphasis in original. Box 132, folder "May 9, 1974 - Speech, National Computer Conference, Chicago, IL" of the Gerald R. Ford Vice Presidential Papers at the Gerald R. Ford Presidential Library, p. 19. Available at: https://www.fordlibrarymuseum.gov/library/document/0023/1686369.pdf.
[39] 60 Minutes, "Dial 'E' for Embezzlement" transcript. Vol. IX, No. 4, October 10, 1976.
[40] Letter to the NCEFT, November 11, 1976. National Commission on Electronic Fund Transfers, Record Group 220 Box 56. National Archives, College Park MD.
[41] Letter, Elain Sumey to National Commission on Electronic Fund Transfers November 13, 1976. National Commission on Electronic Fund Transfers, Record Group 220 Box 56. National Archives, College Park MD.
[42] Letter, Jessie Overdorff to National Commission on Electronic Fund Transfers November 10, 1976. National Commission on Electronic Fund Transfers, Record Group 220 Box 56. National Archives, College Park MD.
[43] Swartz, *New Money*, 87.
[44] Larry Schwartz, "Report on Consumer Letters," February 7, 1977, p. 6. National Commission on Electronic Fund Transfers, Record Group 220 Box 56.
[45] For examples, see: Leo Marx, "Technology: The Emergence of a Hazardous Concept," *Technology and Culture* 51, no. 3 (2010): 561–577; Eden Medina, *Cybernetic Revolutionaries Technology and Politics in Allende's Chile* (Cambridge, Mass: MIT Press, 2011); Sheila Jasanoff and Sang-Hyun Kim, eds., *Dreamscapes of Modernity: Sociotechnical Imaginaries and the Fabrication of Power* (Chicago ; London: The University of Chicago Press, 2015).
[46] Bernardo Bátiz-Lazo, Thomas Haigh, and David L. Stearns. "How the Future Shaped the Past: The Case of the Cashless Society." *Enterprise and Society* 15, no. 1 (2014): 103-31.
[47] Robert E. Lee, "No More Float," Remarks of Commissioner Robert E. Lee, Federal Communications Commission before the Returned Services League of Australia, February 11, 1976, Washington D.C. National Commission on Electronic Fund Transfers, Record Group 220 Box 56.
[48] "Plans snoop-proof controls," *Long Island Press*, October 25, 1976. National Commission on Electronic Fund Transfers, Record Group 220 Box 22.

[49] NCEFT, "EFT in the United States: Policy Recommendations and the Public Interest," October 1977, p. 53.
[50] Charles Goodwin, "Professional Vision," *American Anthropologist* 96, no. 3 (1994): 626, https://doi.org/10.1525/aa.1994.96.3.02a00100.
[51] Commonly this concern has focused on the use of digital technologies users' data collection and its use primarily in marketing, captured in Shoshana Zuboff's critique of "surveillance capitalism." See: Shoshana Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power* (New York: PublicAffairs, 2019). Scholars of digital payment systems, however, have looked to the particular data economy of payment services and their intersection with communication services. See for example: Rachel O'Dwyer, "Money Talks: The Enclosure of Mobile Payments," in *The INC Moneylab Reader*, ed. Geert Lovink and Nathaniel Tkacz (Amsterdam: Institute of Network Cultures, 2015), 230–43; Swartz, *New Money*.
[52] Lisa J. Servon, *The Unbanking of America: How the New Middle Class Survives* (Boston: Houghton Mifflin Harcourt, 2017).