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THE ECONOMICS OF PAYMENT CARD INTERCHANGE FEES AND THE LIMITS OF REGULATION

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Fresh off of the most substantial national liquidity crisis of the last generation and the enactment of sweeping credit card regulation in the form of the Credit CARD Act, Congress continues to deliberate, with a continuing drumbeat of support from lobbyists, a set of new regulations for credit card companies. These proposals, offered in the name of consumer protection, seek to constrain the setting of "interchange fees"—transaction charges integral to payment card systems—through a range of proposed political interventions. This article identifies both the theoretical and actual failings of such regulation. Payment cards are a secure, inexpensive, welfare-increasing payment mechanism largely unlike any other in history. Rather than increasing consumer welfare in any meaningful sense, interchange fee legislation represents an attempt by some merchants to shift costs away from their businesses and onto card issuing banks and cardholders. In particular, bank-issued credit cards offer a dramatic improvement in the efficiency and availability of consumer credit by shifting credit risk from merchants onto banks in exchange for the cost of the interchange fee—currently averaging less than 2% of purchase value. Merchants' efforts to cabin these fees would harm not only consumers but also the merchants themselves as commerce would depend more heavily on less-efficient paper-based payment systems. The consequence of interchange fee legislation, as Australia's experiment with such regulation demonstrates, would be reduced access to credit, higher interest rates for consumers, and the return of the much-loathed annual fee for credit cards. Interchange fee regulation threatens to constrain credit for consumers and small businesses as the American economy begins to convalesce from a serious "credit crunch," and should be accordingly rejected.

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Executive Summary

Payment cards are widely used by consumers today, accounting for nearly a third of all consumer transactions in the U.S. The payment systems that facilitate these transactions are complex, comprised of millions of consumers, thousands of banks, millions of merchants and a host of intermediary entities that facilitate the processing of card payments, all coordinated through global card networks. At the heart of the system is a fee—the interchange fee—usually charged by a consumer's bank to a merchant's bank in order to facilitate a payment card transaction. This fee—totaling on average (in the U.S.) about 1.8% of the cost of a payment card transaction—plays a critical role in allowing payment cards to persuade individuals to carry the card brand and merchants to accept it. Nonetheless, this small but essential fee has recently spawned extraordinary litigation, and legislative and regulatory initiatives.

These initiatives are driven by claims that interchange fees are too high. These claims, however, ignore the costs of "legacy payment systems" such as cash and checks. These claims also fail to recognize that the value merchants receive from accepting payment cards almost certainly exceeds any interchange costs. For example, the increased revenues merchants receive from shifting credit losses on sales to card issuers by itself exceeds interchange costs. The claim that interchange fees are too high is also problematic as a matter of economic theory, as it fails to appreciate the "two-sided market" of credit card networks in which overall network efficiency arises from the interdependencies of the network's various actors and the ability to reallocate costs among them in order the maximize the value of the system as a whole on behalf of the beneficiaries of that system as a group.

Critics of interchange fees argue that the government should intervene to reduce those fees. This ignores the extreme difficulty of devising workable political interventions in a system as interdependent and complicated as payment card systems, especially when those interventions would engage in price-setting of the interchange fee either directly or indirectly. The U.S. Government Accountability Office recently released a report detailing its study of the effect of interchange fees on merchants and consumers in the U.S. credit card system. The GAO Report highlights the remarkable complexity of the issue and supports the central claims of this white paper: No one has demonstrated that a problem exists and any available solution would likely produce unintended consequences that would do more harm than good for consumers, merchants and the U.S. economy.

These unintended consequences include increased costs and fewer benefits for cardholders. This is precisely what happened in Australia—the most complete experiment to date with regulating interchange fees—when the central bank in that country artificially capped interchange fees. Credit card customers in Australia now pay more for their cards and receive less in return, and there is no evidence that consumers, including those using cash or other forms of payment, have benefited at all or that overall economic efficiency has improved. In addition, artificial reductions in interchange fees would likely cause card issuers to reduce their risk of credit loss through lower credit limits or tougher credit standards, essentially reducing the availability of credit. This has consequences for consumers, as well as merchants, the latter of which should expect decreased revenues if the supply of consumer credit is further reduced. This regulation-induced shift would also likely have consequences for many financial institutions. For example, community banks and credit unions—which rely especially heavily on interchange revenue—are likely to be harmed by interchange fee regulation and may be forced to shrink or cease their card operations.

In the end, politically-motivated, artificial restrictions on interchange fees will likely increase the cost and reduce the quality of payment cards for consumers, reduce credit availability, and drive community banks and credit unions out of the credit card market. Unfortunately, these effects would come with no promise of lower prices for consumers as a whole or an increase in economic efficiency for the U.S. economy. In addition, any effort to regulate interchange fee would roll back the clock on the movement toward a paperless payment system, stifle competition with emerging payment technologies, and launch endless rounds of politically-motivated interventions to rectify the unintended consequences of earlier interventions.

In light of the foregoing, the proponents of interchange fee regulation must clearly demonstrate the theoretical foundation for and empirical data supporting consumer benefits for limiting interchange fees. They must further demonstrate that any net benefits will not be overwhelmed by administrative costs and offsetting losses in consumer welfare through reduced credit and increased costs on both goods and credit transactions. Without demonstrable proof of net consumer welfare gains, interchange fee legislation should be rejected.

Introduction

Payment cards[2] are widely used by consumers today, accounting for nearly a third of all consumer transactions in the US.[3] The payment systems that facilitate these transactions are complex, comprising millions of consumers, thousands of banks, millions of merchants and a host of intermediary entities that facilitate the processing of card payments, all coordinated through global card networks. Without a penny in her pocket, a consumer today can walk into almost any store, hotel, or restaurant in the world and walk out with goods or services. A consumer can buy a car with a credit card; without one, she might not even be able to rent a car.

At the heart of the system is a fee—the interchange fee—usually charged by a consumer's bank to a merchant's bank in order to facilitate a payment card transaction. This fee—totaling on average (in the US) about 1.8% of the cost of a payment card transaction—plays a critical role in allowing payment cards to persuade individuals to carry the card brand and merchants to accept it. Without the interchange fee, the evolution from a paper-based payments system to a more efficient electronic system would be dramatically impaired and the consumer and merchant benefits would be largely undermined.

Efforts to cabin interchange through political means may force card issuers to increase costs on card customers (including those who pay their bills in full every month), reduce credit availability, and drive credit unions and community banks from the market. Few governmental policies have the potential to produce so many undesirable, unintended consequences at once.

Nonetheless, as we shall see, the interchange fee has recently spawned extraordinary litigation as well as regulatory and legislative efforts. At the time of this writing, three other bills are pending in the Congress that would regulate interchange fees. The Senate has recently added an amendment to the pending financial reform bill that would regulate debit card interchange fees and curtail the use of certain rules by card networks to govern the behavior of merchants within their networks. There have been similar regulations in other countries—the Australian central bank limits interchange fees in that country, and varying degrees of intervention in these markets have been imposed in a few other places, as well.

Most recently, the US Government Accountability Office released a report ("The GAO Report") detailing its study of the effect of interchange fees on merchants and consumers in the American credit card system.[4] The GAO Report highlights the remarkable complexity of the issues surrounding interchange fees and supports the central claims of this white paper: no one has demonstrated that a problem exists, and any available "solution" would likely

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[2] Credit cards, debit cards and other forms of payment are generally substitutes for each other, but credit cards present an added dimension—the availability of credit—that is not easily replicated in other payment systems. The primary focus of this paper is credit cards and credit card networks, but the basic economic analysis of our discussion applies equally to other payment systems. Except where we discuss aspects of credit card networks particular to the credit function, we will generally use the terms "credit card" "credit card system" and "credit card network" interchangeably with the terms "payment card," "payment card system," and "payment card network" in our discussions, reflecting the equivalent underlying economic dynamics of credit card, debit card and prepaid card systems.

[3] Ben Woolsey & Matt Schulz, *Credit Card Statistics, Industry Facts, Debt Statistics*, CREDITCARDS.COM, http://www.creditcards.com/credit-card-news/credit-card-industry-facts-personal-debt-statistics-1276.php (last visited Apr. 2, 2010) ("Nearly one in every three consumer purchases in the United States is made with a payment card, including credit, debit and prepaid products.").

[4] *See* U.S. GOVERNMENT ACCOUNTING OFFICE, CREDIT CARDS: RISING INTERCHANGE FEES HAVE INCREASED COSTS FOR MERCHANTS, BUT OPTIONS FOR REDUCING FEES POSE CHALLENGES 44-45 (2009) [hereinafter GAO REPORT], *available at* http://www.gao.gov/new.items/d1045.pdf.

produce unintended consequences that would do more harm than good for consumers, merchants and the economy.

Credit cards are a unique type of financial instrument, one that may be unprecedented in the history of commerce: a device that is simultaneously a consumer payment and a credit system accepted 24 hours a day, almost anywhere in the world, in person, over the phone, or via the Internet. While governmental officials have regulated elements of the *credit* function of credit cards for consumer protection purposes for some time, they have largely avoided regulation of the *payment* system more generally. And for good reason: the participants in credit card networks are remarkably interdependent, with interwoven costs and benefits shared by the various participants in these systems. Moreover, in contrast to *consumers* who have been thought to need protection in shopping for and using credit, regulators have long recognized that *merchants and financial institutions* are relatively sophisticated business entities, fully capable of understanding the terms of exchange with one another and acting accordingly. Thus these sophisticated entities can be presumed to understand the costs and benefits of their business arrangements without government intervention in their basic business decisions. Before interfering in a business dispute between two industries and taking steps that could disrupt this system, and in so doing imposing significant costs on consumers, Congress should make sure that there is actually a problem to be addressed and should be able to demonstrate that intervention will actually improve the operation of the system. Currently there is no basis for finding that a problem exists or that government intervention will produce improvements for the economy or consumers—a point well-emphasized by the GAO Report.[5]

The claim that interchange fees are "too high" fails on at least four grounds. First, the claim fails because it arbitrarily defines the purported costs of electronic payment systems while simultaneously ignoring the costs of "legacy" payment systems such as cash and checks, especially those costs that are borne by consumers and society generally (as opposed to merchants directly). The result is an artificially high view of the costs of electronic payment systems, as proponents of interchange fee regulation over-include electronic payment "costs" and under-include the costs of payment media such as cash and checks that are avoided through the use of payment cards. Second, the claim flatly ignores a significant component of the value merchants receive from accepting credit cards: increased revenue from card issuers' covering credit losses—an amount that *by itself* exceeds interchange costs. Third, the claim is facially problematic as a matter of economic theory, as it fails to appreciate the "two-sided market" of credit card networks in which overall network efficiency arises from the interdependencies of the network's various actors and the ability to reallocate costs among them in order the maximize the value of the system as a whole on behalf of the beneficiaries of that system as a group. And fourth, the argument that interchange fees are "too high" carries with it the claim that fees should be reduced through political intervention. But this ignores the extreme difficulty of devising workable political interventions in a system as interdependent and complicated as payment card systems, especially when those interventions would engage in price-setting of the interchange fee either directly or indirectly.

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[5] The GAO Report's conclusion is quite clear:

> If these measures were adopted here, merchants would benefit from lower interchange fees. Consumers would also benefit if merchants reduced prices for goods and services, but identifying such savings would be difficult. Consumers also might face higher card use costs if issuers raised other fees or interest rates to compensate for lost interchange fee income. Each of these options also presents challenges for implementation, such as determining at which rate to set, providing more information to consumers, or addressing the interests of both large and small issuers and merchants in bargaining efforts.

Id. at Highlights of GAO-10-45.

As this paper will demonstrate, demands to regulate interchange fees are based on faulty information and defective economic logic regarding credit card markets and the role of interchange in supporting electronic payment systems. Proponents of interchange fee regulation have not produced any persuasive argument or evidence that interchange fees or the current processes for setting interchange fees are harmful to consumers or the economy as a whole. In fact, the evidence suggests that interchange fees set without a governmental thumb on the market scale provide maximum benefits for consumers and the economy. Fairness arguments that would justify governmental intervention are equally unconvincing. Indeed, efforts to cabin interchange through political means would likely force card issuers to increase costs on card customers (including those who pay their bills in full every month), reduce credit availability (especially for small businesses and low and moderate income families), and drive credit unions and community banks from the market. Few governmental policies have the potential to produce so many undesirable, unintended consequences at once.

Ultimately, the policy arguments offered in support of interchange regulation are best understood as merchant demands for the government to intervene to reduce their costs and to instead impose those costs on other network actors, especially consumers. Unfortunately, there is no evidence that government intervention on behalf of the merchants will help anyone *but* merchants, and even merchants would be harmed if this shock to the still-struggling banking system results in further constriction of credit access. Moreover, there is strong evidence that giving in to the merchant demands will harm consumers by increasing the costs they pay for credit cards, reducing their benefits, and reducing bank investments in card quality—and in fact this is precisely what happened in Australia when interchange fees were capped. Furthermore, succumbing to merchants' rent-seeking demands might also impede the movement toward an electronic payments system, thereby causing additional damage to the economy.

Aside from the multiple inherent, undesirable features of proposed interchange fee regulation, the ongoing aftershocks of the financial crisis provide a separate ground for caution. The Credit CARD Act[6] has already destabilized the banking industry in an economic climate marked by uncertainty. Now would be a disastrous time to further destabilize the banking industry and further disrupt consumer and small business lending just to appease a special interest. While intervention in a market system is appropriate where necessary to ensure that markets are functioning efficiently and fairly, in the United States, rebalancing the scales of the competitive process in favor of one interest over another is an extreme measure typically reserved only for instances in which there is convincing evidence of market failure. No such evidence exists here. Despite claims to the contrary,[7] there is indeed no proof that interchange fees set in the credit card markets are anything but fair to consumers and merchants and an important contributor to economic efficiency. Government intervention in complex, well-functioning markets, absent real, demonstrable evidence that the regulation will produce benefits, will likely lead to far larger costs than those imposed by the theoretical imperfections that intervention is meant to correct.

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[6] Credit Card Accountability Responsibility and Disclosure Act of 2009, Pub. L. No. 111-24 (2009), *available at* http://www.govtrack.us/congress/billtext.xpd?bill=h111-627. *See infra* notes [145-148] and accompanying text for a discussion of the problem posed by the interaction of interchange regulation and the CARD Act.

[7] Several advocacy groups, including merchant trade associations, have taken up this issue. *See, e.g.*, UnfairCreditCardFees.com, *About Us*, http://www.unfaircreditcardfees.com/site/page/about (last visited Mar. 19, 2010) (listing coalition members). Notably, none of these associations have produced any reliable evidence that intervention in these markets would have the intended effect, that intervention would prove administratively workable, nor, in particular, that intervention on behalf of merchants would benefit consumers. In this paper we detail a range of reasons why such intervention would be highly unlikely to produce net consumer benefits.

In considering whether regulation of interchange fees is appropriate, two threshold questions should be considered. First, is there a problem? And second, will the benefits of the regulation justify the costs, including the unintended consequences of the regulation? This paper will demonstrate that: (i) the prevailing evidence shows that, contrary to the claims by merchant advocates, interchange fees are not too high; and (ii) regulatory intervention reducing interchange fees would harm consumers and merchants alike.

This paper proceeds as follows: Section 2 outlines the benefits of credit cards as a payment instrument while Section 3 discusses the costs of the alternative, paper-based payment systems (cash and checks) on which consumers would rely if the cost of payment cards increases by virtue of interchange fee regulation. Section 4 explains the fundamental economics of payment card systems and the role of the interchange fee, highlighting the complexity of the system and the interrelatedness of its participants. Section 5 then discusses the pitfalls of interchange fee regulation rooted in this complexity, as well as the likely costs of intervention. Section 6 concludes.

CONCLUSIONS:

Electronic payments have a range of advantages for merchants, consumers and the overall economy. The economic benefits merchants receive from credit cards exceed their interchange costs. Widespread consumer use of payment cards as a purchasing medium facilitates the transition to efficient electronic commerce, reallocates costly non-payment risks away from merchants, speeds transactions, facilitates on-line shopping, and enables small businesses to compete on equal terms with large department stores. The ability of consumers to obtain short-term credit, make purchase decisions independently of financing decisions, and dispense with cash are enormously valuable, not only to consumers themselves but also to merchants. Another significant benefit of electronic payments, and one that should interest especially government, is the minimization of the size of the grey economy. Diversion of payments from cards to cash would mean lower tax collections and other harm from the government's perspective.

Payment card systems are complex and dynamic. Regulating payment card markets to benefit particular groups within the system is problematic both because of the costly trade-offs inherent in doing so (rigging the system to benefit merchants may harm consumers), as well as the likelihood of regulatory error and cost (rigging the system to benefit merchants may actually harm merchants, as well).

Payment card networks must bring together both cardholders and merchants, distributing costs in order to keep the network in balance. Each group participating in the system depends on the other, and focusing on the fortunes of one group to the exclusion of the others can disrupt the entire system.

The interchange fee is the lever by which payment card networks balance demand for card usage by cardholders on the one hand and merchants on the other. Far from being a simple transfer of profit, the interchange fee is essential to maximizing the value of the network for consumers and merchants alike.

Cross-subsidies are ubiquitous in the economy. People who drink their coffee black subsidize those who drink it with cream and sugar; people who walk to the supermarket subsidize those who drive and park for free. The mere existence of a cross-subsidy says nothing about the efficiency or fairness of a system.

Efforts to regulate credit card networks in other countries have not produced net benefits, even though they may have benefited merchants at the expense of some consumers and banks.

The benefits of electronic payments systems

The story of credit cards is largely a story of the technological development of two age-old conveniences and one emerging one. First, credit cards are a ***payment*** system. Like cash, checks, gold doubloons or cattle, they are a means of facilitating trade using a monetary intermediary. But a payment system is only viable if both buyers and sellers use it. Importantly, a payment system is also more valuable to sellers if more buyers want to use it and more valuable to buyers if more sellers want to use it.[8] The system that has emerged over time to facilitate this intermediation by a piece of plastic carried in a wallet is large, complex and

[8] This dynamic is explored more fully below. *See* discussion *infra* Section 4.

remarkably efficient. Today in the United States, almost $3 trillion in purchase volume is carried out with payment cards and over 52 billion transactions are carried out with payment cards annually.[9] Unlike most types of money in history, credit cards can be used almost anywhere in the world at any time, day or night. The convenience of immediate and reliable access to one's finances is substantial, and compared to cash or checks, credit cards offer a considerable degree of convenience and security.[10]

Second, credit cards originated and have evolved as a means of providing point-of-sale ***credit***. Credit cards alone accounted for almost $1.8 trillion in purchase volume and over 20 billion transactions in 2009.[11] Remarkably, credit cards enable a merchant to make a sale on credit and to be paid almost immediately without taking any credit risk. Even if the balance is paid in full at the end of the billing cycle, the credit card holder receives the benefits from "float"—an interest free loan for the time between purchase and payment of the credit card bill.[12] Float, among other benefits, enables cardholders to time their payments to when funds are available, allowing cardholders to reduce the precautionary balances they would otherwise hold in demand deposit accounts, and keep their money invested in interest-bearing accounts. The option to revolve some or all of a balance between billing periods adds significant flexibility to the card's credit function. Unlike traditional installment loans, a credit card borrower has significant flexibility over how much to pay each month, with no prepayment penalty. Cards provide other benefits over installment loans, such as convenience (no need to negotiate a new loan every time one needs one) and the availability of loans without security (*i.e.*, no risk of repossession for failure to pay). Merchants make sales on credit while avoiding not only the costs, risks, and delays in payment, but also the contentious efforts to collect from customers who fail to pay on time. For many consumers—and importantly, for many merchants and small businesses—this access to cheap and easy credit and the ability to avoid liquidity constraints is an enormous benefit.

Finally, payment cards facilitate ***electronic payments***, and thus electronic commerce. Where it is essentially impossible to engage in electronic commerce using cash or checks, credit cards are responsible for the very creation of e-commerce.[13] And while other methods of electronic payments—from ACH to PayPal to RevolutionCard—have emerged to challenge payment cards' prevalence in e-commerce, credit and debit cards remain the primary methods of payment in online transactions.[14]

In assessing the merits of the credit card system and the interchange fee, it is essential to understand these widespread benefits of credit cards as an electronic payment system and the system of electronic commerce they facilitate. Given the remarkable benefits afforded consumers and merchants from credit cards, the rise of the "cashless society," and the benefits to the US economy, it is surprising that some interest groups and others argue that the

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[9] *General Purpose Cards—U.S. 2009*, THE NILSON REPORT, February 2010 (Issue 942), at 6-7.
[10] *See, e.g.*, Daniel Garcia-Schwartz et al., *The Move Toward a Cashless Society: A Closer Look at Payment Instrument Economics*, 5 REVIEW OF NETWORK ECONOMICS 175 (2006).
[11] *See* THE NILSON REPORT, *supra* note 9, at 6.
[12] David Evans & Richard Schmalensee, *The Economics of Interchange Fees and Their Regulation: An Overview* 10 (MIT Sloan School of Management, Working Paper 4548-05, 2005), *available at* http://ssrn.com/abstract=744705.
[13] Joanne E. Oxley & Bernard Yeung, *E-Commerce Readiness: Institutional Environment and International Competitiveness*, 32 JOURNAL OF INTERNATIONAL BUSINESS STUDIES 705 (2001). *See also* Daniel Garcia-Schwartz et. al., *Further Thoughts on the Cashless Society: A Response to Dr. Shampine*, 6 REVIEW OF NETWORK ECONOMICS 509 (2007).
[14] Debit cards may actually have overtaken credit cards by some measures in all forms of electronic payments. *See* Robin Sidel, *Debit-Card Use Overtakes Credit*, WALL STREET JOURNAL, May 1, 2009, at M11, *available at* http://online.wsj.com/article/SB124104752340070801.html (discussing transaction volume for Visa-branded debit and credit cards). In part because of security concerns, debit cards are not used nearly as much as credit cards in Internet transactions.

economy would benefit from greater use of antiquated paper-based systems like cash and checks rather than encouraging the use of electronic payments.[15]

Benefits of cards to the economy

Merchants and consumers alike have long recognized the value of transacting on credit—indeed, it is a classic "win-win" interaction. As we will discuss in more detail, selling on credit allows consumers to even out spikes in consumption, buying at the time they need goods and services (such as furnishing a new house, replacing a broken washing machine, or purchasing groceries), not just when they have saved enough to do so. Credit also enables customers to plan their finances better by smoothing the timing of their payment obligations and allowing them to synchronize their payments with liquid resources. Unlike layaway, credit allows consumers to use goods while still paying for them, making these transactions more attractive to consumers. And access to credit increases the efficacy of discounting to both retailers and consumers and it facilitates other promotions by enabling buyers to shop even if they don't have sufficient liquid funds on hand to take advantage of the promotion otherwise. Finally, and importantly, credit reduces the reliance on cash and checks, both of which impose significant costs on consumers and merchants alike. By making the provision of consumer credit considerably more efficient, bank-issued credit cards produce these advantages at low cost, conferring even greater economic gain on society than the less-efficient forms of credit they have supplanted.

For almost a century, large consumer durable purchases have been made using some form of credit.[16] Before credit cards, this usually took the form of in-store, "open book" revolving credit, layaway, or installment sales. As early as the 1930s in the United States, the majority of sales of household furniture, appliances, radios, cameras, and jewelry were credit sales, as were a substantial percentage of rugs, hardware, sporting goods, and books (such as encyclopedias and other book sets).[17] As recently as the 1970s, retailer-based credit remained the dominant type of consumer credit for the purchase of household durables and other consumption. Because other types of credit were largely unavailable to finance the purchase of these goods, and because it was impractical for consumers to purchase them without credit, local merchants often had some degree of market power over consumer shopping choices. In rural areas especially, the popularity of the famous Sears catalogue arose not only because Sears could provide a greater variety of choices compared to local merchants, but also because the Sears credit card enabled catalogue purchases that other merchants couldn't match. For many purchases, the absence of generally-available consumer credit meant that only a handful of larger stores could compete, resulting in higher prices and less convenience.

Today, virtually all consumer durables are still purchased using credit, but the bulk of such transactions has shifted from installment loans to credit cards. First, installment credit sales were replaced by store-issued credit cards. Over time, store cards have been increasingly supplanted by bank-issued general purpose credit cards. Thomas Durkin has observed that credit cards have largely replaced the installment-purchase plans that were important to the sales volume at many retail stores in earlier decades.[18] Historically, merchants even operated

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[15] Among others, television host Suze Orman has recently begun organizing a "Back to Cash Movement" on her popular television program, "The Suze Orman Show." *See* The Suzie Orman Show, Join Suzie's Back to Cash Movement, http://www.cnbc.com/id/33584424/ (last visited Feb. 2, 2010).

[16] DAVID EVANS & RICHARD SCHMALENSEE, PAYING WITH PLASTIC 61-62 (2d ed. 2005).

[17] MARTHA L. OLNEY, BUY NOW, PAY LATER: ADVERTISING, CREDIT, AND CONSUMER DURABLES IN THE 1920S 100-01 (1991).

[18] Thomas A. Durkin, *Credit Cards: Use and Consumer Attitudes, 1970-2000*, 86 FEDERAL RESERVE BULLETIN 623 (2000), *available at* www.federalreserve.gov/pubs/bulletin/2000/0900lead.pdf ("Credit cards have also become the primary source of unsecured open-end revolving credit, and they have largely replaced the installment-purchase plans that were important to the sales volume at many retail stores in earlier decades.").

their credit operations at a loss in order to attract customers, offsetting the loss on credit operations through hidden price markups on the goods they sold.[19]

The high cost and inefficiency of in-house operations, coupled with growing demand for consumer credit, led to the introduction of the first credit cards in the 1950s (Diners Club in 1950 and American Express in 1958) and 60s (Visa and MasterCard).[20]

By outsourcing the administrative costs of credit operations to these card issuers, merchants continue to receive substantial benefits from card acceptance at drastically reduced cost. Even more important, by separating the credit offering from the product offering, general-purpose cards enable smaller and less-established merchants to compete with those few stores that could previously offer valuable credit to their customers. As we discuss below, the availability of credit subsidizes and facilitates consumer purchasing (with obvious benefit to merchants), and electronic payments offer additional, direct cost savings to merchants over cash and checks. But most significantly, bank-issued credit cards have allowed merchants to shift the most substantial cost of offering credit—the cost of credit default—onto specialized entities (banks) that are better able to bear, insure against, and minimize credit risk. Thus merchants that once offered their own credit receive greater benefits at lower cost, and the overall cost of credit is reduced enough that merchants that were previously unable to offer sales on credit are now able to do so. Consumers reap the benefits of cheaper credit and lower prices. And merchants gain the benefit of making sales they would not otherwise have made, and earning revenue they would not otherwise have earned, because issuing banks bear the risk and cost of non-payment.

But most significantly, bank-issued credit cards have allowed merchants to shift the most substantial cost of offering credit—the cost of credit default—onto specialized entities (banks) that are better able to bear, insure against, and minimize credit risk.

Because it is costly to enforce consumer commitments to repay their debt, some debt ends up never being repaid and must be written off by card issuers. As Ronald Mann notes, "[c]redit card lending is by its nature risky. Unlike the home mortgage lender or the car lender, the credit card lender has no collateral to which it can look for repayment. Moreover, several factors combine to leave the credit card lender with no practical device for collecting payment."[21] Nevertheless, merchants do receive payment for these purchases, and card issuers absorb (and minimize) both the cost of attempting to collect payment as well as the cost of payments uncollected.

And these amounts are sizeable. Visa and MasterCard card issuers alone wrote off almost $50 billion in uncollected credit card debt in the U.S. in 2008, and $65 billion in 2009—more than 5% of the total volume of credit card purchases by their cardholders last year.[22] This uncollected

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[19] LENDOL CALDER, FINANCING THE AMERICAN DREAM: A CULTURAL HISTORY OF CONSUMER CREDIT 56 (1999); Glenn B. Canner & James T. Fergus, *The Economic Effects of Proposed Ceilings on Credit Card Interest Rates*, 73 FEDERAL RESERVE BULLETIN 1, 2 (1987).

[20] For a comprehensive history and analysis of the payment card industry, *see generally* EVANS & SCHMALENSEE, *supra* note 16.

[21] Ronald J. Mann, *Patterns of Credit Card Use Among Low and Moderate Income Households*, *in* INSUFFICIENT FUNDS: SAVINGS, ASSETS, CREDIT AND BANKING AMONG LOW-INCOME HOUSEHOLDS (Rebecca M. Blank & Michael S. Barr eds., 2009), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1119268 at 4.

[22] THE NILSON REPORT, *supra* note 9, at 10. Note that this is the net charge-off amount, adjusted to reflect the very small percentage of charge-offs that are ultimately repaid. That the Visa/MasterCard credit losses suffered by card issuers increased by fully 30% between 2008 and 2009 suggests that perhaps merchant claims that "interchange fees generally go in only one direction—up, even as technology improvements drive transaction costs down," are not accurate. *See* Michael Powell, *Interchange Fees: An Unfair Charge with Every Swipe*, THE OREGONIAN, December 23, 2009, *available at* http://www.oregonlive.com/opinion/index.ssf/2009/12/interchange_fees_an_unfair_cha.html (asserting that interchange fees increase despite declining transaction costs).

debt represents revenue or profits that merchants would not have received without issuing banks assuming the credit risk for those transactions and suffering the loss. In essence, these losses reflect revenues the merchants received from card issuers for sales that were made but not actually paid for by cardholders.[23] And these amounts do not include the costs of the

[23] The true economic benefit to merchants of these credit losses may be somewhat more or less than the amount of the loss borne by banks, but the reported credit loss is likely a good estimate. The reason for this indeterminacy is complicated, but informative; a brief outline of the analysis follows:

As suggested there are three sources of gain to merchants from bank-issued credit: Efficiency gains, revenue from sales made but not paid for, and direct cost avoidance. All merchants share (although not necessarily equally) in the overall efficiency gains from making credit both more available and cheaper for consumers. Merchants that would otherwise have offered their own in-house credit also benefit from avoiding the direct costs of operating their credit systems, but in addition they avoid bearing the huge cost of credit loss. And these losses are even greater, and their costs correspondingly higher, in merchant-operated (as opposed to bank-operated) systems. Merchants thus operating their own systems would lose *profits* on sales not made because of higher prices reflecting these costs, but also *revenue* (not just lost profits) on those credit sales that were made but on which the customer defaulted and the merchant was not paid. By outsourcing their credit operations, these merchants thus receive the benefit of increased profits overall (reduced by the cost of accepting bank-issued cards—interchange costs) as well as the full benefit of revenue received on sales made but for which the bank was not paid. Because merchants (except perhaps the very largest of merchants today) were (and are) constrained in their ability to diversify away or efficiently assess risks, protecting against the cost of these losses would mean curtailed access to credit and more expensive credit for consumers—thereby deterring some transactions that would have occurred on better credit terms and thus further reducing the available economic gains from trade. Given unknown but positive efficiency gains and the readily-identifiable size of bank credit losses, the interchange fees these merchants pay represent only a fraction of the benefit they receive from outsourcing credit operations.

For merchants that would not otherwise have operated their own credit systems, the bank guarantee facilitates transactions that would not otherwise have occurred because of the unavailability of credit. For small merchants (and consumers, of course) this benefit could be enormous, creating more product market competition and opening up entire new lines of business to entrepreneurs otherwise foreclosed from them. For these merchants, too, however, there is also a benefit from sales made (and profits earned) that would not otherwise have been made. Credit losses represent sales that, by definition, the consumer was unable to pay for, but for which credit was extended anyway. If forced to use cash, therefore, these sales would simply not be made because the cash would not be available to make them. Otherwise-cash-only merchants thus receive profits on these sales that they otherwise would not, with credit card consumers in effect subsidizing these merchants. These merchants do not avoid the direct cost of operating a credit system—but the increase in sales attributable to cheaper credit is a measure of the significant benefit to them of more efficient credit operations.

Banks, of course, are not simply swallowing these enormous losses without compensation. But because the interchange fees they collect from merchants don't necessarily cover all these losses, banks also receive compensation from consumers through interest payments and fees. Because the extent of credit losses and the costs of minimizing them are reduced, the total cost of the system is lower than it would be without general purpose cards. Consumers thus pay for credit, including for the risk of loss, but they pay less than they would have to for in-store credit, and they gain the ability to use credit at a substantially wider range of stores. For merchants that would otherwise operate their own credit systems, there is an unambiguous reduction in cost. For other merchants the gain (as against a world where these merchants could not sell on credit at all) is offset somewhat by the costs (fees) of accepting credit cards, but these merchants also benefit from profits on sales made but for which the bank is not paid. The pie is larger, with the costs and benefits spread across consumers, banks and merchants. The fight over interchange fees is thus a fight over the distribution of this surplus, and merchants' efforts should be properly viewed as an attempt simply to redistribute even more of the surplus from banks and/or consumers to themselves by reducing the price that they pay for the manifest benefits that they receive.

The fact that consumers do pay, in part, for card issuers' credit losses through fees and interest also means that the benefit to merchants from credit loss could be somewhat smaller than the charge-off numbers suggest if the cited amounts include some unpaid interest and fees, as well as unpaid principal. It is unclear whether the amounts reported by Nilson do include these fees, but at least some of the public disclosures from which Nilson's numbers are likely derived plainly do not. Thus, for example, Capital One announced that its annualized credit card charge-off rate for March 2010 was an exorbitant 10.87%, but the company's form 8-K containing this information (available at http://bit.ly/9x45qO) indicates that this is "Net Principal Charge-Offs," presumably including only uncollected *principal*, measured as a fraction of "Average Loans Held for Investment," which "includes an estimate of the uncollectible portion of finance charge and fee receivables." In other words, the amount charged-off is principal only, but it is expressed as a percentage of principal plus some portion of interest and fees—meaning that the charge-off amount expressed as a fraction of total card purchases is even higher than 10.87%.

unsuccessful collection efforts also incurred by card issuers in an effort to avoid some of these losses.

But card issuers have developed the capacity to assess and price risk more accurately, giving them an increased ability both to take on more risk and to allocate the cost of risk within the system. For example, because they draw from a wider array of retailers, card-holders and locations, general credit card issuers can develop more-sophisticated (and less-costly) systems for anticipating and preventing fraudulent practices, reducing the risk of default by particular consumers, or protecting consumers against identity theft.[24] In light of the massive volume of transactions processed and the number of consumers in the system, it has become feasible for card issuers to take increasingly-sophisticated measures to minimize (or appropriately charge for) the risk of non-payment by cardholders. Likewise, this huge database of information has enabled issuers to learn how to attack fraud through effective devices like password authorization, additional digits for card number verification, and special protections for on-line sales. Card issuers deploy extraordinarily-complicated neural networks and intelligent computer systems to detect changing patterns of fraud in real-time.[25] Very few of these protections would be cost-feasible for department store chains (much less supermarkets, small appliance, hardware, or convenience stores), and large-scale card issuers are able to extend affordable credit to a much wider population and to do so much more efficiently. Indeed, these protections represent a traditional economy of scale, the benefits of which redound to both consumers and merchants.

As we will discuss at length below, the interchange system, among other things, permits card networks to distribute the costs of offering credit to the place in the system where it is most effectively and efficiently borne. To the extent that a part of the interchange fee represents an allocation of the cost of increased credit risk to merchants (who undeniably benefit from the increased revenues it represents and who otherwise would have to bear that risk themselves), merchant claims that any portion of these fees above the "direct administrative costs" of operating a credit system are unjustified and meritless. In reality, while the risk of offering credit has increased, interest rates have decreased, refuting narratives of monopolist credit card issuers reaping excessive profits from interchange fees, and reflecting a re-allocation of revenue sources to maximize the overall value of the system.

Moreover, the credit loss problem for banks has been exacerbated by last year's passage of the Credit CARD Act which, among many other things, makes it difficult for banks to adjust interest rates on existing credit cards when a cardholder's risk increases.[26] By enabling card issuers to diversify their revenue streams to include revenues from transactional users, interchange fees are a further hedge against the credit loss problem. Furthermore, to the

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In any case, the total cost to issuers—a cost merchants themselves are able to avoid by accepting bank-issued cards rather than offering their own in-house credit—indeed is the full charge-off amount including foregone interest and fees. And if merchants were forced to run their own in-house credit programs they would have to charge interest and fees as well, thus they would presumably suffer similar losses.

In the final analysis the trade-off for the average merchant (between costs avoided, extra sales and increased efficiency on the one hand and interchange fees on the other) is at least a wash, and likely significantly positive. For the economy as a whole, and for consumers in particular, there would seem to be substantial gain. Unfortunately, while the explicit interchange costs show up directly on merchants' balance sheets, the benefits—greater efficiency, costs avoided and extra sales made—can only be measured by looking at banks' credit losses and estimating some of these complex nuances. While this makes the merchants' claims easier to make, it does not, unfortunately, make them more accurate.

[24] *See* Margaret E. Guerin-Calvert & Janusz A. Ordover, *Merchant Benefits and Public Policy towards Interchange: An Economic Assessment*, 4 REVIEW OF NETWORK ECONOMICS 384, 402-03 (2005).

[25] *Id*.

[26] *See* discussion *infra* note 147-153 and accompanying text.

extent that interest charges and late fees would otherwise be available sources of revenue to offset these considerable charge-offs, unlike interchange fees, these amounts are themselves at risk when card balances are not paid (because interest and fees are also not paid when borrowers default on their debts). Interchange fees, then, are an important protection against credit risk, and one which confers substantial benefits on merchants as well as consumers by facilitating the extension of credit, especially during difficult times.

Benefits of cards to merchants

All of the foregoing translates into substantial, direct benefit to merchants from accepting credit cards. Although we will discuss many more benefits below, by itself the avoidance of credit loss and increased sales benefits are larger than the total interchange fees merchants pay for card acceptance, which average less than 2 percent for credit card transactions. For example, merchants claim they paid $48 billion in interchange fees during 2008—a number *not* limited only to credit cards but including also debit cards for which credit loss is insignificant.[27] This means that for every $1 paid to accept Visa and MasterCard credit and debit cards, merchants received more than $1 in excess sales directly attributable to their acceptance of bank-issued credit cards—and this before considering all of the myriad other benefits merchants receive from accepting cards. In turn, this suggests that merchant complaints about the interchange fees they pay may reflect a desire to avoid paying the full costs for the benefits that they receive.

In 2009, merchants paid $25.6 billion in fees to accept Visa and MasterCard credit card payments, but banks were forced to charge-off $65 billion in purchases on these cards. Thus for every $1 paid to accept Visa and MasterCard *credit* cards in 2009, merchants received more than $2.50 in extra sales directly attributable to their acceptance of bank-issued credit cards.

The numbers are even more significant—and the benefits merchants receive from shifting credit risk to banks more stark—when the credit-card-only numbers are considered. According to the Nilson Report, in 2008 merchants paid $27.5 billion in fees to accept credit card payments from Visa and MasterCard branded cards.[28] (The actual *interchange* fee—the amount transferred from acquiring banks to issuing banks—is less, as this number reflects the full "merchant discount fee," the total fee paid by merchants to their banks to process payment card transactions, including the fee paid to the acquiring bank that processes the transaction for the merchant).[29] In that same year, as noted, charge-offs for Visa and MasterCard credit cards amounted to $50 billion. In 2009, merchants paid $25.6 billion in fees to accept Visa and MasterCard credit card payments,[30] but charge-offs on these cards increased to $65 billion. This means that for every $1 paid to accept Visa and MasterCard *credit* cards in 2008, merchants received more than $1.80 in extra sales directly attributable to their acceptance of bank-issued credit cards. And in 2009 merchants received more than $2.50 in extra sales attributable to their acceptance of bank-issued credit cards. Put differently, although total merchant processing fees paid *decreased* by 7% between 2008 and 2009, the benefit to merchants from guaranteed payments alone—and thus the cost to issuing banks—*increased* by 30% over the same period.

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[27] *See, e.g.*, Unfair Credit Card Fees.com, *supra* note 7. Because interchange fees are assessed as a percentage of purchase volume and because purchase volume decreased from 2008 to 2009, it is likely that merchants paid even less in interchange fees in 2009—even though credit losses increased substantially between the two years. See THE NILSON REPORT, *supra* note 9, at 10.

[28] *Merchant Processing Fees*, THE NILSON REPORT, October 2009 (Issue 936), at 7.

[29] According to Nilson, "[p]rocessing fees are paid in compensation for credit risk, network services, and all related value-added services provided by acquirers of merchant card transactions. They include interchange, assessments and brand usage fees, authorization, clearing, and settlement fees, and more." *Merchant Processing Fees Down*, THE NILSON REPORT, March 2010 (Issue 944), at 12. Interchange fees—the portion of these costs transferred to card issuers—are a (significant) subset of these total fees.

[30] *Id.*

As noted, these benefits are before considering the myriad other benefits merchants receive from card acceptance.

If retailers ran their own in-house operations, their credit losses would likely be substantially higher than those borne by the credit card networks.[31] Indeed, retailers suffered such losses in only the recent past (and some continue to suffer them today, as the ongoing plight of the few remaining in-house credit operations demonstrates.[32] By outsourcing their credit operations, merchants now receive the benefit of less-costly and more-effective risk assessment and loss avoidance measures, and thus the benefits of a much larger number of cardholders with the ability to make purchases on credit.[33] The true benefit to merchants from the acceptance of bank-issued payment cards, and thus the value of the interchange fee they pay, is properly measured by the amount of the benefits merchants receive compared to the benefits net of operating costs that merchants would receive in the alternative—either through cash- and check-only transactions or through credit transactions financed by the merchant's own in-house credit operation. Avoiding the costs of credit loss is thus a significant benefit of the outsourcing of credit operations.

Indeed, looking back at some of the earlier retailer-initiated cost studies, it is evident that merchants incurred significant costs in operating their own credit programs. For example, a cost study conducted in the late 1960s by an accounting firm for the National Retail Merchants Association examined the costs associated with each of the three major forms of retail credit—30-day charge, revolving, and installment accounts—in an effort to provide a basis for determining the level of "credit service charges" that would be necessary to cover those costs (i.e., costs incurred by retailers to extend credit to customers).[34] For the fifteen surveyed retailers, the study found that retailers collected about $36.5 million in credit program revenues, but incurred total credit costs of about $51.2 million—a $14.7 million net loss for the surveyed retailers.[35] According to the study, the average deficiency for all participants in the study amounted to 3.4% of credit sales (i.e., costs exceeded revenues by 3.4% of sales).[36] The author made the following observations in light of the study's findings:

> It seems apparent that the average department store would enhance its profits by eliminating the credit function—if it could maintain the same sales volume. Not only would it make a greater profit, but it would be doing so on a much smaller investment, since discontinuing credit services would also eliminate the need for investing capital in accounts receivable. In a practical sense, eliminating the credit function would not necessarily enhance store profits, as sales would undoubtedly be adversely affected. It is clear, therefore, that credit must be justified economically by the department store as a selling tool—not as a business venture. From the store's viewpoint, extending credit should increase sales by such an amount that profit contributions resulting from these increased sales are large enough to absorb any excess of credit costs over

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[31] *See generally* Robert W. Johnson, *Economic Analysis of Credit Revenues and Costs in Department Stores, in* ECONOMIC CHARACTERISTICS OF DEPARTMENT STORE CREDIT 24 (1968) ("The aggregate time-price differential [for revolving charge accounts] failed to cover the aggregate costs of providing this form of credit by $7.6 million. Whereas revenues averaged 6.08 per cent of sales on revolving credit, cost totaled 8.39 per cent.")

[32] Tara Siegel Bernard, *Losses Mount on Credit Cards for Retailers*, N.Y. TIMES, Feb. 9, 2009, http://www.nytimes.com/2009/02/10/your-money/credit-and-debit-cards/10private.html.

[33] *See* Mann, *supra* note 21, at 6 ("Essentially, improved underwriting technologies allowed the successful credit card lenders to develop reliable predictions about the repayment behavior of increasingly unreliable customers. This capability has allowed those lenders to acquire profitable portfolios filled with cardholders that would have been unacceptably risky a few decades ago.")

[34] *See* Johnson, *supra* note 31, at 17.

[35] *Id*. at 22, 50.

[36] *Id*. at 42, 50.

service charge revenue.[37]

This conclusion is as prescient today as it was in 1968. Merchant-run credit programs are both expensive to run and risky—a single customer who failed to pay a significant debt could wipe out the profits earned from a large number of sales to other customers.[38] Bank-run programs, in contrast, offer merchants significant value by enabling merchants to make credit-based sales without the risk of customer default and without having to incur the costs required to operate a credit program. Against this backdrop it is easy to see how the economics of retailer programs created a competitive opportunity for the more broad-based credit programs that ultimately gave rise to the payment card systems we have today.

Supporting the importance of risk-shifting for credit cards and their value to merchants is the fact that while total (credit card plus debit card) interchange fees collected have, on average, increased slightly, interchange *rates* on debit cards—which entail almost no credit risk—have been declining (while rates on credit cards have remained constant—the discrepancy explained by increased volume).[39] The trade-off between interchange fees and risk avoidance is ultimately an empirical question. Merchants critical of higher interchange rates, however, have offered no evidence to evaluate the trade-off, and, unfortunately, fail even to acknowledge the enormous cost to issuers—and benefit to merchants—of the issuers' assumption of credit risk.[40] Meanwhile, even casual observation suggests that the trade-off works in the merchants' favor, and the failure to consider the benefit of credit loss avoided is a fatal flaw in merchants' claims about the impropriety of interchange fees.

Of course merchants receive benefits over and above the ability to shift credit risk and avoid credit losses.[41] Merchants also do not incur any of the funding costs (e.g., the cost of obtaining capital and consumer float costs) that card issuers typically must bear to pay for credit transactions. This, again, is a significant benefit to merchants because they receive payment for a transaction long before they would otherwise if they had to wait as long as issuers do now to collect payment from their cardholders. For many retailers, this delay in payment receipt could create severe liquidity constraints and short-term balance sheet blemishes, and even technical insolvency if they operated their own credit programs. Merchants also avoid extensive (and growing) regulatory and litigation compliance costs, the costs associated with developing and maintaining a cardholder base, and the costs of providing customer service to cardholders. In addition, because card issuers typically provide bills to their customers once a month, they incur significant costs in maintaining the complex billing and collection systems needed to support this function. Finally, merchants avoid the unpleasantness of attempting to

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[37] *Id*. at 50.

[38] *See* Mann, *supra* note 21, at 7.

[39] *See* Posting of Tom Brown & Timothy J. Muris to Truth On the Market, http://www.truthonthemarket.com/2009/12/08/interchange-fees-are-not-rising-correcting-the-gao-report/ (Dec. 8, 2009, 05:26 EST).

[40] A recent study, for example, authored by a former Clinton Administration economist and Undersecretary of the Treasury, claims that only 13% of interchange fees "represent the actual cost of transaction processing," and are therefore legitimately charged to merchants, with the remainder covering presumably-illegitimate expenses like "other transaction costs," "profit margins," and "rewards." Because the study suggests that total interchange fees are about 2% of purchases, it implies that only about a quarter of one percent of purchase volume can be legitimately charged to merchants to cover the "actual cost" of credit card transactions. But because credit loss by itself represents about 5% of purchase volume, this is an untenable claim, even if merchants do not properly bear the entire cost of credit loss. An assessment of the appropriateness of credit card interchange rates that ignores such a significant component of the cost of credit is completely unrealistic. *See* Robert J. Shapiro & Jiwon Vellucci, The Costs of "Charging It" in America: Assessing the Economic Impact of Interchange Fees for Credit Card and Debit Card Transactions 10 (2010), *available at* http://thecreditcardcon.com/SwipeFeeReport/.

[41] *See generally* MasterCard Worldwide, Benefits of Open Payment Systems and the Role of Interchange 6-8, http://www.mastercard.com/us/company/en/docs/BENEFITS%20OF%20ELECTRONIC%20PAYMENTS%20-%20US%20EDITION.pdf (last visited Apr. 2, 2010).

collect from nonpaying cardholders, a confrontational interaction with customers that merchants traditionally dreaded because it could damage positive relationships with longstanding customers to whom they want to make additional sales. Outsourcing credit operations permits retailers to avoid these negative interactions and to maintain customer relations even while the card issuer attempts to collect from the customer.

When merchants accept bank-issued cards they also avoid or reduce the costs associated with other forms of payment, including, for example, the costs of bounced checks and check verification services, the costs of paying employees to handle, count, and safeguard cash, and the costs of the theft of cash. In addition, because payment card transactions often take less time at the point of sale than other forms of payment, merchants can serve their customers more quickly and efficiently.[42] This generates additional administrative benefits to merchants and results in increased customer satisfaction.

In sum, merchants receive a wide variety of benefits from credit cards—a single one of which alone (avoidance of credit loss) is greater than the total cost they bear. The merchants advocating for governmental reduction of interchange fees seek to go even further by shifting some or all of their remaining costs onto consumers.

1. Bank-issued credit cards permit merchants to avoid the costs of operating their own, in-house credit systems, including especially the costs of non-payment, fraud detection and avoidance, collections, billing, float and the basic administrative costs of the system.
2. By accepting bank-issued credit cards, merchants avoid the risk of loss when cardholders do not pay the bank for the transaction, which enables merchants to increase their revenues.
3. Credit cards facilitate consumer liquidity, allowing merchants to make optimal pricing decisions without regard for consumer liquidity constraints.
4. Rewards and other benefits offered by many credit cards provide an effective discount to cardholders which leads to increased spending at merchants' shops.[43]
5. Credit cards facilitate e-commerce, in many cases reducing merchants' overall operating costs and permitting low-cost, around-the-clock shopping.[44]

Benefits of cards to small businesses

While it is evident from the discussion above that credit cards and card acceptance provide substantial benefits to all merchants large and small, the advent of modern payment card systems was particularly beneficial to small merchants. Indeed, while it was economically feasible—if often inefficient—for large retailers to operate in-house credit card programs, these programs were simply not practical for the millions of smaller merchants that lacked the resources and sophistication needed to implement a card program. Likewise, in the absence of the widespread use of online commerce facilitated by electronic payment systems, smaller

[42] *See* Garcia-Schwartz et al., *supra* note 10. *But see* Allan Shampine, *Another Look at Payment Instrument Economics*, 6 REVIEW OF NETWORK ECONOMICS 495 (2007) (arguing that the Garcia-Schwartz model, while useful, is in tension with both observed results and proposed metrics for monitoring gains and losses to relevant parties).
[43] *See* Sujit Chakravorti & Ted To, *A Theory of Credit Cards*, 25 INTERNATIONAL JOURNAL OF INDUSTRIAL ORGANIZATION 583 (2007) (discussing the "negative price" of credit to cardholders using cards with rewards and other benefits); Benjamin Klein, et al., *Competition in Two-Sided Markets: The Antitrust Economics of Payment Card Interchange Fees*, 73 ANTITRUST L.J. 571 (2006) (same).
[44] *See* Garcia-Schwartz et al, *supra* note 10; Oxley & Yeung, *supra* note 13.

retailers were limited in their ability to access geographically-dispersed consumers. As a result, larger retailers were able to use their card programs to make significant incremental sales gains over their smaller competitors. When Diners Club and the other payment card networks emerged, millions of smaller merchants that could not afford to establish their own payment card programs suddenly were able to obtain the full value of card acceptance at close to the same costs that larger merchants paid. And these modern-day payment card systems now also provide small businesses with access to the purchasing power of literally millions of cardholders around the world. These important effects enable small businesses to compete with larger merchants for many of the same transactions on a scale that would not be possible in absence of these electronic systems.

Credit cards are also an important source of *credit* for many small business owners who are cardholders themselves and rely on credit cards to help buy supplies and services for their operations. Thus independent small businesses and start-ups—arguably the most significant sources of jobs and economic growth in our economy[45]—particularly benefit from access to credit cards both by using them as a source of operating capital and by accepting them in their businesses. As former Federal Reserve Board Economist Thomas Durkin notes:

> Most new small firms do not have a credit history and often do not even have a history of revenue and profits to show to lenders. They have difficulty borrowing money from traditional sources unless they can secure it with collateral, which they generally do not have in their business. Such firms typically turn to several alternative sources depending on their situation. They include financing themselves from personal savings, turning to friends and relatives, relying on consumer loan products, or in the cases of entrepreneurial startups, seeking angel- or venture-capital funding.[46]

The availability of personal credit and business credit cards is thus likely an important source of economic stimulus, enabling businesses to start or grow even in a credit-constrained economy. This is especially so for women and minority-owned small businesses that are disproportionately excluded from traditional small business lending.[47] None of these benefits is available from cash or checks.

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[45] Press Release, Ewing Marion Kauffman Foundation, Kauffman Foundation Analysis Emphasizes Importance of Young Businesses to Job Creation in the U.S. (Nov. 5, 2009), *available at* http://www.kauffman.org/newsroom/kauffman-foundation-analysis-emphasizes-importance-of-young-businesses-to-job-creation-in-the-united-states.aspx.
[46] Thomas A. Durkin, *The Impact of the Consumer Financial Protection Agency on Small Business* 11, U.S. CHAMBER OF COMMERCE, September 23, 2009, http://www.uschamber.com/publications/reports/090923_cfpa_sb.
[47] *See id*.

1. Credit cards can provide affordable and accessible credit for start-up and small businesses.[48] Almost half of small start-up firms use personal credit cards for financing their businesses.[49]
2. The availability of the float also reduces the cost to small start-up firms of access to short-term working capital.[50]
3. As noted, rewards and other benefits offered by many credit cards may benefit merchants by leading to increased spending by consumers.
4. At the same time, the availability of bank credit cards for consumers relieves small businesses of the considerable cost and risk of in-house credit operations, and allows competition on even footing with larger, more established businesses.[51]
5. Also as noted, credit cards facilitate e-commerce, reducing costs, opening many merchants to a far-wider range of customers than would otherwise be possible and permitting around-the-clock shopping.

Benefits of cards to consumers

The rapid growth in payment card usage over the past twenty-five years is likely attributable to the superiority of payment cards relative to the systems that they have supplanted, such as cash, checks, and travelers' checks. In assessing the value of the credit card systems, the appropriate benchmark for comparison is not a non-existent, theoretically-perfect payment system, but rather the viable alternative payment systems. If payment cards are made less appealing or more expensive to issuers and/or consumers, it is predictable that there will be a shift to greater use of older, inferior, "legacy" payment systems and inferior, more-expensive types of consumer credit.

Credit cards have a range of features that make them attractive to consumers and merchants alike. Indeed, many of these benefits are so ubiquitous that they are often taken for granted today. Reducing interchange fee revenues, however, would almost certainly threaten many of these benefits, and thus it is essential to recognize what consumers might lose in merchants' efforts to redirect revenues to themselves. A non-exhaustive list of credit card attributes of value to consumers would include:

[48] *Id*. at 14.
[49] Charles Ou & Victoria Williams, *Lending to Small Businesses by Financial Institutions in the United States*, *in* SMALL BUSINESSES IN FOCUS: FINANCE, A COMPENDIUM OF RESEARCH BY THE SMALL BUSINESS ADMINISTRATION'S OFFICE OF ADVOCACY 9, 13 (2009), *available at* http://www.sba.gov/advo/research/09finfocus.pdf. Other scholars note that credit cards help small businesses overcome the liquidity constraint faced by small businesses in the US. *See* David Blanchflower & David S. Evans, *The Role of Credit Cards in Providing Financing for Small Businesses*, 2 PAYMENT CARD ECONOMICS REVIEW *77, 88* (2004), *available at* http://ssrn.com/abstract=1474450.
[50] *Id*.
[51] *See* Todd J. Zywicki, *The Economics of Credit Cards*, 3 CHAPMAN LAW REVIEW 79, 86-87 (2000).

1. Credit cards offer consumers the option to revolve their balances, giving them optional, easy access to short-term consumer credit. According to one survey conducted by the Federal Reserve, 73% of consumers reported that the option to revolve balances on their credit cards makes it "easier" to manage their finances versus only 10% who said this made it "more difficult."[52]
2. Credit cards permit cardholders to make purchases even when they are liquidity constrained, permitting consumption to occur when it is most valuable to consumers (such as in an emergency or to buy an item on sale), even absent the immediate ability to pay.[53]
3. Credit cards also offer strong fraud protection for buyers, limiting exposure for unauthorized charges to, at most, $50.
4. Availability of credit and regular, monthly billing allows consumers to reduce precautionary bank account balances because they can time deposits to their bank accounts (or transfers from interest-bearing accounts) to when payment is due on a card, rather than constantly having cash on hand for emergencies.[54]
5. Regular, monthly billing with a grace period gives consumers the benefits of interest-free float on charges incurred before payment is due.
6. Credit cards offer consumers an itemized purchase record, facilitating tracking and budgeting of their spending and regularized payment schedules.[55] Using cash, in contrast, can make it more difficult to keep records, track household expenditures, and maintain a family budget.[56]
7. By reducing the need to carry cash, cards offer theft protection.[57]
8. Cards facilitate travel: They eliminate the need for traveler's checks and guarantee acceptance of payment around the world.
9. By eliminating burdensome ATM trips credit cards are more convenient and also helpful in emergencies when an ATM is unavailable or a visit to an ATM is impractical.
10. Credit cards facilitate, simplify and economize on the cost of dispute resolution between consumers and merchants.[58]
11. Credit cards facilitate return of defective or unsatisfactory products by keeping an electronic record of the transaction.
12. Many credit cards produce an array of additional benefits, such as rewards, cash-back on purchases, and donations to nonprofit groups, universities, and charities. *[continued]*

[52] Durkin, *supra* note 46, at 19.
[53] *See* Evans & Schmalensee, *supra* note 12, at 23-24.
[54] EVANS & SCHMALENSEE, *supra* note 16, at 91-92.
[55] *See generally* Durkin, *supra* note 18.
[56] A recent survey of Italian consumers found that 68% of consumers reported that monthly statements made it easier for them to track their finances and that 47% reported that they "frequently" forgot payments that they had made during the course of the month and were reminded by their credit card statements. *See* Press Release, Associazione Bancaria Italiana (ABI), Banks: Italian consumers "give good grades" to payment cards for convenience and safety (January 23, 2009), *available at* http://www.abieurope.eu/Resources/art646/Italian%20consumers%20%E2%80%9Cgive%20good%20grades%E2%80%9D%20to%20payment%20cards_23%20jan%202009.pdf.
[57] Credit cards are used more frequently in high-crime geographic areas, as credit cards are less vulnerable to risk of theft than cash. *See* David B. Humphrey et al., *Cash, Paper, and Electronic Payments: A Cross-Country Analysis*, 28 JOURNAL OF MONEY, CREDIT AND BANKING 914, 934 (1996).
[58] *See* Guerin-Calvert & Ordover, *supra* note 24, at 402-03.

13. Credit cards facilitate on-line shopping, which is infeasible with cash or checks.

As noted above, credit cards have largely replaced in-house retail credit operations. But a separate and important development for consumers and the economy has been that the development of widespread consumer access to—and merchant acceptance of—credit cards has benefitted consumers by separating the *purchase* of goods from the *credit used to purchase* them, enabling consumers to shop for credit and goods separately, each in a more-competitive market. And credit cards have almost completely eliminated manifestly inferior schemes such as layaway and, in some cases, rent-to-own.[59]

The costs of paper-based payment systems

While credit cards provide many benefits that are not offered by less flexible and less innovative payment systems like cash and checks, antiquated systems also impose substantial costs on merchants, consumers and society at large that are often poorly considered in the debates over interchange fees. Critics of market-based interchange fees have focused on the direct costs to merchants of credit card usage and argue that those costs exceed the costs of cash and check. Some critics even argue that cash payers subsidize card payers. But a more careful examination of merchant costs shows that cash and checks are probably *more* costly for merchants than are payment cards, and are certainly more costly than is apparent at first blush. Thus even before taking into account the full social costs of legacy payment systems, these forms of payment may impose costs on merchants that approach or exceed the costs of cards. In fact, a number of airlines, including American, United, Southwest, JetBlue, US Airways, and Alaska Airlines, probably in response to this reality, have eliminated in-flight cash payments altogether and opted to accept only cards.[60] Moreover, by focusing narrowly only on easily-observable costs, these criticisms have failed to consider the full social costs to consumers and the economy of the alternatives that credit cards displace. As a result, these criticisms tend to focus only on the direct merchant costs, which are a fraction of the full costs associated with paper-based systems, the bulk of which are borne by consumers, the financial system and taxpayers. While paper-based systems may sometimes be less expensive to *merchants* because *they* don't pay the full costs for the benefits that they receive, paper-based systems have many hidden costs to the overall economy.

Cash and checks may actually impose costs on merchants that approach or exceed the costs of cards, even before considering the costs to consumers. But by focusing narrowly on easily-observable costs (to merchants), claims that credit cards cost more than cash fail to assess the full social costs of paper-based payments. Direct merchant costs are a fraction of the full costs associated with these systems, the bulk of which are borne by consumers, the financial system and taxpayers, and paper-based systems have many hidden costs to the overall economy.

Our goal is not to determine if one payment system is "better" than the others; the research suggests that each type may be best suited for specific types of transactions in certain settings—although electronic payments seem to be superior for the overwhelming number of transactions (and this conclusion is based on now-outdated studies that don't include the full benefit of ongoing technological innovation in electronic payments).[61] Moreover, consumer preferences are heterogeneous: Individuals living in high-crime areas, for example, will be more concerned

[59] It was reported that during the credit crunch of fall 2008 consumers who were unable to get access to credit for Christmas shopping were desperately turning to layaway as an alternative. *See, e.g.*, Jim Dino, *Layaways Becoming Popular Again Due to Credit Crunch*, THE TIMES TRIBUNE, Nov. 23, 2008, http://www.istockanalyst.com/article/viewiStockNews/articleid/2825470.

[60] *See* 'Cards Only' Merchants Break From Anti-Interchange Pack, American Banker (Aug. 7, 2009).

[61] *See* Garcia-Schwartz et al., *supra* note 13, at 512.

about carrying large amounts of cash or making trips to the ATM than those living in safer areas. Parents with small children or those without cars may find it inconvenient to get to an ATM or bank or might have to pay fees in order to use out-of-network ATMs. Those who travel frequently will be especially concerned that credit cards are universally accepted and will value a grace period for payments that allows them to manage the timing of travel reimbursements. At the same time, however, what is optimal for any individual consumer may not be socially optimal. For example, while many people appreciate the anonymity and privacy of cash, that same lack of a paper trail also makes it easier to engage in illegal activity or tax fraud. What is preferred from a private perspective is not always optimal from a social perspective.

The costs of cash to merchants

On the merchant side, there are many reasons to think that legacy payment systems are more costly than their electronic counterparts and thus, again, that merchants receive substantial benefit in return for the interchange-fee cost of accepting payment cards. Among the costs of paper-based payment systems are the following:

1. The cost of theft from businesses. Theft of cash is an obvious problem as the instrument itself has no built-in security against theft by employees or others.
2. The cost of handling cash. Cash imposes a range of labor and administrative costs on merchants, including the time spent by employees receiving, protecting and counting cash, as well as errors and other accounting costs.
3. The cost of avoiding theft. From counterfeit detection to Brink's trucks, to security guards and safes, merchants spend significant sums preventing cash theft.
4. Check handling costs. Checks dispense with some of these costs, but are even slower at checkout, imposing greater handling costs on merchants. Checks also have a high incidence of fraud and repayment risk attached to them from bounced checks, unlike cash.[62]
5. Check fraud costs. To protect against check fraud, merchants pay fees to check verification services and those fees alone are comparable to fees paid for card acceptance.[63]

These costs are quite substantial, and, although they are not reduced to zero through the use of electronic payments, several studies suggest that the relative costs of cash are larger. For example, a study commissioned by the U.S. Postal Service in 1994 in an effort to quantify the benefits of credit card acceptance by the Post Office found that the processing costs *alone* of card transactions would be about one half the cost of processing cash or checks—and this was before the advent of now-widespread technological innovations like card readers, electronic signatures and automatic electronic payments.[64] The Postal Service also found that

[62] *See* Kirstin E. Wells, *Are Checks Overused?*, 20 FEDERAL RESERVE BANK OF MINNEAPOLIS QUARTERLY REVIEW 2 (1996), *available at* http://www.minneapolisfed.org/publications_papers/pub_display.cfm?id=278. *See also* Garcia-Schwartz et al., *supra* note 10, at 192-93.

[63] For example, Telecheck, one of the more well-known check verification services, appears to charge 1.59% plus a 25 cent fee to guarantee check payments. *See* http://www.instamerchant.com/check-guarantee.html (noting that "industry average" is 1.85% plus a 35 cent to 50 cent per item fee). Such fees are easily comparable to the fees paid for card acceptance although the check is an inherently inferior form of payment.

[64] U.S. GOVERNMENT ACCOUNTING OFFICE, U.S. POSTAL SERVICE: PROPOSED POLICY TO ACCEPT CREDIT AND DEBIT CARDS MAKES SENSE CONCEPTUALLY 7 (1994), *available at* http://www.gao.gov/products/152034. By way of costs, while noting that the move to credit-card acceptance could entail a $45 million up-front cost, the Post Office also noted that the

cards would reduce the risk of cash losses from embezzlement and theft.[65] While the discount fee does, of course, increase the cost to merchants of using bank-issued payment cards, the relevant question is whether the gains from avoiding the alternative costs of paper-based payments (and in-house credit) are large enough that the merchants still benefit from accepting payment cards. As we have suggested, merchant arguments that interchange fees are too high tend to highlight only the direct cost to merchants of accepting electronic payments and ignore benefits including costs avoided.

Beyond reducing their own direct, per-transaction fees, it is not clear what merchants seek to accomplish by reducing interchange fees in terms of changed consumer behavior, nor what changes in consumer behavior they expect to occur. Merchants seem to believe that credit card usage is artificially high today so that reducing interchange fees (and the benefits to cardholders that interchange fees enable) will reduce the incentives to use cards and, in turn, overall card usage. On the other hand, it is possible that merchants anticipate continued use of cards at the same level, accompanied by a reduction in the value of cards to consumers and a redistribution of wealth to merchants. As discussed below, this is what happened in Australia when interchange fees were regulated. While no one can predict with precision the full impact of an artificial restriction on interchange fee rates, it seems to be generally accepted that reducing interchange fees will increase the cost and reduce the benefits of credit card use by consumers, and reduce the availability of credit cards to consumer generally.[66] If so, then basic economics suggests that a likely consequence of this will be a reduction in card usage and an increase in the use of cash and checks as alternatives.[67] In either case, the overall effect of pushing consumers into greater use of paper-based payment systems will almost certainly be both significant and negative for consumers and the economy.

The costs of cash to consumers and taxpayers

For consumers, the costs of cash and checks are likely more substantial than for merchants, and perhaps the relative incidence of the costs of cash between consumers and merchants explains retailers' willingness to effect a general shift toward paper-based payments. Cash is the most straightforward and ancient alternative to payment cards. Compared to barter, cash is a remarkably efficient payment system. It is easy to transport, relatively cheap to produce, offers a ubiquitous medium of exchange, and provides some security. Checks are similar but offer some additional security. But just as for merchants, compared to electronic payments, however, cash and checks are inefficient for consumers and taxpayers more generally who end up footing the bill for many of the hidden costs. Among other things, cash and checks impose the following costs on consumers and taxpayers:

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infrastructure necessary to accommodate fully 75% of its walk-up business would cost only $7 million, suggesting substantial, if diminishing, returns to the up-front investment.

[65] *Id.* Another notable example of the costs of cash was the widespread theft by Washington, D.C.-area Metro transit system parking lot employees of cash. See *Washington D.C. Metro Rail Parking Goes Cashless After Theft Publicity*, TOLLROADS NEWS, March 19, 2004, http://www.tollroadsnews.com/node/613. Since then, Metro has eliminated cash from its parking facilities entirely, requiring customers to use electronic payment cards instead. This has both reduced the threat of theft as well as the overall costs of Metro parking operations.

[66] GAO REPORT, *supra* note 4, at 62.

[67] Robin A. Prager et al., *Interchange Fees and Payment Card Networks: Economics, Industry Developments, and Policy Issues* 47 (Divisions of Research & Statistics and Monetary Affairs, Federal Reserve Board, Finance and Economics Discussion Series No. 2009-23, 2009), *available at* http://www.federalreserve.gov/PUBS/FEDS/2009/200923/200923pap.pdf; Andrew Ching & Fumiko Hayashi, *Payment Card Rewards Programs and Consumer Payment Choice* 18 (Federal Reserve Bank of Kansas City, Working Paper 06-02, 2006), *available at* http://www.kc.frb.org/PUBLICAT/PSR/RWP/Ching_Hayashi_Paper.pdf (finding a substitution effect between the use of "rewards" credit cards and paper-based transactions).

1. Theft from consumers. Consumers like merchants bear the full brunt of the cost of stolen cash, and the problem is exacerbated for consumers in relatively-poor, higher-crime areas.
2. The cost of avoiding theft. Like merchants, consumers can and do take costly steps to prevent theft, many of which are invisible or difficult to quantify, such as the choice of routes to walk, stores to frequent, how often to visit ATMs, or the amount of cash to carry. Governments and banks likewise spend significant sums preventing theft, costs borne in turn by bank customers and taxpayers.
3. Tax evasion. Cash transactions don't necessarily leave a paper trail, and thus tax evasion is far easier.[68]
4. Cost of printing cash. Although borne by the government, the cost of printing cash is extremely large. And although seignorage defrays those expenses, the cost of seignorage is ultimately borne by the holders of currency through inflation.[69]
5. No liability cap. Unlike credit cards, liability for loss of cash is not capped, and thus consumers who lose cash or have it stolen bear the full cost. Thus consumers also bear large avoidance costs, expending resources to ensure that their cash is safe. Travelers' checks are hugely inefficient and inconvenient for travel.
6. Time and opportunity costs of obtaining cash. There is a large transaction cost in terms of time and opportunity cost from obtaining cash in order to make purchases—either by going to the ATM or the bank. Notably, this also means that cash may not always be available when a consumer wants to make a purchase (such as at a sale) or needs it in an emergency.[70]
7. ATM costs. Consumers pay fees to use other banks' ATM machines—essentially paying to maintain the cost of network. ATMs are costly to maintain, stock, repair, and secure. While more convenient than traditional banking, the system of ATMs and POS readers is expensive to build and maintain.[71] ATMs may also be a magnet for criminal activity.
8. Disease transmission. Because cash changes hands directly, it is a dangerous source of disease transmission, especially in the United States, where the currency is made of cotton fibers that retain germs even more than paper money.[72]
9. As noted, checks dispense with some of these costs, but are extremely slow at checkout, imposing costs on all customers.[73] *[continued]*
10. Use of payment cards eliminates the cost to consumers of ordering printed checks and the risk of bouncing a check or, alternatively, paying overdraft charges on checks. Because money deposited by check may not be immediately available, consumers with urgent payment obligations may not have immediate access to necessary cash, whereas credit cards provide an ability to smooth the timing of receipts and payments (unlike cash, checks, and debit cards). Checks are also essentially useless for travel, requiring the use of cash or cumbersome travelers' checks.

[68] Charles T. Clotfelter, *Tax Evasion and Tax Rates: An Analysis of Individual Returns*, 65 REVIEW OF ECONOMICS AND STATISTICS 363 (1983) (noting that cash-only businesses make auditing of tax returns much more difficult).
[69] *See* discussion of currency printing costs *infra* Section 3.
[70] Garcia-Schwartz et al., *supra* note 10, at 185-86.
[71] *Id*.
[72] *See, e.g.*, Richard W. Rahn, *Currency that Kills*, WASHINGTON TIMES, November 11, 2009, *available at* http://www.washingtontimes.com/news/2009/nov/11/currency-that-kills/; AnnaMaria Andriotis & Aleksandra Todorova, *Can You Catch Swine Flu from Money?*, SMARTMONEY, http://www.smartmoney.com/Spending/Travel/Can-You-Catch-Swine-Flu-from-Money/.
[73] *See* Wells, *supra* note 63, at 2, 4; Garcia-Schwartz et al., *supra* note 10, at 192-93.

Cash and checks are relatively cumbersome, unsecure, awkwardly compatible with electronic commerce, prone to theft, and expensive to process, both in terms of time at the point of sale, as well as in terms of the time required (in the case of cash) to obtain the payment instrument in the first place. For example, in order to reduce the threat of crime to cab drivers and passengers from muggings, some U.S. cities have mandated that taxis be required to accept payment cards.[74] Similarly, some states impose higher rates for toll road customers who use cash to compensate for the increased cost of handling cash, as opposed to lower cost users who use automatic toll payment systems linked to payment cards.[75] It has been noted that in addition to reducing cash handling costs, "the widespread implementation of toll tags decreased not only congestions at toll booths but also pollution from idling vehicles waiting to pay tolls, since tolls could be collected as cars drove at highway speeds through certain points."[76] Despite these high costs of cash and checks, it is often argued that caps on interchange fees are warranted because cash customers are forced to subsidize credit card users. This claim overlooks two key points.

First, if any subsidy actually exists, it is because retailers choose to charge the same price for both cash and credit customers even though the Truth in Lending Act and card network rules expressly permit them to offer discounts for cash purchases. If the higher costs of accepting credit card payments are being passed on to cash customers, it is only because retailers choose *not* to offer discounts to their cash customers. Pricing decisions of this sort are appropriately the merchant's to make, but having chosen as a *business* matter to charge all customers the same price, regardless of payment method, it is disingenuous to then complain about the practice as a *political* matter.

The apparent purpose of efforts to artificially reduce interchange through political intervention is to reduce the use of cards and increase the use of cash and checks. The overall effect of pushing consumers into greater use of paper-based payment systems will almost certainly be negative.

More significantly, once the full, social costs of paper-based systems are taken into account, it is highly questionable whether there is actually any overall subsidy of credit card users by cash users at all (or that any such subsidy, if it does exist at the consumer level, is larger than the countervailing subsidy provided by all taxpayers for users of cash). In fact, one reason why cash may appear less expensive to merchants is because many of the costs associated with using cash are externalized onto consumers and society, such as the time consumers spend retrieving cash from ATMs and the fees that they pay, or the time consumers spend waiting in line behind check-writers, an exceedingly slow system of payment.[77] While many merchants undoubtedly are aware of these costs, they likely do not take them into account when comparing the costs of cash to the billing statements they receive clearly delineating the cost of accepting cards

The hidden social costs of cash

It is perhaps counter-intuitive to think of cash as a costly medium of exchange. In large part this is because the costs of cash are often hidden, buried in government budgets, and often borne by consumers and merchants in the form of time and inconvenience. In reality, cash

[74] Sujit Chakravorti, *Externalities in Payment Card Networks: Theory and Evidence* 21 (Oct. 29, 2009) (Federal Reserve Bank of Kansas City, 2009), *available at* http://www.kansascityfed.org/econres/psr/psrconferences/2009/pdf/Chakravorti.10.30.09.pdf.
[75] *Id.* at 24.
[76] *Id*.
[77] *See* GAO REPORT, *supra* note 4, at 31. ("Card acceptance also can reduce the time merchants' customers spend at checkout and can reduce labor costs. For example, representatives of one large merchant told us that their analyses indicated that processing a check payment takes them an average of 70 seconds, processing a cash payment averages 51 seconds, and a credit card payment 32 seconds.").

imposes significant costs, ranging from printing to protecting to transporting.[78] Moreover, the consumer time costs associated with cash—mostly in the form of trips to the bank or ATM—are significant, even though they are also somewhat hidden in consumers' daily routines.

Over a decade ago—even before the major increases in the speed and efficiency of electronic payments made these payments even more comparatively superior to checks—economists were already asking whether *checks* were being "overused" relative to various electronic payments.[79] Likewise, it was already noted at that time that the social costs of checks seemed to be larger than the private costs. It is likely that regulations that encouraged greater use of checks or cash, and reduced use of electronic payments, would decrease the overall efficiency of the American economy.

And the social and economic benefits of switching from paper to electronic payments may be substantial. One study of European countries estimated that a country may save 1% or more of its GDP by switching from all paper to all electronic payments.[80] Moreover, while it will be difficult to increase the efficiency of traditional paper-based payment systems in the future because of inherent limits in the ability to handle and process cash and checks, it can be expected that electronic payment systems will become increasingly speedy, secure, and efficient in the future.

One problem in comparing the costs and benefits of different payment instruments is that the costs of each system are not necessarily borne by the participants. Notably, the government prints cash, expends enormous resources to police fraud and to deter counterfeiting, clears checks at par, and guarantees cash deposits. Assessing the costs and benefits of one payment system over another requires assessing the full social costs, some of which may be borne by the government and redistributed among all taxpayers in the case of cash and checks.

These largely-hidden costs are significant. In 2009 the Federal Reserve Board budgeted over $600 million just to print Federal Reserve notes (thus this number is for paper bills only, and excludes the substantial cost of minting coins).[81] The Secret Service spent $360 million in 2009 on anti-counterfeiting and other financial crimes enforcement—a number that certainly understates the total expenditure on anti-counterfeiting given the tasking of other law enforcement resources and merchant and bank expenditures on self-help, as well.[82] Merchants that accept checks impose costs on both the merchant and their consumers' banks for clearing services, yet the merchant receives the full par value of the check, imposing those costs on the bank's customers. Checks are such a costly and inefficient payment mechanism that the US government has largely replaced checks with electronic deposits and payments, and British banks have recently announced plans to eliminate checks entirely by 2018.[83]

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[78] See *generall*y Garcia-Schwartz et al., *supra* note 10, at 185; Garcia-Schwartz et al, *supra* note 13, at 512.
[79] *See* Wells, *supra* note 63, at 4.
[80] David Humphrey et al., *Cost Savings from Electronic Payments and ATMs in Europe* 2 (Federal Reserve Bank of Philadelphia, Working Paper No. 03-16, 2003).
[81] *See* Federal Reserve Board, 2009 New Currency Budget, http://www.federalreserve.gov/generalinfo/foia/2009newcurrency.htm (last visited Apr. 2, 2010).
[82] United States Secret Service, Department of Homeland Security, Fiscal Year 2009: Strategic Context Congressional Justification USSS-8, http://www.dhs.gov/xlibrary/assets/budget_fy2009.pdf (last visited Apr. 2, 2010).
[83] "[T]here are many more efficient ways of making payments than by paper in the 21st century, and the time is ripe for the economy as a whole to reap the benefits of its replacement." Elizabeth Fullerton, *Britain bounces checks after 300 years*, REUTERS, Dec. 16, 2009, http://www.reuters.com/article/idUSTRE5BF2FU20091216.

Some of these costs *are* explicit, of course, and borne by merchants, even though they are perhaps less visible—or more difficult to complain about—than the credit card fees imposed directly by banks. But as we have mentioned, merchants themselves bear significant costs in ensuring the security of cash from theft and in receiving, storing, and transporting cash. Third-party check verification processors (used to minimize fraud and non-payment risks to merchants) charge fees for their services—and the fees for check verification typically *exceed* the costs of interchange fees, in exchange for which merchants get only protection against bad checks without the additional benefits they receive from cards.[84]

Assessing the relative costs of payment systems

The complaining merchants' fundamental objection to credit cards over cash is that they cost more and that the cost is passed on to *all* customers, including cash customers. But the objection rests on an assessment of only a small fraction of the relevant costs—the costs to merchants (and even this leaves aside the substantial benefits to merchants of credit card use, as described above), which exceed the total costs. In the case of cash and checks, the costs may be even more substantial, although not borne directly by merchants, and these costs are distributed among all taxpayers—including those who use electronic payments instead of paper.

Most customers are *both* cash and credit customers, choosing different forms of payment to suit different types of transactions at different times. Seventy-eight percent of American households have a credit card.[85] The conception of a subsidy from an identifiable group of consumers that use cash to another group that uses credit is undoubtedly misleading, and to the extent that the costs and benefits of the subsidy are often borne by the same people, if at different times, the concern that there is a systematic redistribution is significantly ameliorated. Moreover, as we have noted, merchants have the right under federal law and network rules to grant cash discounts—which would entirely eliminate any purported subsidy—but have chosen not to for business reasons. As one witness from the retail industry recently testified to Congress: "I can do a cash discount, but I don't want to do a cash discount."[86]

Most customers are *both* cash and credit customers, choosing different forms of payment to suit different types of transactions at different times. The conception of a subsidy from an identifiable group of consumers that use cash to another group that uses credit is undoubtedly misleading.

The final assessment on the relative costs of different payment instruments is, not surprisingly, complicated and heavily dependent on a host of circumstances, including the size of the transaction, the type of transaction, and the purpose of the transaction. As the most prominent scholars of this issue note, even though interchange fees appear at first glance to be more expensive for merchants than the alternatives, once the full range of costs and benefits of accepting cards are taken into account (especially outsourcing the costs and risks of in-house credit operations) it is not clear which type of payment is actually least expensive. And once the costs to consumers are considered instead of just the narrow private costs to merchants, the superiority of cards to cash is clear in terms of total cost:

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[84] *See* Guerin-Calvert & Ordover, *supra* note 24, at 402-03.
[85] Woolsey & Schulz, *supra* note 3.
[86] *See The Credit Card Interchange Fees Act: Hearing on H.R. 2382 Before the H. Financial Services Comm.*, 111th Cong. (2009) (statement of Kathy Miller, Board Member, Vermont Grocers' Association), *available at* http://www.house.gov/apps/list/hearing/financialsvcs_dem/kathy_miller.pdf; http://financialserv.edgeboss.net/wmedia/financialserv/hearing100809.wvx.

> Consumers . . . face far higher net private costs for cash and checks as compared to cards. In fact, consumers receive net benefits from using credit to pay for larger transactions. Consumer private costs are almost entirely time-based for all instruments, including such items as the time cost of obtaining cash at an ATM and the time cost of processing a payment at the point of sale, both of which favor electronic payment methods . . . .[87]

It is thus only by externalizing these costs on consumers and focusing on the narrow out-of-pocket costs to merchants that cash can even be said to be less expensive than credit cards—and then only for very small transactions. Once consumer costs are added, even this slight advantage disappears. And this does not even include the benefits to merchants discussed above. In light of this, it seems at least as plausible, and perhaps more so, that the merchants' complaints are not legitimate arguments about true unfairness, but rather a coordinated effort to enlist Congress to force consumers to bear more of the costs of the system.

In the end, transaction size is important to evaluating the net social benefits of different payment systems, but overall, at moderate and larger transaction sizes, credit is cheaper.[88] One implication of this is that blunt regulatory responses aimed at making one type of payment system categorically less common will over-deter some transactions and under-deter others. But as the speed of transactions increases, credit cards become more efficient at increasingly smaller transaction sizes, suggesting that cards are becoming ever-more efficient and that even the claim that credit may be less efficient at small transaction sizes is likely out of date.[89] By contrast, there have been no noticeable increases in the efficiency by which merchants handle cash and checks, and productivity gains from technological innovation will almost entirely accrue to the electronic systems for which they are likely to be developed.

The idea that the economy needs a greater use of paper payment systems—implicit in arguments that would impose greater costs on electronic payment systems and encourage substitution from electronic payments to cash, checks, and travelers' checks—is meritless when the real and total costs of currency and checks are considered. Although the economics of paper-based payment systems are complicated and a full accounting of many of the relative costs and benefits of each system remains hidden, these systems are, as we have discussed, demonstrably inferior to the innovative electronic alternatives.

Meanwhile, innovation and competition are vigorous in electronic payments. There is currently a proliferation of new electronic payment systems to rival payment cards, such as PayPal, Revolution Money (itself recently acquired by American Express), and even cell phone based payment systems (which are common in Europe and Asia).[90] This competition both keeps the price of competing payment systems low and also imparts continued and increasing benefits to network users (including especially improvements in speed and security). Given this intense competition among different payment *systems*, Congress should be especially wary about

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[87] Garcia-Schwartz et al., *supra* note 10, at 194-95.
[88] Garcia-Schwartz et al., *supra* note 13, at 512.
[89] For example, Garcia-Schwartz et al., wrote before the practice became more widespread of waiving the signature requirement for many smaller transactions, thereby increasing processing and checkout speed for small-dollar transactions with no corresponding decrease in the costs and errors of handling cash. *See* Garcia-Schwartz et al., *supra* note 10, at 195-96.
[90] Revolution Money, which touts that it charges no interchange fee, requires consumers to maintain a non-interest bearing account. Unsurprisingly, merchants have been willing to sign up for the service, but it has been difficult to get consumers on board, illustrating the difficulty of balancing the two sides of the market. At one point the company was offering to pay consumers $25 in cash to sign up to use the service. *See* CashMoneyLife: Personal Finance and Career, Revolution Money Exchange Review, http://cashmoneylife.com/2008/04/07/revolution-money-exchange-25-referral-bonus/ (last visited Feb. 6, 2010).

interventions that would either unfairly hamper the competitive position of one system or create uncertainty about the ability of new systems to compete without fear of regulatory intervention.

Understanding the role of interchange in facilitating electronic payments

This remarkable infrastructure of instantaneous global electronic payments has evolved over just a few decades. While consumers and legislators have complained about particular credit card terms and practices, this should not obscure the key point: consumers, merchants, and the economy have all reaped benefits from the growth of a global electronic payments system. According to a 2002 Federal Reserve study, 90% of consumers reported that they were "Very" or "Somewhat Satisfied" with their credit cards.[91] To the extent (and it is a large extent, as we have discussed in the previous Part) that interfering in credit card networks for the benefit of merchants would adversely affect consumers, legislators should be extremely cautious before intervening.

Federal law expressly permits merchants to give cash discounts; few do. That most merchants choose to accept credit cards and charge one price for cash and credit reflects a simple business decision, just like offering free parking (subsidizing those who drive versus those who walk or take the bus). Starbucks customers who drink their coffee black subsidize those who use cream and sugar and consumers who pay full price subsidize those who buy the same product on sale a few days later. The presence of a cross-subsidy says nothing about the competitiveness of a market, nor about its fairness.

Interchange is the cornerstone of the electronic payments system; it provides the platform through which consumers and merchants transact. Interchange is at the heart of a highly complicated, delicately-balanced global payments system. Even slight tampering with the interchange fee at the heart of this deeply interconnected system can have substantial unintended consequences for consumers, merchants, and the financial system. Moreover, the electronic payments system is one of the most innovative and dynamic sectors of the economy—indeed, the United States is the uncontested global leader in creating these electronic payment networks, as its four major networks (MasterCard, Visa, American Express, and Discover) are the most significant players in the global payment system. Congress should tread carefully and not act in a manner that will interfere with these extraordinary global networks, slow innovation, or inadvertently reduce access to credit for individual consumers and small businesses.

More fundamentally, the complex and interrelated nature of the credit card system provides a profound challenge to the idea that regulators can effectively improve these systems through micromanagement or fine tuning of the interchange process. Instead, the credit card network is a system for coordinating merchants and consumers to bring about valuable exchanges. Interchange is the mechanism that brings the system into balance. As recent experience has demonstrated, governmental interference in market based systems has unintended but profound and unavoidable consequences. Recent regulatory initiatives to reduce the pricing flexibility of card issuers has resulted in higher interest rates, increases in annual fees, and reduced credit availability, market adjustments that have harmed consumers and merchants alike.[92] Governmental reductions in interchange fees would deeply exacerbate this problem.

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[91] Thomas A. Durkin, *Consumers and Credit Disclosures: Credit Cards and Credit Insurance*, 88 FEDERAL RESERVE BULLETIN 201, 212 (2002), *available at* http://findarticles.com/p/articles/mi_m4126/is_4_88/ai_85177358/.

[92] *See, e.g.*, Pamela Yip, *Credit Card Pitfalls Possible for Users Even After New Rules*, PITTSBURGH TRIBUNE REVIEW, July 20, 2009, *available at* http://www.allbusiness.com/government/government-procedure-lawmaking/12569016-1.html.

How credit card systems work

There are two types of credit card systems: three- and four-party systems. American Express and Discover are primarily three-party systems, where the relationship between the consumer and the merchant and the credit card network is a direct one, not intermediated by issuing and acquiring banks.[93] Visa and MasterCard run the largest four-party systems, where credit card transactions are intermediated by banks, the issuing bank that issues the credit card to the cardholder and the acquiring bank that settles the transaction for the merchant. The credit card network administers the system and provides the platform, but does not manage the relationships with cardholders or merchants. The national PIN based debit networks such as PULSE, STAR and NYCE also operate four-party systems.

The basic functioning of the four- or three-party system requires setting the terms of the various relationships within the system: between cardholder and issuer; between cardholder and merchant; between merchant and acquiring bank; between acquiring bank and issuer; and between all participants and the network. The terms of those relationships can be set either bilaterally between each individual party interacting throughout the system or on a network-wide basis. If set bilaterally, then the terms can either be set in advance or in conjunction with each specific transaction. The choice between bilateral or network regulation of transactions depends on the relative cost and benefits of each approach. In the case of the relationship between issuing bank and cardholder, for example, the terms of the relationship are heavily dependent on the characteristics of the cardholder and the card. The issuing bank and the cardholder will have a long-term, ongoing and constant relationship, and thus the terms are specifically-tailored to consumers' preferences and risk profile. Because assessing creditworthiness is essential in this exchange and because the parties will be in constant contractual contact, bilateral terms (although often selected from a pre-determined menu) are the norm.

The acquiring bank's relationship with merchants is also typically established bilaterally. A merchant participating in the MasterCard or Visa systems negotiates with acquiring banks to establish the fees the merchant will pay as well as the other terms of acceptance. A merchant participating in one of the three party networks, such as American Express or Discover, negotiates those terms directly with the network or a processor for the network.

At the opposite end of the spectrum, the relationship between issuing and acquiring banks in a four-party network is much more attenuated. There are literally thousands of banks around the world on both sides of the exchange clearing millions of transactions every day. These banks are free to negotiate and re-negotiate interchange and other terms of exchange as they see fit but such bilateral negotiations can be needlessly expensive, if not impossible, for most participants. To avoid this problem, as a practical matter some baseline fee for clearing transactions has to be established by the network—a default term of dealing. "[A] four-party payment card system cannot exist without interchange. A default fee reduces the cost of negotiating separate fees between acquirers and issuers."[94]

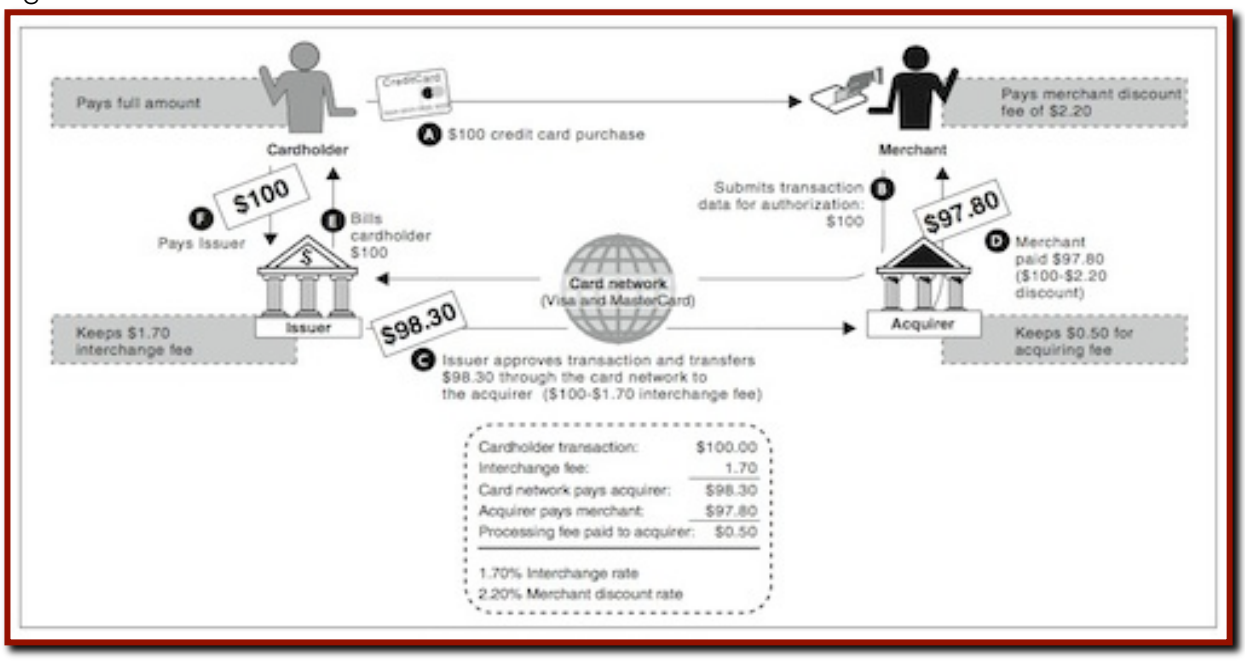
To better understand the importance of interchange, consider the following: Given the challenges (if not impossibility) of relying on bilateral agreements in a network with thousands of participating banks, if there were no default terms of dealing the network would collapse since no issuer or acquirer would know on what terms it was doing business with other

[93] Even this previously clear distinction is blurring, as even Discover now "farms out" acquiring to third party acquirers for all but its top merchants.

[94] *See Credit Card Interchange Fees: Antitrust Concerns? Hearing Before the S. Comm. on the Judiciary*, 109th Cong. 13 (2006) (statement of Timothy J. Muris, Chairman, Federal Trade Commission).

participants. One of the most fundamental of these terms is the calculation of the settlement amount of transactions. There is no *a priori* basis on which to set the settlement amount, and it may be the same as, less than or more than the transaction amount. However, if the relationship between transaction and settlement amounts is not established, no bank would be in a position to know its settlement obligations and therefore none would participate in the network. Hence, we conclude that in order for a network of any size to function, it is an absolute requirement that there be a default arrangement that establishes the settlement amount, *i.e.*, that someone sets a default interchange fee.

Figure 1



Source: GAO Report[95]

[95] GAO REPORT, *supra* note 4, at 8. We note that the $98.30 portion of the transaction is technically incorrect as it is described because it is the card *issuer*—not the network—that pays the acquirer this amount.

Shifting costs and shifting charges

In any credit card system, it is the credit card issuers that perform the bulk of the activities and incur the most significant costs necessary to provide the benefits consumers and merchants receive from the system. For example, card issuers must build (and seek to expand) a cardholder base, create and maintain sophisticated billing and collection systems and statement processing capabilities, establish a legal compliance program and continually monitor its implementation, and set up customer service programs. In addition, it is the card issuer that assumes all of the credit risk so that merchants can make sales on credit without any credit losses and thus it is the issuer that incurs the costs of minimizing fraud and avoiding defaults. Consumers compensate card issuers through the interest and fees cardholders pay in conjunction with their accounts. In a three party system like American Express or Discover, merchants compensate the "card issuer" (*i.e.*, the system itself) directly by paying a merchant discount fee to the system. But in a transaction in a four party system, the card issuer typically does not have any relationship with the merchant, and the merchant compensates the card issuer for the costs it incurs for the merchant through the interchange fee. More accurately, as Figure 1 shows, the interchange fee is paid by the acquiring bank (*i.e.*, the merchant's bank) to the card issuer to compensate the card issuer for all of the activities the card issuer performs for the benefit of the acquiring bank's customer—the merchant. The merchant, in turn, receives its payment from the issuing bank, via the acquiring bank, and minus the amount of the merchant discount fee (which includes the interchange fee as well as fees paid to the merchant's acquiring bank).

> "The main economic role of the interchange fee is . . . to shift costs between issuers and acquirers and thus to shift charges between merchants and consumers to enhance the value of the payment system as a whole to its owners."
>
> Richard S. Schmalensee

Credit card issuers receive payment for their services by charging a number of different fees to cardholders and by charging interest on revolved balances. It is worth noting, however, that most of the costs of a credit card are borne by the issuer whether the cardholder revolves his balance or not.[96] Operating costs—primarily the costs of processing millions of relatively small transactions, ongoing customer and merchant support, loss and fraud prevention, and the costs of non-payment—comprise a much larger percentage of the cost of credit card operations than they do for other types of consumer lending, such as automobile and mortgage lending for which the cost of funds dominates expenses.[97] Thus, while interest

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[96] *See* Alan S. Frankel & Allan L. Shampine, *The Economic Effects of Interchange* Fees, 73 ANTITRUST LAW JOURNAL 627, 660-61 (2006) (describing MasterCard's cost justifications for interchange fees, including the "cost of providing a payment guarantee" and "the cost of funding the interest free period for those consumers who receive one; and the costs of funding incoming transactions.").

[97] For credit cards, the cost of funds is approximately 30-40% of total costs, with charge-offs amounting to as much as 30-40% and operating costs constituting another 20-30%. Glenn B. Canner & Charles A. Luckett, *Developments in the Pricing of Credit Card Services*, 78 FEDERAL RESERVE BULLETIN 652, 658-59 (1992); *see also* William F. Baxter, *Section 85 of the National Bank Act and Consumer Welfare*, 1995 UTAH LAW REVIEW 1009, 1016 (1995) ("[T]he cost of funds for credit card lending comprises less than half, and possibly as little as one-quarter, of total costs (compared with sixty to eighty percent of total costs for other types of bank lending) . . . ."); Kathleen Johnson, *Recent Developments in the Credit Card Market and the Financial Obligations Ratio*, FEDERAL RESERVE BULLETIN 473, 477 n.7 (2005); U.S. GENERAL ACCOUNTING OFFICE, CREDIT CARDS: INCREASED COMPLEXITY IN RATES AND FEES HEIGHTENS NEED FOR MORE EFFECTIVE DISCLOSURES TO CONSUMERS 100 (2006), *available at* http://www.gao.gov/new.items/d06929.pdf. Average operating expenses for credit card lenders, as a percentage of total assets for banks, are over 9 percent versus 3.44 percent average for other consumer lenders. *Id.* at 101. The actual ratios depend primarily on the charge-off rate, which is higher during recessions. *See* EVANS & SCHMALENSEE, *supra* note 16, at 224. By contrast, the cost of funds account for 60 percent of total expenses for installment consumer lending, about 70 percent for commercial lending, and nearly 80 percent for mortgage lending.

payments are the largest single source of revenue from credit cards for issuing banks, they are insufficient to cover all the costs involved in issuing cards. Moreover, if interest payments were the only source of revenue, revolvers would be forced to completely subsidize non-revolvers as well as merchants. As a result, other fees must be imposed somewhere in the system..

The two other primary sources of revenue for card issuers are cardholder fees (such as annual fees and behavior-based fees) and interchange fees. For transactional users who pay their bills every month, annual fees and interchange fees are the primary sources of revenue. Annual fees are increasingly uncommon, and have declined precipitously over the relatively short history of the credit card. Ubiquitous before 1990, by 2002 only two percent of customers not enrolled in a rewards program paid an annual fee.[98] And interchange fees, as noted, are fees charged by issuing banks to acquiring banks, generally a small percentage of the transaction value. The interchange fee presents the issuer with the ability to recoup some operating costs without imposing higher direct costs (annual fees and the like) on cardholders. As we will see, the interchange fee serves an essential economic function, as well.

The flexibility afforded by the interchange fee to allocate some of the costs toward the merchants ensures that merchants pay for the benefits they receive and is essential to the efficient and effective operation of the system. A complicated accounting is required to allocate the costs of the system among the participants in such a way that system-wide benefits are maximized for all parties. By shifting a share of the direct costs to merchants, for example, the interchange fee permits the issuer to attract more cardholders than it would be able to if it were forced to impose higher direct fees on cardholders. This dynamic benefits merchants by increasing the number of cardholders who are able to purchase goods and services from merchants using payment cards. While interchange fees shift some costs to the merchant side of the transaction, these fees also facilitate the payment card system itself and thus also enable even greater costs to be shifted *away* from merchants. As discussed above, interchange fees enable merchants to make sales electronically and on credit without incurring the costs of operating their own credit programs. This cost shift away from merchants, combined with the other benefits of card acceptance (including especially the avoidance of legacy payment system costs), is critical to attracting merchants to the network. The widespread availability of alternate payment instruments means that the credit card network must provide to consumers and merchants net benefits over the alternatives in order to attract participants and increase the size and scope of the network. "The main economic role of the interchange fee is . . . to shift costs between issuers and acquirers and thus to shift charges between merchants and consumers to enhance the value of the payment system as a whole."[99]

Canner & Luckett, *supra*, at 658; *see also id.* at 657; ALEXANDER RASKOVICH & LUKE FROEB, U.S. DEPARTMENT OF JUSTICE, *Has Competition Failed in the Credit Card Market?* 5 (EAG Discussion Paper 92-7, 1992).

[98] Jonathan M. Orszag & Susan H. Manning, *An Economics Assessment of Regulating Credit Card Fees and Interest Rates* (American Bankers Association, 2007); Mark Furletti, *Credit Card Pricing Developments and Their Disclosure* (Federal Reserve Bank of Philadelphia, Discussion Paper No. 03-02, Jan. 2003), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=572585&rec=1&srcabs=213011. One discussion notes that annual fees declined by 50% on average between 1990 and 2004, from a high (average) of $16.51 to an average in 2004 of $8.52. *See* FEDERAL RESERVE BANK OF KANSAS CITY, INTERCHANGE FEES: NETWORK, ISSUER, ACQUIRER, AND MERCHANT PERSPECTIVES: PANEL REMARKS 182 (2005), *available at* http://www.kansascityfed.org/econres/PSR/psrconferences/2005/Industry%20panel.pdf. Most cards issued today include no annual fee, and only 30% of card offers contain an annual fee. *See* Marketresearchworld.net, Synovate Mail Monitor Shows US Credit Card Situation Remains Grim, http://www.marketresearchworld.net/index.php?option=com_content&task=view&id=2870&Itemid=76 (last visited Feb. 7, 2010).

[99] Richard Schmalensee, *Payment Systems and Interchange Fees* 3 (Nat'l Bureau of Econ. Research, Working Paper No. 8256, 2001).

The basic economics of credit card networks

A credit card transaction comprises five basic players: The cardholder (consumer), the merchant, the credit card issuing bank, the merchant's bank (the acquiring bank), and the credit card network. Strictly speaking, the credit card network isn't a direct player in the transaction, but the network ensures the smooth functioning of the system including, most importantly, by setting the rules under which the transfer of funds takes place between the issuing and acquiring banks.

The network's role is fundamental. It is the network that brings together the other four players in the transaction, facilitating both the consumer and the merchant sides of the transaction. The intermediary also improves the transaction by offering appropriate inducements to each side to ensure that transaction costs are reduced, enabling the parties to more-cheaply and easily transact, thus bringing together participants that might not otherwise engage in exchange. The credit card network is a platform, at the center of a so-called "two-sided platform." The key feature of a two-sided platform (or "two-sided market") is that it facilitates transactions among two (or sometimes more) distinct groups of participants that would otherwise not take place, or not take place as efficiently, absent the intermediating platform bringing the parties together.

In bringing together the parties—each side looking to access the network as a means toward accessing the *other side of the network*—the network sets prices for each side: Newspaper advertisers pay a certain amount to advertise; newspaper readers pay a certain (different) amount to obtain a paper. The setting of these prices is one of the key functions of the platform, and the platform's objective is to set the prices that maximize each side's participation given that, for each side of the network, the decision to participate is dependent on the extent of participation by the other. This interrelationship makes finding the right price extremely difficult—and it leads to enormous misunderstanding and misinformation about the pricing and other decisions made by two-sided network platforms.

Two-sided markets: of newspapers, supermarkets and shopping malls

As the scope of commerce has grown larger and more complicated, the need for two-sided markets has grown as well. Indeed, two-sided markets are ubiquitous in the modern economy and essential to its operation.

Consider a newspaper. Although we think of the primary purpose of a newspaper as providing news to readers, its *economic* purpose is in fact to provide an efficient platform for advertisers to reach potential consumers. The content itself is thus primarily a mechanism to induce consumers to access the platform, and thus the advertisements. A newspaper faces demand from both advertisers and readers, but cannot attract advertisers without having a certain number of readers and cannot stay in business without attracting a certain number of advertisers (as many newspapers are currently learning). Newspapers thus charge advertisers rates that lead to an allocation of the space in their pages devoted to advertising and to news that leads to the optimal balance of readers and advertisers. Charge too low a price for advertising, and fulfillment of advertiser demand would lead to too much advertising, reducing the space available for news and thus also reducing consumer demand for the newspaper. Charging too high a price, on the other hand, will lead to a deficit of advertising relative to news, an over-abundance of consumer demand, but, in turn, insufficient advertising to support the increased circulation. Other publications, such as *Consumer Reports*, refuse advertising and require subscribers to bear the full cost, even though specific product

providers often benefit from the reviews provided in the magazine and would otherwise have to advertise to promote the product.[100]

Shopping malls are another example of a two-sided market: they must attract both retailers and shoppers. The mall, operating as a platform, engages with stores to bring them to the market location (setting rents and offering various inducements and charges to optimize the quality, tenant mix, and quantity of stores), and with consumers to bring them to the market (offering a range of inducements such as free parking, security, a pleasant aesthetic environment, and a free Santa Claus at Christmas). The shopping mall attempts to offer the optimal mix of inducements to each side in order to maximize the total value of the platform.

A third example is the neighborhood supermarket or convenience store. The supermarket also faces two interrelated sets of demand.[101] On the one hand, the supermarket sells products to shoppers whom it must attract to the store. On the other, grocery manufacturers need access to scarce supermarket shelf space in order to make sales. Manufacturers want access to as many consumers as possible as long as consumers are buying their products instead of competitors'; consumers want efficient access to as many products as possible. Supermarkets balance these demands and sell shelf space in their stores in order to optimize the total value of the network to consumers and suppliers. Notably, maximizing the value of the network almost certainly doesn't entail stocking every item any customer could ever want, nor does it ensure that every customer shops at any given store—the *optimal* is usually not the *maximum*.

The rise of the internet has facilitated a variety of two-sided markets that form a crucial part of modern e-commerce. eBay is another example of a platform that exists to link sellers and shoppers, a sort of virtual shopping mall. Amazon.com operates simultaneously with one-sided and two-sided markets, serving as a one-sided market selling new books and a two-sided market in its Amazon Marketplace by providing a platform for affiliated merchants to sell directly to buyers.[102]

Two-sided market platforms, while ubiquitous and each with its own unique characteristics, have several features in common. One such feature is that each solves a "chicken and egg" problem, helping buyers and sellers to find each other and thereby creating economic value. In the payment card context, for example, the "chicken and egg" problem arises because consumers won't carry a card if no merchant will accept it and merchants won't incur the costs of accepting a card that consumers do not use.

Second, in two-sided markets it is common for a pricing strategy to emerge where the platform charges one side of the market less than the other side, and sometimes even charges a "negative price" to one side of the market by offering valuable inducements at no direct cost. For example, newspapers charge subscribers less than the actual cost of producing the newspaper—a subsidy that advertisers happily provide for the benefit of the resulting boost in circulation and potential customers. Indeed, some newspapers (such as those distributed free at subway stations and bus stops) are funded entirely by advertisers and are free to readers. Similarly, a shopping mall might "pay" shoppers by offering free parking and other services all while charging rent to merchants. In theory, shopping mall owners could charge consumers an admissions fee for the right to shop at the mall or require them to pay to park (as at traditional downtown shopping areas), but choose instead as a business matter to have the

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[100] Marc Rysman, *The Economics of Two-Sided Markets*, 23 JOURNAL OF ECONOMIC PERSPECTIVES 125, 133 (2009).
[101] *See* Mark Armstrong, *Competition in Two-Sided Markets*, 37 THE RAND JOURNAL OF ECONOMICS 668, 684 (2006) (noting that the two-sided market economics of grocery store markets result in retailers who compete intensely for consumers and deal "aggressively with their suppliers").
[102] Rysman, *supra* note 100, at 126.

merchants in the mall pay that full cost. Similarly, supermarkets offer free parking, free bagging services, discounts on popular items (such as milk), and hold promotional sales to increase store traffic. On the other hand, they may charge product manufacturers "slotting fees" for access to premium shelf space, which are then used to subsidize the retail price of other products and other forms of non-price competition.[103] While these apparently "skewed" pricing structures involve cross-subsidies from one side of the market to the other, they play a critical role in allowing the platform to maximize the total benefit of the network. Indeed, one common feature of two-sided markets is that a low price attracts consumers on one side of the market, which increases the value of the network, thereby leads to even higher prices on the other side of the market.[104]

A third and related common feature of these markets is the prevalence of cross-consumer subsidies. For example, those who buy newspapers at the stand pay a higher price than those who subscribe, even though it costs more to deliver the paper to subscribers' doorstep and to collect payment from them. Convenience stores such as 7-11 frequently charge low prices for products such as milk and gasoline in order to draw customers into the store; those who also buy high-markup candy bars and soft drinks subsidize those who buy only milk. What is crucial to recognize, however, is that even the candy bar providers favor the milk subsidy if the overall effect is to increase store traffic and thus candy bar sales, even at the higher price. Movie theaters—still another example of a two-sided market that brings together movie producers and theatergoers—charge lower prices for matinee showings than prime time, even though the cost of running the movie is identical. Moreover, those who pay high prices for popcorn subsidize those who just go to the movie. Patient shoppers who wait for sales are subsidized by those who can't (or won't) wait. Book stores (essentially a two-sided market that brings together publishers and authors with readers) discount popular new releases, but not other books, and, like supermarkets, often charge publishers fees for access to premium shelf space.

Economic theory suggests that magnitude and direction of these cross-subsidies depend on the relative economic price sensitivity or "elasticity of demand" of different groups of consumers, where the party with the more "inelastic" demand tends to subsidize the other party. The same is true for consumer/producer subsidies where one side of the market (say, grocery suppliers) is charged for access to the platform at rates that effectively subsidize the other (grocery store customers—who, as noted, may also be receiving additional inducements). Similarly, advertisers traditionally have had relatively-limited avenues for reaching consumers, leading advertisers to subsidize subscribers. As advertisers (especially classified advertisers who traditionally had few alternatives to classified ads) have found new ways of reaching consumers, they have become less willing to subsidize the newspaper platform. In turn, newspapers have tried to increase the cost to subscribers (and of course the relative amount of news in their pages), but at the same time consumers have become less-reliant on newspaper content because of the Internet. The rapid demise of newspapers provides many lessons about the modern economy and business practices, but among those lessons is the illustration of the complexity of establishing and maintaining a viable two-sided market platform, and the difficulty of establishing the most effective prices in a two-sided market.

Although ubiquitous, no one is calling for comprehensive regulatory intervention to eliminate these various cross-party subsidies—least of all retailers, for whom these subsidies provide the

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[103] See Benjamin Klein & Joshua D. Wright, *The Economics of Slotting Contracts*, 50 JOURNAL OF LAW AND ECONOMICS 421 (2007).

[104] Rysman, *supra* note 100, at 130. For example, Internet search engines are distributed for free to consumers, and the more they are used to find vendors, the higher the price they can charge to advertisers. Advertising rates in such a market bear absolutely no relationship to the search engine's operating costs, nor is there any reason why they should.

core of their business operations. Nor do retailers suggest that it is a matter for congressional action to prohibit advertiser subsidies of newspapers and television shows or to require shopping malls to charge to sit on Santa's lap (even though most mall shoppers do not directly benefit from the cost of providing free Santa Clauses). Instead, it is recognized that the decision whether to engage in these sorts of subsidies and their extent is a business decision and a normal feature of competition, not a matter for political intervention. Indeed, were merchants to band together and demand that merchants be required to charge for parking at supermarkets and for Santas at shopping malls, Congress would recognize it as an effort by merchants to collude to suppress competition and redistribute wealth from consumers to themselves. Merchants' efforts to redistribute more of the cost of payment card networks onto consumers should be recognized as equally suspicious.

Understanding the central role of interchange

Payment systems are also two-sided markets, and as such they face the complicated optimization question of how to price participation in the network to each side in order to maximize the total value of the network, given that each side's participation (and willingness to pay) is dependent in part on the extent of participation by the other. No business will advertise in a newspaper that no one reads and no one will subscribe to a newspaper that costs too much because of an inability to attract advertisers. On the one hand, payment systems serve consumers who purchase the ability to consummate transactions with a plastic card rather than alternative mediums of exchange. On the other hand, payment systems offer merchants the ability to increase sales by obtaining access to billions of dollars of consumer credit and accepting payment methods that customers wish to use. In the first instance, each side will only participate if the other side does, as well; consumers won't pay for cards that can't be widely used, and merchants won't pay to accept cards that few consumers use.

This feature of payment systems is not limited to credit cards. Other payment systems, like cash and checks, must also solve the same problem of getting both sides on board. In the case of cash, the federal government pays to print cash and mandates its acceptance as legal tender.[105] For checks, banks decide whether to charge consumers for check-writing or ATM transactions and have different fee structures depending on a variety of factors. Arguably, in fact, the demise of checks in most countries is the result of limitations placed on intersystem charges. When traveler's checks were still in common use consumers typically paid the cost of having the checks issued and backed by American Express and other issuers. The Federal Reserve clears checks at par and doesn't charge banks or merchants for the cost.

Like other two-sided markets, payment systems involve interdependent demands. In the case of credit cards, the value of the payment system to consumers increases with the number of merchants participating in the network and the value of the payment system to merchants grows with consumer usage of the card. Both sides of the market can be thought of as providing necessary inputs into the production of payment card transactions, which are in turn consumed by both the cardholders and the merchants. Determining the right mix of inputs

[105] Historically, what constituted cash—eventually gold and other precious metals—arose spontaneously through general acceptance rather than government mandate. It was this traditional preference for specie and reluctance to accept paper money that led Congress to mandate through legal tender laws that businesses must accept currency for payment of all debts, public and private. *See* Todd J. Zywicki, *The Coinage Clause*, *in* THE HERITAGE GUIDE TO THE CONSTITUTION 114 (2005). Absent legal mandate, Congress would not have been able to solve the chicken and egg problem of overcoming the reluctance of banks, merchants, and consumers to accept paper currency, which was entirely dependent on the other players in the system also accepting paper money in payment for valuable goods and services. As noted, the government and Federal Reserve also bear many of the ongoing system costs of printing currency and protecting the system against counterfeiting, rather than those who actually use the system.

and optimal prices to maximize the value of credit card transactions is the central business decision faced by payment system networks.

Getting both sides on board

As noted, one of the primary challenges in any two-sided market is getting both sides of the market to participate. In the payment system context, both MasterCard and Visa contract with banks to offer their payment network services—on the one side with issuing banks that provide payment services to consumers, and on the other with acquiring banks that provide services to merchants (and, in many cases, banks that offer services to both). The issuing bank provides to the consumer a card that can be used to consummate a transaction with any merchant whose bank is also in the network. The acquiring bank offers important services to merchants including providing technology for processing card transactions and making payments. Visa and MasterCard play a critical role in getting both sides on board to facilitate the production of payment card transactions. All payment systems must necessarily balance both sides of the market, making small transfer payments from one side to the other as appropriate to ensure balanced participation. And this is true regardless of whether they operate as a closed-loop or open-loop system: Discover and American Express, for example, must likewise set their various card terms for consumers and the mix of merchant fees and services in order to balance participation.[106] In fact, closed-loop systems have merchant discount fees that function similarly to interchange fees in the Visa and MasterCard systems. And it is worth noting that both Discover and American Express have each expanded to become more like the open-loop systems, using interchange-like arrangements to the extent they have outsourced the card issuance function to other banks

In either case, the key role of the networks is to provide banks with the right incentives to service both sides of the market and induce *both* consumers and merchants to use the card. As Professor Steven Semeraro observes, "There is no natural methodology for allocating cost in a two-sided market based on the cause of the cost; there are only efficient and inefficient allocations given governing economic principles."[107] As he further notes:

> Today, a cardholder may use a credit card without considering some of the costs flowing from that decision. This approach could be horribly inefficient if it led merchants to reject credit cards because they could not profitably bear the card acceptance costs. But this has not happened. The number of merchants accepting credit cards continues to grow, suggesting that the current system of allocating costs may be an efficient means of expanding retail sales.[108]

The interchange fee is integral to the operation of an open-loop payment card system. While all payment card systems must balance both sides of the market in determining cardholder and merchant prices, in an open-loop system like Visa or MasterCard, because the cardholder and merchant prices are set by issuers and acquirers, balancing must be accomplished through appropriate transfer fees—otherwise the prices charged to each side to the network

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[106] Closed-loop systems such as Discover, American Express, and Diners Club (now owned by Discover Financial Services) issue cards, acquire merchant receipts, and set cardholder and merchant prices. Open-loop systems, such as Visa and MasterCard, do not execute any of these functions. Rather, in an open-loop system, these functions are executed by the issuing and acquiring banks. The relative decline of Diners Club to a niche card illustrates the difficulties of striking an appropriate balance between the various elements of the system. Diners Club was once a formidable card network and was actually the first generally-accepted payment card, charging a merchant discount fee of 7 percent.

[107] Steven Semeraro, *The Economic Benefits of Credit Card Merchant Restraints: A Response to Adam Levitin*, 56 UCLA LAW REVIEW DISCOURSE 25, 32 (2009).

[108] *Id*. at 33.

would not effectively accommodate the interrelatedness of demand, and prices would attract either too many or too few participants given participation by the other side.

Any incremental change in the magnitude of the interchange fee would have two opposing effects on each side of the network. For example, a small increase in interchange fees would make participation in the network more expensive for merchants, but it would also enable banks to enhance their card offerings. Thus, this would tend to increase the number of consumers using that network's cards and thus make the network more attractive for merchants. For consumers the increase would make participation in the network less expensive, but it would also decrease the value of the network by reducing the number of merchants accepting the network's cards. Of central importance, however, is that *these effects are neither necessarily equivalent in magnitude nor in their economic significance*. A 10% increase in the interchange fee, for example, might lead to, say, 3% fewer merchants in the network but 8% more cardholders. This 3% reduction in merchant participation, in turn, might reduce the value of the network overall by, say, 1%, while the 8% increase in cardholder participation might increase the total value of the network by only .5%. All of this depends on an array of subtle factors including, for example, relative price sensitivity, the availability of substitutes, the mix of types of cardholders (e.g., high spend versus low spend or revolvers versus convenience users), the mix of types of merchants (e.g., those with many low-value transactions versus those with relatively-few high-value transactions), among many others. Moreover, assessing this bottom line effect on either side is crucially dependent on an assessment of the effect on the *other* side. This combination of asymmetry, interdependence and deep uncertainty makes effective payment network management extraordinarily difficult as well as extraordinarily sensitive to small changes in the interchange fee. Remarkably, this simple, small number reflects an enormously complex (and constantly-shifting) underlying dynamic, the complexity of which is masked by the simplicity of the device used to manage it.

Consider the alternatives to the interchange fee to execute this critical balancing function. Some have argued that the interchange fee system should be replaced with bilaterally-negotiated fees between each issuer and each acquirer. The transaction cost of negotiating a fee for settlement between each party or each transaction would be staggering. There are approximately 23,000 financial institution participants in the MasterCard system (according to MasterCard's most recent 10-K) and approximately 16,000 in the Visa system (according to Visa's "corporate overview" posted on its website). Each of these banks would need agreements with the thousands of others around the world servicing merchants that accept the cards. The cost would be overwhelming for even the largest banks; for community banks and credit unions the costs would be prohibitive. Without default interchange fees, larger issuers would also have significant incentives to demand higher fees, potentially pricing a number of acquirers or merchants out of the system.[109] Default interchange fees therefore not only reduce the enormous transaction costs that would operate as a tax on the payment card system were guaranteed acceptance eliminated thus reducing the system's value to both merchants and cardholders, but they also ensure that the market for consumer credit clears.[110] And, moreover, there is no reason to expect that bilaterally-negotiated fees would converge on the network-optimal rate—thereby reducing the benefit of the system to all players.

The key point here is not to suggest that there is some magic number for the interchange fee; in fact, because of the very complexity of the system, fees vary over time and among networks, depending on the balance that is necessary to attract consumers and merchants to

[109] Benjamin Klein et al., *Competition in Two-Sided Markets: The Antitrust Economics of Payment Card Interchange Fees*, 73 ANTITRUST LAW JOURNAL 571, 574 (2006).

[110] Current Visa and MasterCard rules allow issuers and acquirers to agree upon bilaterally-negotiated interchange fees specific to certain merchants, but these agreements are relatively rare.

the system. This is exactly what one would expect for a fee that plays the role of balancing market-specific supply and demand conditions on both sides of a platform. Instead, the point is to note that *some* interchange fee is required to balance demand on the two sides of the market. This fundamental role of interchange holds for *all* payment systems.

This key point also distinguishes the interchange fee from other market prices. The interchange fee is a balancing device for sharing costs between issuers and acquirers and thus for shifting charges between consumers and merchants. Without the interchange fee, merchants would receive the substantial benefits of card acceptance while shifting their costs on to consumers. Price controls always generate offsetting effects (like changes in other contract terms or reductions in quality), but these unintended and offsetting adjustments are magnified in the context of a two-sided market because of the interrelatedness of the two sides of the market. Simple policy prescriptions aimed at "reducing interchange fees," would fundamentally shift the balance in these systems, and while such shifts would first harm consumers, consumer adjustments would in turn harm the merchants themselves as credit availability shrinks and consumer liquidity diminishes. This would be especially problematic in the current economic environment. Banks would be harmed as well, and small community banks and credit unions would have the most difficulty absorbing the harm.

Distributing costs by interchange: the example of nonpayment risk

In addition to balancing demand—or, more accurately, precisely as a *function* of balancing demand—card networks must allocate certain costs of the system. The interchange fee allows the network to distribute the costs of operating the card network according to the welfare of the system as a whole, rather than by the mere happenstance of where particular costs are originally incurred. In the absence of this flexibility, naturally-occurring costs may preclude the right balance of participation in the network, making participation either too costly or too cheap for certain participants.

As we have discussed, nonpayment risk is a significant source of costs within the system but it is by no means clear that the parties most naturally at risk from nonpayment—the merchants—are best able to bear and to mitigate the cost. The credit card system permits the reallocation of these costs in a manner that optimizes the system, with the requisite fine-tuning accomplished by the interchange fee.

Every payment system by its nature includes the risk of fraud and nonpayment, and every payment system, by design or by default, imposes those risks on one or more parties in the system. For example, a merchant that accepts cash in exchange for goods bears the risk that the cash will be counterfeit, and the cost of counterfeit currency to merchants is substantial. But this only captures a fraction of the full cost of counterfeit currency—a cost borne mostly by the government (and passed on to taxpayers) in policing and deterring counterfeiting, such as by making more secure (but also more expensive) currency.[111] The cash system, essentially by default, imposes the residual fraud costs on the merchant, but the vast bulk of the costs of policing and deterring fraud are borne by the government. Checks present an even greater fraud problem than cash and the costs are allocated essentially by default: A merchant that accepts a fraudulent check will often be forced simply to bear the cost of the fraud. Nevertheless, the government subsidizes the mitigation of check fraud, and might even criminally prosecute someone who knowingly writes a check lacking sufficient funds to cover it.

[111] *See* discussion *supra* Section 3.

In principle, the fraud costs of checks could be allocated differently. For example, the bank against which the fraudulent check was drawn could agree to bear the cost, insuring its counterparties against default. But even if this reallocation of risk were more efficient, because the government requires banks to clear checks at par—because the government has, in other words, set the interchange fee for checks at zero—there is little opportunity for the system's lever to operate to reallocate these costs. As a result, the costs essentially lie where they fall, and reallocation of risk (and redistribution of costs) is made only in the parts of the system governed by explicit contracts.[112]

By contrast, credit card issuers bear the risk of extending credit to consumers who lack the funds to pay for goods purchased from merchants. The system's flexible interchange fee allows fraud and payment default costs to be allocated differently throughout the system, ensuring not that the costs lie where they fall (with the merchants), but rather that they are borne by the party best positioned to bear the costs (generally card issuers). In the case of credit cards, assuming the cardholder presents the card to the merchant and the merchant complies with the network's rules for seeking authorization of payment, the issuing bank guarantees the payment (and thus bears the risk of non-payment). In exchange, issuing banks receive interchange fees for this service, but because card issuers can bear this risk more efficiently than merchants, the net cost to merchants is smaller than it would otherwise be. In fact, as noted, while Visa and MasterCard issuing banks face credit losses totaling ranging up to as much as 10% of purchase volume, merchants pay, on average, less than 2% of value in exchange—seemingly a very good deal. As Bill Baxter noted, "[t]his shifting of risk under the [credit card] system obviously increases [the issuing] bank's cost, enhances [the merchant's] demand for the system, and increases the amount of discount [the merchant] is willing to pay to [the acquiring] bank." This re-allocation of costs, facilitated by the interchange fee, helps to optimize the system.[113]

Cross-consumer subsidies: this isn't about protecting consumers

Proponents of regulating interchange fees frequently point to the supposed cross-subsidization of credit card use by consumers who use cash or checks as evidence of a market failure.[114] While, as discussed, pricing structures that subsidize one side of a two-sided platform are common and inevitable in such settings, merchants contend that the current interchange prices subsidize consumers who use credit cards over those who use cash and checks (consumers outside the network) because the latter pay the same price as the former—reflecting, it is alleged, the cost to the merchants of the interchange fee—but do not impose the same costs. Such arguments are essentially objections to the "fairness" of pricing structures that enhance the value of the network. These arguments, however, reveal a misunderstanding of two-sided markets generally and payment systems in particular. Policies based upon these arguments are likely to lead to regulations that, while potentially benefiting merchants, will also make consumers worse off.

Note first that whether a reduction in interchange fees would be passed through to consumers is uncertain and there is reason to be skeptical of such claims. First, as we have discussed,

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[112] Thus, for example, depending on a host of factors, some of this cost may be redistributed from merchants to merchants' banks via reductions in various fees in the agreement between merchant and bank, but it is much more difficult to redistribute these costs to issuing banks. At the same time, of course, various business practices and third-party technology may reduce the total magnitude of fraud costs—but in the end either the cost of fraud or the cost of *protecting against* fraud is difficult to reallocate within the system.

[113] William F. Baxter, *Bank Interchange of Transactional Paper: Legal and Economic Perspectives*, 26 JOURNAL OF LAW AND ECONOMICS 541, 577-78 (1983).

[114] This assumes, of course, that there is actually such a subsidy—an open question once all the costs of various systems are taken into account, as noted above.

merchants today are entitled by law to provide cash discounts to consumers but choose not to. Given their unwillingness to discount for cash today, it is not obvious why merchants would be expected to pass through interchange fee reductions at all. Second, there is no evidence that Australia's cap on interchange fees—the fullest experiment to date with regulating interchange fees—resulted in lower retail prices for consumers.[115] However, even if retail prices would have fallen, there is no evidence that retail price reductions would either fall enough to offset higher credit prices to consumers or benefit consumers equally. Artificially reducing interchange fees might eliminate the purported unfairness by making credit purchasers worse off, but it is questionable whether it would actually make cash customers better off: When Australia required that merchants be allowed to surcharge credit card users, Qantas Airlines, for example, implemented a surcharge on credit card users, but refused to reduce prices for those paying by cash or check, resulting in higher costs for credit card users but no price reduction for others.[116] Moreover, the surcharges have been set not by the actual costs imposed by cards, but by what the market will bear: According to a recent newspaper article, one traveler taking a family trip paid a whopping 5.6% surcharge to buy a plane ticket using his credit card, far exceeding the interchange fee charged on the transaction.[117]

At the same time, claims about cost disparities between cash (and checks) and payment cards are based on a faulty analysis that fails to acknowledge that many of the costs of cash are paid indirectly through government subsidies or are incurred indirectly, thereby requiring *credit* users to indirectly subsidize *cash* purchasers.[118]

In the end it is difficult to assess the full allocation of net subsidies, costs, and benefits flowing in various directions throughout the system. To the extent it is argued that credit cards are overused as a transaction medium, given an implicit subsidy from cash customers, it may also be argued that consumers *underuse* electronic payments because they consider neither the social benefits of electronic payments nor the full social costs of cash payments. And, as noted, different payment instruments may be optimal for different consumers at different times. But most important, there is no evidence that tinkering with the credit card system to reduce explicit costs to merchants will either result in overall efficiency gains or in gains to consumers sufficient to offset the new costs.

Cross-consumer subsidies are everywhere in the economy

Federal law expressly permits merchants to give cash discounts (and some few do). That most merchants choose to accept credit cards and charge one price for cash and credit reflects a simple business decision, just like offering free parking (thereby subsidizing those who drive versus those who walk or take the bus), manned check-out lines (subsidized by those who use self-check out), or free returns on merchandise or money-back guarantees (subsidized by those who don't return products). Starbucks' customers who drink their coffee black subsidize those who use cream and sugar. Movie-goers who attend primetime shows subsidize those who attend matinees. Consumers who pay full price subsidize those who buy the same product on sale a few days later.

The presence of a cross-subsidy says nothing about the competitiveness of a market, nor about its fairness. Rather, a cross-subsidy is customarily simply the consequence of a pricing

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[115] Joshua S. Gans & Stephen P. King, *A Theoretical Analysis of Credit Card Reform in Australia*, 79 THE ECONOMIC RECORD 462, 471-72 (2003), *available at* http://www.mbs.edu/home/jgans/research.htm#Working%20Papers.

[116] ROBERT STILLMAN ET AL., CRA INTERNATIONAL, REGULATORY INTERVENTION IN THE PAYMENT CARD INDUSTRY BY THE RESERVE BANK OF AUSTRALIA: ANALYSIS OF THE EVIDENCE 29 (2008).

[117] Keith Bradsher, *U.S. Looks to Australia on Credit Card Fees*, N.Y. TIMES, Nov. 25, 2009, *available at* http://www.nytimes.com/2009/11/25/your-money/credit-and-debit-cards/25card.html?_r=1.

[118] For more on this topic, see discussion *supra* Section 3.

decision made by a merchant in a competitive market with heterogeneous consumers. This is especially the case in two-sided markets, where the essential need to balance demand on two different sides of a transaction simultaneously makes unequal subsidies and charges a necessity for the efficient functioning of the system. And importantly, all participants—not only those being subsidized—benefit from the practice. For example, by giving away cream and sugar, Starbucks economizes on monitoring costs, increases demand for its coffee, shortens transaction times, and simplifies its menu. These benefits accrue not only to coffee drinkers who consume cream and sugar, but to all of Starbucks' patrons.

Cross-subsidies in supermarkets

Cross-subsidies are common in highly competitive markets. Consider again the supermarket. Supermarkets compete by offering free parking to those shoppers who choose to drive to the store and cross-subsidize by offering discounts on products like milk and other staple items that get shoppers inside the store and increase overall traffic. In the case of providing free parking and other amenities which most consumers value, the merchant covers its costs by increasing overall retail prices. Thus, even those consumers who ride the bus to the supermarket "pay" for those who enjoy the free parking amenity. Additional store traffic is highly profitable for the supermarket because it results in increased sales and profits for the merchant. Competition between supermarkets leads to these subsidies, targeted at marginal consumers, in the form of offering benefits to consumers. Supermarkets also offer customer loyalty programs that provide discounts to those who join—a cost presumably subsidized by those who refuse to join and thus pay higher prices. The key point is that cross-subsidies are, in fact, often an outcome of vigorous competition rather than a sign of its absence.

The supermarket example is appropriate and informative in this context for another reason. While supermarket promotional efforts increase store traffic as well as sales within the store, it is often efficient for manufacturers to pay for this promotion in the form of slotting fees—direct charges or wholesale discounts paid by brands for access to the best shelf space—which the store then uses to subsidize other products within the store.[119] By some estimates, slotting contributes up to 50-75% of net supermarket profits.[120] When the supermarket sells shelf space through slotting fees or their equivalent (such as a wholesale price discount), the store is essentially operating as a two-sided market. Typically the supermarket does not use the revenues generated by these fees (such as payments by Coca-Cola) to reduce the price of that product, but instead to subsidize the price of other products, such as milk or bread, or other attributes of the customers' experience, such as wider store aisles, more cashiers, or free parking.

Slotting fees thus serve a function analogous to the interchange fee in credit card transactions, but because of market dynamics, it is the manufacturer who pays for preferential access to consumers, rather than consumers who pay for access to the manufacturers' products. In this way, the slotting fee balances the costs of these valuable promotional inducements between consumers and manufacturers. The importance of slotting fees, whether paid as a lump sum or in the form of a wholesale price discount, is probably even greater in convenience stores where shelf space is highly limited and the store typically carries a more-limited selection of brands. It is ironic that many of the supermarkets and convenience stores that carry out the balancing function as the platform in their own two-sided markets by charging slotting fees

[119] *See* Klein & Wright, *supra* note 103, at 431-32, 38-39.
[120] John Stanton, *Rethinking Retailers' Fees*, 60 FOOD PROCESSING 32 (1999). Note that one implication of the substantial profits generated by sales of shelf space to manufacturers is that it may be misleading for grocery stores and others that generate revenues from slotting fees to report their margins on the products they actually sell while excluding the revenues generated from this source.

find that interchange fees, which serve a similar economic function, are unfair and warrant regulatory action.

Cross-subsidies in in-house credit

Perhaps even more ironically, some of the strongest critics of the credit card interchange system employ their own substantial credit subsidy. Traditionally, many retailers operated their own in-house credit operations. This included large department stores, but also many grocers, tailors, furniture, appliance, and hardware stores that offered credit to customers on open-book or installment credit. Maintaining these credit operations was (and is) quite expensive; retailers had to bear the operational costs (employees, billing operations, underwriting, customer service), the risks of non-payment and fraud, and the time-cost of money of the delay in receiving payments from the billing cycle and grace period. Retailers were even willing to—and usually did—absorb losses in their credit operations, so long as they furthered these larger goals.[121] Despite this high cost, however, many merchants made a business decision to maintain credit operations because of consumer demand.

Thus, the merchants' claim today that the interchange fee forces an unfair subsidy between cash and credit purchasers is a red herring: merchants were (and are) more than happy to charge the same price for cash and credit—so long as they were capturing all the benefits.

Notably, during the decades when merchants operated their own credit operations (and where they continue to do so), they consistently charged the same retail prices for cash and credit consumers *despite* the higher costs of credit customers than cash customers. The main purposes of department store credit operations were ancillary to retail operations, and they were aimed instead at building customer loyalty and making shopping more convenient.[122] In other words, providing credit resulted in increased sales. Some merchants have even offered "twelve months same as cash" and other promotions that further subsidize credit purchasers. In a similar vein, empirical studies have found that during the 1970s, when state usury laws limited the ability of lenders to charge market rates of interest on consumer credit, retailers responded by increasing the price of goods typically sold on credit (such as appliances), thereby presumably burying the price of the credit in a higher price of the goods for all purchasers.[123]

Target's proprietary credit operation, for example, has recently been battered by double-digit default rates on its credit portfolio—yet Target charges the same price for cash and credit consumers.[124] In fact, Target has just announced a new trial program of "5 percent off every item, every transaction, everyday" for those who use Target's proprietary credit card.[125] Yet there is no indication that Target's credit customers cost 5 percent less to service than Target's cash customers—nor could they possibly cost less once administrative costs and collection risk are considered. Instead Target has made a business decision to charge not only the same

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[121] LEWIS MANDELL, THE CREDIT CARD INDUSTRY: A HISTORY xvii –xviii (1990); Canner & Fergus, *supra* note 19, at 2 ("The studies indicated that on average—not considering profits on associated merchandise sales—such credit card plans consistently operated at a loss.").

[122] MANDELL, Id. at xvii –xviii; *see also* Timothy Wolters, *Carry Your Card in Your Pocket: The Early History of the Credit Card at Bank of America and Chase Manhattan*, 1 ENTERPRISE & SOCIETY 315, 318-19 (2000).

[123] Christopher C. DeMuth, *The Case Against Credit Card Interest Rate Regulation*, 3 YALE JOURNAL ON REGULATION 201, 220-21 (1986).

[124] *See* Karen Talley, Marketwatch.com, Target's Credit-card Problems Could Lead to J.P. Morgan Role, http://www.marketwatch.com/story/targets-credit-card-problems-could-lead-to-jp-morgan-role (last visited Feb. 8, 2010).

[125] Evan Schuman, StorefrontBacktalk.com, Target Decides Payment Incentive Methods Work, http://www.storefrontbacktalk.com/securityfraud/target-decides-payment-method-incentives-work/ (last visited Mar. 25, 2010).

price for credit and cash but actually a *lower* price for credit customers—so long as they use Target's card.

Merchants' claim today that the interchange fee forces an unfair subsidy between cash and credit purchasers is a red herring: merchants were (and are) more than happy to charge the same price for cash and credit—so long as they capture all the benefits. Moreover, given that merchants have outsourced their credit operations to credit cards precisely because they are *less* expensive, the overall size of this subsidy is probably smaller today than it was when merchants ran their own operations. And even this ignores the various costs associated with accepting and handling cash and checks that credit users implicitly pay as subsidies for those types of payment. Accepting credit cards is cheaper and less-risky for merchants than running their own in-house credit operations, and accepting cards—and charging the same price for items purchased, regardless of the payment instrument used—appears to make good business sense. For the merchant, the cost of accepting credit cards is a cost of business, just like rent, utilities and employee salaries—or the decision to charge less for milk and more for candy bars.[126] Special interest pleading by merchants for protection from the rigors of market competition is especially unpersuasive in light of the unquestioned right of retailers to provide cash discounts, but which they choose not to do for sound business reasons. Despite claiming that interchange fees have increased (a questionable assumption), merchants continue to accept credit cards, and more and more merchants are accepting credit cards.[127] Acceptance rates have been increasing continuously—hardly evidence that merchants are being charged more than the benefit they receive. This result is predictable when one properly understands the interchange fee not as a simple price in a one-sided market, but rather as a price that balances demand on both sides of the market to maximize the value of the network.

Is there a case for governmental regulation of interchange fees?

This basic economic background is essential to understanding and assessing the debates over interchange fees and their regulation. At the most basic level, one can conceive of two competing frameworks for understanding the system and how to regulate it. The first is a "fairness" framework. Under this approach, the costs and benefits to each participant in the system are viewed in relation to those of the other participants, and the system is assessed by how well it distributes these costs and benefits, judged against some baseline subjectively defined as "fair." The second is an "institutional" or economic framework. Under this approach, the system is viewed as a whole, and judged against a standard of efficiency—by how well and at what cost the system delivers its promised benefits.

[126] In fact, in a recent survey commissioned by MasterCard, 75% of respondents stated that interchange fees were a cost of doing business that the merchant should bear, not the consumer. *See* Press Release, MasterCard Worldwide, New Survey Results Reveal Serious Concerns About 7-Eleven Petition (September 29, 2009), *available at* http://www.mastercard.com/us/company/en/newsroom/new_survey_results.html.

[127] Interchange fees may *not* be increasing. While data does indicate that credit card interchange fees have been increasing, debit cards are now used more often than credit cards, and interchange fees on debit cards have been decreasing. The overall interchange fee on plastic payments has remained steady, in fact (and, given relative changes in volume, on a weighted basis, fees may even have been decreasing). *See* Brown & Muris, *supra* note 39.

The difference may seem subtle, but it is extremely important. As a preliminary matter both frameworks assess whether the benefits of the system outweigh the costs to each participant. Of course, neither framework is necessary to answer the cost/benefit question: The fact that all participants in the system participate willingly and voluntarily tells us that the benefits they receive exceed the costs. But the fairness approach goes on to ask a different question: Should the benefits to any particular participants be *even higher* than they are? Should the system be fine-tuned—either from within or by government—to give more of the benefits to, say, merchants than are currently being enjoyed?

> "Interchange fee regulation may only result in redistribution of surplus among participants, most notably between banks and merchants. In other words, interchange fee regulation would not necessarily improve social welfare."
>
> Santiago Carbó Valverde, Sujit Chakravorti,& Francisco Rodriguez Fernandez

Promoting government involvement in setting the price of interchange is a blueprint for encouraging costly and wasteful political rent-seeking, with various participants or interested onlookers advocating for their own interests under cover of some policy goal like reducing access to credit for consumers. Rather, the system should be judged for how efficiently it facilitates desired consumer transactions, taking these desires as given. Viewed from this economic welfare perspective, and given the economic benefits discussed in Section 2, the burden is on the proponents of interchange regulation to demonstrate a significant market failure causing poor economic performance. To the contrary, the empirical evidence suggests that the credit card system works remarkably well.

Meanwhile, the evidence also suggests that interventions don't work very well. As will be discussed in greater detail below, the fullest experiment in regulatory intervention, in Australia, seems to show that intervention had little, if any, of its desired effect of reducing credit card usage. On top of failing to achieve its desired effect, there is also strong evidence that that it generated some undesirable, unintended consequences for consumers. As always, the relevant question is whether the regulatory intervention, taking account of both its intended and unintended consequences, will yield an improvement over the status quo. It is not enough to identify that the status quo is lacking in some way; it must also be the case that intervention yields a net improvement. We begin with the threshold question of whether there is reliable evidence of a market failure in the private setting of interchange fees.

Does an unregulated interchange fee harm economic welfare?

We take as our starting point the view, which we believe to be widely held, that interchange fees are an appropriate target for regulatory intervention only if it can be demonstrated that there is a significant market failure preventing them from being set at the "right" level from an overall economic welfare perspective. There is a vast and growing body of theoretical literature on the issue of interchange fees. Rather than focusing on the workings of actual payment systems, this literature examines hypothetical systems where certain conditions are imagined to exist. The welfare implications of interchange fees within these theoretical models depend crucially on the nature of the assumptions made at the outset, many of which bear only a slight resemblance to reality and some of which are very nearly arbitrary.[128] Much of the literature discusses whether privately-determined interchange fees in the theoretical systems will be socially optimal. A review of the literature reveals no consensus on whether current fees are too high, too low, or just right, once all social costs and benefits are taken into

[128] As several Federal Reserve economists observe, "The conclusions of the theoretical literature [on interchange fees] vary substantially depending on the assumptions underlying the models. Assumptions about the degree of market power for acquiring banks, issuing banks, merchants, or networks, and the elasticities of demand for card services and final goods all influence the results." *See* Prager et al., *supra* note 67, at 21.

account, nor is there a consensus that there is a market failure to be addressed. Moreover, interchange fees vary by industry, merchant, and consumer, thus it is highly unlikely that abstract economic models could capture all of these market nuances. Because pricing decisions in a two-sided network require a delicate balancing, taking into account competitive conditions in both markets, it is unsurprising that the theoretical literature has not converged on a simple prediction regarding the effects of interchange regulation on economic welfare or the complex economic relationships between parties in the network. As Professor Semeraro observes on the difficulty of intervening in a two-sided market where optimal pricing practice bears minimal relationship to cost, "[f]orcing cardholders to internalize some particular set of costs is just as likely to lead to the inefficient underuse of cards as it is to eliminate any anticompetitive overuse."[129] Thus, economic theory does not provide a reliable basis for the belief that, as its proponents frequently claim, regulation reducing interchange fees would improve economic welfare.

While the literature on hypothetical systems provides little help on this central point, the empirical evidence from examining real world, actual payment systems provides valuable insight to guide policy decisions. Unfortunately for the proponents of interchange regulation, the empirical evidence does not support their claims that privately-determined interchange fees harm economic welfare or that a politically-established fee would be likely to improve matters. Rather, the empirical evidence from Australia's dramatic regulatory intervention suggests that the current proposals in the United States are likely to increase the cost of credit to consumers in the form of annual and variable fees without providing consumers offsetting benefits.

Meanwhile, real-world experience belies the merchants' claim that interchange fees are too high relative to the benefits they receive. If fees really were too high, the number and rate of merchants accepting cards would be decreasing, not increasing. It is unlikely that merchants pay too much for the substantial benefits that they receive from widespread credit card usage and acceptance. It is equally plausible—perhaps more so in light of the available evidence—that merchants are simply trying to avoid paying for the benefits that they receive and instead are seeking to externalize some of their costs onto consumers and society. Indeed, if credit card acceptance really were not financially beneficial to merchants in some retail sector, shrewd merchants would stop accepting cards and compete against those that do on the basis of lower prices.[130] Changes in interchange fees over time are likely best explained by shifts in marketplace factors, such as the demand for credit and changes in consumer shopping patterns that influence the complex balance of both sides of the market, rather than an improper exercise of market power.

Given the significant economic benefits generated by payment cards to merchants, consumers and the economy, the burden of proof lies clearly with proponents of interchange regulation to identify the existence of significant market failure. Neither economic theory nor existing empirical evidence supports such a position.

Will interchange fee regulation accomplish its stated goals?

[129] *See* Semeraro, *supra* note 105, at 32. *See also* Prager et al., *supra* note 67, at 4 ("In theory, privately-set interchange fees can be either too high or too low relative to the efficient interchange fee, depending on a number of factors, including the cost and demand considerations underlying the merchant decision to accept cards and the extent of competition among issuing and acquiring banks.").

[130] For example, the grocery store chain ALDI, which operates over 1,000 stores in 31 states, accepts debit cards but not credit cards, apparently in order to offer its customers "the lowest possible prices." *See* http://www.aldifoods.com/us/html/company/3503_ENU_HTML.htm?WT.z_src=main.

The fullest experiment with interchange fee regulation in the world began in Australia (and persists today) in 2001 when the Reserve Bank of Australia ("RBA"), Australia's central bank, asserted authority over interchange fees.[131] Years later it seems clear these regulations have not achieved their intended objectives. While credit card customers have been forced to pay more for less, there is no evidence that cash or other consumers have benefited at all or that overall economic efficiency has improved.[132]

In the first place, it is instructive to consider the impetus for these regulations. "Parties bearing relatively more of the costs for a given instrument are likely to push for regulatory changes—as was the case in the Australian Reserve Bank investigation of payment card systems, where retailer complaints spurred regulators."[133] Of course it is the retailers—the merchants—who are pushing for regulation in the US as well, and presumably for the same reason. As noted, however, redistributing the revenue within the credit card system toward merchants may come at a high costs to consumers—a cost greater than the gain to merchants, and a cost ill-considered (or not considered) by merchants pursuing their own agenda.

Once interchange fees and other prices within the credit card network are set by politics rather than market processes, political battles to fine-tune the system and reset prices are inevitable. The problem of an increasing ratchet of governmental intervention and rent-seeking is especially likely in this context: one political intervention into a complicated, integrated system like the credit card system inherently begets the need for further interventions.

The stated goal of the Australian intervention was to reduce credit card usage by shifting some of the direct costs of the card network from merchants to consumers via interchange fee regulation.[134] On the latter objective—making credit card users pay more—it seems that the Australian regulations succeeded: Direct costs to consumers were raised, costs to merchants were lowered, and there is no evidence that the merchants' lower costs were passed on to consumers to compensate; thus costs were indeed shifted to consumers. But, of course, wealth redistribution to merchants was not the RBA's true objective. Rather the RBA's objective was to reduce credit card usage, but to make up for the higher cost of credit with lower retail prices for cash purchases.[135]

Leaving aside the dubious wisdom of adopting policies specifically designed to try to encourage greater use of paper-based payment schemes, evidence suggests that even this goal was not achieved. Instead, according to one early account of the scheme,

> [p]reliminary data from Australia suggests that even though interchange fees were reduced by nearly half in late 2003, the marginal price to cardholders of using credit cards has not changed much. While some reward programs were made somewhat less generous, these cover only a fraction of consumers and card transactions, and we have not seen widespread evidence of surcharging by merchants or the imposition of fees by issuers that increase with card usage. So while available data suggest that interchange fee reductions were passed

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[131] For a general discussion of the Australian interchange fee regulations and their effects, see STILLMAN, ET. AL., *supra* note 116. *See also* Evans & Schmalensee, *supra* note 12, at 145-46.

[132] At least one paper has noted that "measuring price effects over time of interchange fee regulation is difficult." Santiago Carbó Valverde et al., *Regulating Two-Sided Markets: An Empirical Investigation* 9 (Federal Reserve Bank of Chicago, Working Paper No. 2009-11, 2009), *available at* http://ssrn.com/abstract=1511809. It is possible, of course, that more time and better empirical evidence will alter today's conclusions. Nevertheless, the evidence to date is fairly compelling.

[133] Garcia-Swartz et al., *supra* note 10, at 194.

[134] *Id.* at 176. *See also* Valverde et al., *supra* note 131, at 2.

[135] See STILLMAN ET AL., *supra* note 116, at 29. It is essential to note that the RBA decided to extend its regulation only to the four-party Visa and MasterCard systems. By leaving the three-party American Express and Diners Club systems out of its regulatory ambit, the RBA's action, quite predictably, shifted issuers into the three-party networks—with essentially the same incentives to encourage credit card usage for purchases as existed before the RBA's intervention.

> through more or less completely to reductions in merchant discounts, it does not seem that the stated objective of the RBA to make consumers face the "right" variable prices for different payment methods was realized to any appreciable extent. Consistent with this, the data do not reveal much, if any, impact of the reforms on the use of credit cards.[136]

Other commentators have subsequently pointed out that the negative consequences for consumers were even more substantial. In particular, where surcharging for credit transactions has occurred, it has *exceeded* the amount of the average merchant discount. "Such surcharges imply that merchants are using surcharges to price discriminate against cardholders and to capture some of the value that would otherwise be derived by consumers from the use of payment cards."[137] Meanwhile,

> While the RBA's regulations have clearly benefited merchants, they have harmed consumers by causing cardholder fees to increase and the value of card benefits such as reward programmes to decline. Consumers have also been harmed to the extent the reduction in the profitability of issuers caused by the RBA's regulations has reduced incentives to invest in new types of cards and payment system innovations. []
>
> Thus, while the RBA's regulations have clearly harmed consumers by causing higher cardholder fees and less valuable reward programmes, *there is no evidence that these undeniable losses to consumers have been offset by reductions in retail prices or improvement in the quality of retailer service*. The RBA's intervention has redistributed wealth in favour of merchants. [138]

A recent analysis of the evidence by economist Joshua Gans concluded that, in fact, there was no discernible reduction in the use of credit cards in Australia after the change.[139] If that is true, and if there has been no discernible decrease in retail prices, the net result of Australia's intervention will have been to simply redistribute wealth from consumers to merchants with no apparent offsetting social benefits. Other scholars have also observed that in a fully-developed credit card market (of widespread card ownership by consumers and card acceptance by merchants), the primary result of an interchange fee cap might be simply to redistribute wealth from consumers to merchants.[140] Indeed, Gans finds that some of the effects of the intervention were likely the *opposite* of what the RBA intended.[141]

In the Australian case, Gans argues, the net effect was not to alter the aggregate level of credit card usage (as the regulation intended).[142] There are two possible sources of this "neutrality": One potential source is equally-offsetting reductions in retail prices and increases in credit card costs; the other is equally-offsetting reductions in interchange fees and increases in other fees and charges. Given the absence of any evidence of retail price reductions, as well as evidence of annual fee increases, it seems likely that the latter effect is at work, with all

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[136] Evans & Schmalensee, *supra* note 12, at 34-35.
[137] STILLMAN ET AL., *supra* note 116, at 3.
[138] *Id.* at 4. (emphasis added).
[139] Joshua S. Gans, *Evaluating the Impact of the Payment System Reform* 2 (University of Melbourne, 2007), *available at* www.rba.gov.au/payments-system/reforms/review-card-reforms/pdf/gans-27082007.pdf.
[140] Valverde et al., *supra* note 131, at 31 ("However, once merchant and consumer adoption is complete, interchange fee regulation may only result in redistribution of surplus among participants, most notably between banks and merchants. In other words, interchange fee regulation would not necessarily improve social welfare.").
[141] Gans, *supra* note 138, at 12.
[142] *Id*. at 2.

the attendant negative consequences we have discussed.[143] In particular, to the extent that neutrality in aggregate usage patterns is a consequence of a shift in the *composition* of credit card users (from convenience users to revolvers), this may have additional undesirable macro-level consequences.

In sum, issuing banks have been made worse off, consumers who use credit cards have been made worse off, credit card networks have been made worse off, and retailers have been made better off—and there is no evidence that any consumers have been made better off. And this perhaps could and should have been anticipated given the economics of credit card networks, the politics of regulation and the indeterminateness of interchange fee regulation.

The many potential unintended consequences of intervention

Before deciding to impose political regulations on interchange fees, policy makers deciding whether intervention is wise should consider not only whether there is a market failure (evidence which is lacking) but also whether any proposed regulation will actually correct the asserted market failure. Moreover, regulators should also consider whether even if the asserted market failure is corrected whether there will be additional unintended consequences that will make matters worse overall. This is the case with almost any price regulation—while price caps on interest rates, for example, will address the problem of interest rates that are asserted to be too high, it is well-understood that usury limits also produce unintended consequences, such as adjustments in other terms of credit contracts and restrictions in credit supply, that outweigh the modest benefits of potentially lower interest rates for those still fortunate enough to obtain credit. Finally, policy makers must consider whether the proposed intervention will be administratively feasible in light of the capabilities of governmental regulators. On all of these scores—the capacity to rectify the asserted market failure, the likelihood of severe unintended consequences, and the administrative feasibility of interventions—there is major doubt whether political intervention in interchange can be crafted in such a matter as to make welfare-improving interventions possible. Finally, political intervention into the interchange market is likely to spawn an endless cycle of rent-seeking activity by interest groups on all sides.

In the case of credit card networks, defining optimal regulations or network rules that take account of all of the relevant dynamics and identifies optimal outcomes, assuming it is even possible to achieve them with the specific rules, is likely impossible. A considerable body of evidence demonstrates that even well-intentioned interventions in these networks fail to achieve their desired results.[144] But more fundamentally, even assessing the full economic consequences of these interventions is deeply problematic.

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[143] Gans favors the former explanation, but does not seem to account for the increase in annual fees and the absence of retail price reductions. At the same time, he notes that:

> Of course, the data is also consistent with *direct neutrality*. Interchange fees are only one of several types of payments made between issuers and acquirers. There are promotional incentives and the like although these tend to be less or not related to the volume of transactions. It is theoretically possible that as interchange revenue fell, these other payments adjusted accordingly to ensure that issuers continued to attract card-holders. Consequently, there may have been no change in card-holder fees and hence, a similar level of credit card use.

Id. at 10-11.

[144] *See, e.g.*, STILLMAN ET AL., *supra* note 116.

The range of inter-connectedness among the participants in the system is substantial. Predicting the full consequences of adjusting the system in an attempt to benefit a single group—such as merchants—at the expense of another—such as issuing banks—is not straightforward. Rather, the direct cost to issuing banks will induce them to issue fewer cards and extend less credit, and/or raise annual fees or charge higher interest, likely to the ultimate detriment of the merchants themselves, but certainly to the detriment of consumers. Measuring these trade-offs—or even identifying them in the first place—is extremely difficult in such a complex and dynamic setting. As Prager et al. observe, "Even in the simplest case, the efficient interchange fee can be difficult to determine. At a minimum, calculation of the efficient interchange fee requires estimation of the demand curve for card services for heterogeneous consumers and merchants, in addition to precise cost data for acquirers, issuers, merchants, and consumers."[145] At the same time, there is a cost to passing and enforcing regulatory rules, and these costs may be substantial where regulators are setting rates and actively managing the market. Finally, there is no guarantee that any intervention motivated by the interests of one group or constituency (such as merchants) will result in *overall* welfare gains—although it may enrich the group supporting the intervention.

Interchange regulation will lead to term re-pricing

Credit card issuers generate revenue primarily from three basic revenue streams: interest charges on revolving balances, interchange fees, and other fees on cardholders (e.g., late payment fees). The ratio among these three revenue streams has changed in marginal but important ways over the past two decades, an experience that is suggestive of the harm that would likely result to consumers if interchange fees are increased. In 1990, 79.4 percent of credit card revenues were generated by interest payments by consumers who revolved balances; by 2008, however, that ratio had fallen to 66.8 percent. Other fees, such as annual fees and behavior-based fees (such as over-the-limit fees) were largely unchanged in total between 1990 and 2008, comprising 9.3 percent of revenues in 1990 and 9.4 percent in 2008. While the overall amount remained constant, the composition of these fees, however, changed dramatically: annual fees fell from 6 percent of revenues to 2.8 percent and behavior-based fees grew from 3.3 percent to 6.6 percent.[146] The drop in interest revenue was made up by higher interchange fee revenue, which rose from 10.5 percent to 18.5 percent of revenue during this time (reflecting, as noted above, the increased volume from convenience users). The precise ratios among these three streams is fluid and reflects changing consumer demand: in recent years, for example, greater use of home equity loans as a source of consumer credit led to a reduction in revolving balances and interest payments and an increase in behavior-based fees. At the same time, the transactional use of credit cards rose rapidly, even while interchange rates have stayed relatively stable, leading to a relative growth in interchange fee revenue. In fact, as the economy slowed down between 2007 and 2008 and house prices fell, consumers scaled back their shopping (leading to a 1.8 percentage point drop in interchange fees as a percentage of revenues) and increased their use of credit cards as a borrowing device (leading to a 2.8 percentage point increase in revenues from interest payments).

The most important pro-consumer innovation in payment systems of the past two decades has been the general disappearance of annual fees on credit cards. Policies that produced a return of annual fees would strangle this process of competition by making it more expensive for consumers to hold multiple cards, thereby increasing switching costs and dampening competition.

The implication of these trends over time is important to recognize in the context of efforts to artificially reduce interchange fees. The credit card system is essentially a closed system: a

[145] Prager et al., *supra* note 67, at 18.
[146] Cash advance fees rose from 0.9 percent to 4.5 percent of revenues.

forced reduction in one stream of revenues generates efforts to substitute other revenue streams. In a competitive market, the losses from one revenue stream have to be made up for somewhere else.[147] Just as the growth in interchange fee revenues enabled credit card issuers to reduce their reliance on interest payments over the past two decades, artificially squeezing interchange fees will almost certainly lead to efforts to increase revenues from interest payments (through higher interest rates) and fees (such as annual fees).

Americans have been recently reminded of this economic lesson, as Congress's imposition of new limits on certain terms of credit card pricing through the CARD Act over the summer of 2009 has led to increased interest rates and higher annual fees to offset those restrictions. As JPMorgan Chase's CEO, Jamie Dimon, noted in his shareholder letter this year, economic conditions in 2009 resulted in such a significant amount of charge-offs that the company's Card Services division reported a net loss of $2.2 billion.[148] At the same time, however, because of the CARD Act's restrictions, the company is unable to compensate for its risk exposure with higher interest rates. As a result, the company "no longer will be offering credit cards to approximately 15% of the customers to whom [it] currently offer[s] them. This is mostly because [the company] deem[s] them too risky in light of new regulations restricting [its] ability to make adjustments over time as the client's risk profile changes."[149] Because it is more difficult to price risk accurately, issuers have reduced their risk exposure by reducing credit lines, preemptively increasing interest rates and imposing annual fees, and closing many accounts.[150] Proponents of the recent credit card reform may be upset because their legislation failed to repeal the laws of supply and demand, but just as rent control creates housing shortages, regulation of credit terms leads to decreased credit availability and predictable substitutions for regulated terms. Direct or indirect price caps on interchange fees would have similar negative consequences. And as the JP Morgan letter implies, interchange fees can act as a hedge against economic or political restraints on other forms of card issuer revenue: In the current climate, were JP Morgan not able to cover some of its costs through interchange fees (which are paid near the time of a transaction and are thus paid even if a cardholder ultimately defaults on her debt), considerably more than 15% of accounts would need to be closed.

So what would happen if retailers get their way and interchange fees were cut by artificial governmental intervention? The mathematics of the situation are inescapable: In the first instance, card issuers would have to increase the revenue generated from consumers from either interest payments or higher penalty fees, or else reduce the quality of credit cards, such as by reducing customer support or ancillary card benefits. In the second (where these avenues are foreclosed or exhausted), card issuers would have to alter their lending practices, reducing risk exposure and cutting off certain cardholders.

In fact, this is exactly what happened when Australian regulators imposed price caps on interchange fees in 2003: grace periods for when interest starts accumulating have also been shortened dramatically,[151] and issuers also increased revenues from other fees, such as late

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[147] *See* Zywicki, *supra* note 51, at 151–52. *See also* Michael Staten, *The Impact of Credit Price and Term Regulations on Credit Supply* (Harvard University Joint Center for Housing Studies, UCC 08-8, 2008).

[148] Letter from Jamie Dimon, Chief Executive Officer, JPMorgan Chase, to shareholders 10 (Mar. 26, 2010), *available at* http://files.shareholder.com/downloads/ONE/882208931x0x362440/1ce6e503-25c6-4b7b-8c2e-8cb1df167411/2009AR_Letter_to_shareholders.pdf .

[149] *Id.* at 11.

[150] Todd J. Zywicki, The Condition of Small Business and Commercial Real Estate Lending in Local Markets, Testimony before the House Committee on Financial Services, Committee on Small Business (Feb. 26, 2010).

[151] *See* Bradsher, *supra* note 117 ("Interest now starts accumulating on many cards 33 or 44 days after the start of a billing period, instead of the previous 55 days.").

fees and over-limit fees.[152] Issuers could increase revenues from these behavior-based fees either by increasing the fees charged for these events or by an increased focus on acquiring consumers who would be more likely to trigger those fees.[153] But while this type of substitution is bad enough for consumers there is an even more important systemic problem: the effect on annual fees. In Australia, following the regulation, annual fees increased by an average of 22% on standard credit cards and annual fees for rewards cards increased by 47%-77%, costing consumers hundreds of millions of dollars in higher annual fees.[154]

Annual fees are an especially unpopular form of credit card term pricing among consumers. A recent survey found that "no annual fee" was the most important term on which consumers selected credit cards—higher than any other single term, including the interest rate.[155] When annual fees were first imposed in 1980, consumers canceled over nine million bank cards that year, amounting to some 8% of the outstanding total.[156] In response to consumer preferences, today annual fees have virtually disappeared among standard cards.[157] Consumer pressure has motivated this trend, and the re-imposition of annual fees as a consequence of interchange fee regulation would impose a cost on consumers who detest annual fees, a cost that many consumers can ill-afford in the current economic environment.[158] A more far-reaching negative effect of the re-imposition of annual fees, however, would be to reduce competition and consumer choice in credit card markets. The most important pro-consumer innovation in payment systems of the past two decades has been the general disappearance of annual fees on credit cards (except for many rewards cards where the annual fee helps to defray the cost of program administration). The elimination of annual fees has made it possible for consumers to carry and use multiple cards simultaneously. According to Experian, consumers today have over five credit cards (including retail accounts) on average and over half the population has two credit cards or more. The consequences for consumer choice and competition have been profound—card issuers compete for consumers' business literally every time consumers open their wallets to make a purchase. Consumers can and do easily shift balances among different cards depending on which provides the best deal at any given time.[159]. Consumers (and small businesses) can also stack credit lines when necessary.

An annual fee is essentially a cost imposed for simply holding a card. Policies that produced a return of annual fees would strangle this process of competition by making it more expensive for consumers to hold multiple cards, thereby increasing switching costs and dampening competition. Access to multiple cards (and their credit lines) is particularly important for the three-quarters of independent small businesses that rely on personal credit cards in their business and count on infrequently-used reserve lines of credit to exploit rapidly-developing business opportunities. These reserve lines are especially important today as credit lines have

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[152] Howard Chang et al., *The Effect of Regulatory Intervention in Two-Sided Markets: An Assessment of Interchange-Fee Capping in Australia*, 4 REVIEW OF NETWORK ECONOMICS 328, 339 (2005).

[153] Notice that this could trigger another set of macro-level policy issues, as the new consumers would likely be poorer, with greater credit risk and greater difficulty in meeting their debt burdens. While some policymakers may want to create the conditions to make credit more readily available to these consumers, other policymakers may fear an increasing debt burden. In either case, the consequences for consumers of changing the interchange fee to satisfy merchant demands could be substantial, with an impact on a set of policy debates completely absent from the current interchange fee discussion.

[154] *See* STILLMAN ET AL., *supra* note 116, at 13, 15.

[155] EVANS & SCHMALENSEE, *supra* note 16, at 218; *see also* Durkin, *supra* note 91, at 203 (noting that 95% of survey respondents report that the amount of annual fee is "very" or "somewhat important" compared to 91% for interest rate).

[156] MANDELL, *supra* note 121, at 78.

[157] *See* Yip, *supra* note 92 (quoting credit card chief executive as saying "Eighty percent of the credit cards right now do not have an annual fee . . . we fully expect that to go up and up.").

[158] *See* Todd J. Zywicki, *Credit Cards and Bankruptcy*, *in* BANKRUPTCY AND PERSONAL RESPONSIBILITY: BANKRUPTCY LAW AND POLICY IN THE 21ST CENTURY (Todd J. Zywicki ed., 2009), *available at* http://works.bepress.com/todd_zywicki/3/.

[159] Woolsey & Schulz, *supra* note 3.

been slashed as a result of the continuing financial crisis. Forcing small businesses to pay an annual fee just to maintain access to these reserve credit lines would deter many of them from doing so, stifling entrepreneurship and economic recovery.

Interchange regulation will lead to other unintended consequences

Interchange fees are the primary mechanism credit card issuers use to generate revenues from transactional users who don't revolve balances. If interchange fee revenue is arbitrarily reduced, issuers will be forced to increase prices on cardholders through annual fees, interest rates and/or other fees. At the same time, issuers will need to reduce their risk of credit loss through lower credit limits or tougher credit standards—and issuers will find it more burdensome to offer cards to the full range of (relatively-risky) consumers who enjoy card products today.

This regulation-induced shift will induce some lending institutions to shrink in scope, or perhaps cease operations. In particular, credit unions and community banks rely especially heavily on interchange revenue because they tend to cater to lower-risk customers who are less prone to revolve balances and pay penalty fees. Reducing revenue from interchange fees would force these issuers to try to increase revenues elsewhere by increasing interest rates and penalty fees or by increasing their pursuit of customers who will be more likely to generate those revenues. In Australia, for example, it is reported that card issuers have responded to lost revenues from interchange by increasing their efforts to acquire customers who carry a balance rather than transactional users, as regulation has limited the ability to service transactional users profitably.[160] Card issuers might also try to reduce costs, such as by reducing risk by lending only to lower-risk borrowers. Some community banks and credit unions might end up abandoning the credit card market altogether. It is hard to see why Congress would want to adopt policies that punish the most conservative financial institutions and the most responsible consumers to encourage the very risk-seeking behavior that helped to spawn the financial crisis, and yet simultaneously encourage a less-diversified and more risky customer base. Yet squeezing interchange fees likely would do exactly that.

Reducing the interchange revenue stream could also lead to a reduction in card quality (such as decreased security and lessened protection against identity theft), and it would almost certainly reduce the availability of ancillary card benefits, such as frequent flyer miles, cash-back on purchases, and donations to charities via affinity cards.[161] Federal Reserve economist Sujit Chakravorti has observed that "historically, the card networks have been more innovative than other payment networks, such as those that process checks."[162] Australian card issuers reduced the generosity of their reward programs by 23 percent following the imposition of interchange fee caps, and Australia's intervention may have reduced investments in innovation by card issuers that would have improved card quality.[163] But there are numerous other margins on which card quality might be reduced, from the quality of customer service, to investments in fraud protection, to processing time for charges.

If declining revenues from interchange fees also reduce access to credit cards then consumers and small businesses will substitute from cards to other, potentially less desirable,

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[160] STILLMAN ET AL., *supra* note 116, at 21. And, again, this may implicate important macro-level policy choices, the discussion of which is absent from the narrow debate over interchange fees.

[161] Charity affinity cards have become a significant source of revenue for some charities. The World Wildlife Foundation, for example, reports $10 million in revenue from a 12-year period. *See* Amy E, Buttell, *Spend for the Cause with Affinity Cards*, BANKRATE.COM, Mar. 6, 2009, http://www.bankrate.com/finance/credit-cards/spend-for-the-cause-with-affinity-cards-1.aspx. *See also* John Berlau & Ryan Radia, *Payment Card Networks Under Assault*, ISSUE ANALYSIS, Dec. 3, 2009, *available at* http://cei.org/issue-analysis/2009/12/03/payment-card-networks-under-assault.

[162] Chakravorti, *supra* note 74, at 20.

[163] STILLMAN ET AL., *supra* note 116, at 13, 15.

sources of consumer credit. Most obviously, retailers could resuscitate their proprietary credit operations or layaway plans, which could have a price advantage relative to the regulated payment card networks.[164] For example, during the credit crunch of Fall 2008, it was reported that the sudden tightening of credit flows to consumers led to a return of merchants' layaway programs, an inferior substitute for credit.[165] Others who might no longer be profitable to credit card issuers will turn elsewhere for credit, such as pawn shops, payday lenders, rent-to-own programs, or even loan sharks.[166] It is difficult to see how a regulation inducing substitution from credit cards to these other forms of lending, presumably at higher interest rates, makes consumers better off. It is even more difficult to imagine any possible benefit to completely cutting off access to credit for some consumers. The young and the poor already have fewer and less-attractive credit options than middle class families—restricting their credit options still further by making it even more difficult for them to get access to attractive credit on competitive terms does not seem to be a plausible way of making their lives better.

Are interventions administratively feasible?

Still another hurdle to political intervention in interchange fees is whether, assuming a market failure (of which there is no evidence), there are real-world regulatory interventions that are feasible as an administrative matter and can practically operate to address the asserted market failure without overwhelming unintended consequences. The GAO Report recently looked at this question, focusing on a set of proposed regulatory interventions and the likelihood that they would achieve their desired regulatory objectives.[167] Despite a statutory mandate to do so, the GAO did not propose or endorse any regulatory intervention but instead noted the difficulties that would likely flow from such intervention.[168] The report also highlighted that the unintended consequences of intervention would be substantial.[169] The likely failure of regulatory intervention is not surprising given the complexity of the system—it may even be inevitable.

Notably, most of the legislation under consideration in the United States rejects the RBA's cost-based price cap approach, suggesting a widespread recognition of the undesirability of such an approach.[170] But the recognition that the RBA's aggressively interventionist approach is undesirable does not imply that less-intrusive interventions are desirable. Any artificial reduction in the interchange fee could have far-reaching and undesirable results.

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[164] Chang et al. find, for example, that in Australia the imposition of limits on interchange fees for Visa and MasterCard but the failure to impose similar limits on American Express and Diners Club has led to a shift toward those other systems. Chang et al., *supra* note 151, at 348.

[165] *See generally* Dino, *supra* note 60.

[166] *See* Susan Lorde Martin & Nancy White Huckins, *Consumer Advocates v. The Rent-to-Own Industry: Reaching a Reasonable Accommodation*, 34 AMERICAN BUSINESS LAW JOURNAL 385 (1997); Signe-Mary McKernan et al., *Empirical Evidence on the Determinants of Rent-to-Own Use and Purchase Behavior*, 17 ECONOMIC DEVELOPMENT QUARTERLY 33, 51 (2003); James P. Nehf, *Effective Regulation of Rent-to-Own Contracts*, 52 OHIO STATE LAW JOURNAL 751, 752 (1991); Eligio Pimentel, *Renting-To-Own: Exploitation or Market Efficiency?*, 13 LAW & INEQUALITY 369, 394 (1995); LENDOL CALDER, FINANCING THE AMERICAN DREAM (1999); JOHN P. CASKEY, FRINGE BANKING: CHECK-CASHING OUTLETS, PAWNSHOPS, AND THE POOR, 37-67 (1994); Richard L. Peterson & Gregory A. Falls, *Impact of a Ten Percent Usury Ceiling: Empirical Evidence* (Credit Research Ctr., Working Paper No. 40, 1981); see also Robert W. Johnson & Dixie P. Johnson, *Pawnbroking in the U.S.A.: Profile of Customers* 47 (Credit Research Ctr., Monograph No. 34, 1998).

[167] *See* GAO REPORT, *supra* note 4.

[168] For example, the GAO stated that "[i]f interchange fees for merchants were lowered, consumers could benefit from lower prices for goods and services, but proving such an effect is difficult, and consumers may face higher costs for using their cards." GAO REPORT, *supra* note 4, at 45.

[169] For example, the GAO Report noted that "a limit on interchange fees could affect merchants negatively if this option led to decreased overall retail sales or available credit." GAO REPORT, *supra* note 4 at 55.

[170] *See* Credit Card Interchange Fees Act of 2009, H.R. 2382, 111th Cong. (2009); Credit Card Fair Fee Act of 2009, S. 1212, 111th Cong. (2009); Credit Card Fair Fee Act of 2009, H.R. 2695, 111th Cong. (2009).

At the end of the day, the implication that by direct price regulation or through indirect measures aimed at putting downward regulatory pressure on interchange fees, regulators can identify and mandate the socially-optimal interchange fee is deeply suspect. As David Evans and Richard Schmalensee note:

> Because of the difficulty of the task, there are no serious attempts of which we are aware to estimate the socially optimal interchange fee for any real payment system. Given currently available data and estimation methods, we believe that any such attempt could at best yield highly imprecise estimates. This task would require far more empirical information than classic public utility regulation. Most public utilities have historically been monopolies, so the strategic interaction with competitors could be ignored, unregulated prices can be safely presumed to be too high, and reducing prices until the utility just breaks even will generally increase economic welfare—at least as long as impacts on the utility's incentives for efficiency are ignored. Although sometimes present, network effects rarely played an important role in the analysis, and the calculation of optimal (Ramsey) prices required only estimates of marginal costs and demand elasticities.[171]

The Australian experience demonstrates the difficulty of devising interventions that are sufficiently well-informed, nuanced, and tailored to accomplish their goals. As the RBA has learned, mere hopes and expectations that the savings would be passed on to consumers are not enough.

Political intervention to set interchange fees will promote wasteful rent-seeking

Political intervention to set interchange fees will have the final negative effect of shifting determinations about interchange prices from market processes to political processes. This will promote wasteful political rent-seeking and will inevitably lead to outcomes based on the lobbying might of various interest groups in Washington, rather than the voluntary choices of consumers, banks, and merchants through the free market. Just as providing merchants with an exemption from the antitrust laws is unlikely to benefit consumers, the millions of politically-unorganized card owners and nonprofit organizations that benefit from market-based interchange fees are likely to be excluded from this political calculus.

It is difficult to determine how much money merchants have spent on its lobbying and its sophisticated and expensive public relations campaigns to spur Congress to intervene to regulate interchange fees. One *Business Week* article notes simply that merchants have spent "years and millions of dollars" lobbying for regulation.[172] The financial services industry, of course, has probably spent comparable amounts in response.[173] Once interchange fees and potentially other prices within the credit card network are set by politics rather than market processes, political battles to fine-tune the system and reset prices are inevitable.

The problem of an increasing ratchet of governmental intervention and rent-seeking is especially likely in this context because of the complexity of the credit card business and the resultant unpredictability of the intervention's effects; one political intervention into a

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[171] *See* Evans & Schmalensee, *supra* note 12, at 37.
[172] Brian Burnsed, *Credit-Card Fee Reform Stays on the Back Burner*, BUSINESS WEEK, Oct. 16, 2009, *available at* http://www.businessweek.com/smallbiz/content/oct2009/sb20091016_047806.htm.
[173] *See* Anna Palmer, *K Street Files*, ROLL CALL, Nov. 18, 2009, http://www.rollcall.com/issues/55_58/kfiles/40705-1.html.

complicated, integrated system like the credit card system inherently begets the need for further interventions.[174] Because of the multiple economic margins in the system and all the various cross-relationships, regulators will invariably be asked to engage in still further rounds of interventions to address the unintended consequences of earlier interventions. In fact, the same consumer advocacy groups that supported the initial regulation in Australia are now lobbying for still further interventions that would restrict the precise size of the surcharges that retailers could impose.[175] The final outcome of replacing market processes with political lobbying is unlikely to benefit consumers or the economy as a whole.

As Gans puts it, "Payment systems are different because they are two-sided markets. That means that regulation of one price leads only to the adjustment of others. If simultaneously the RBA could regulate *all prices*—interchange fees, card issuing fees and merchant service charges—then price regulation would be effective."[176] Absent comprehensive and effective regulation of every facet of the entire credit card network, the effects of regulation cannot be anticipated. Of course, such comprehensive regulation would be unlikely to produce cards that are useful to consumers, merchants or issuers. And even this scope of regulation doesn't address the primary motivation for the regulation in the first place—for merchants to pass on cost savings to consumers. To ensure that result, Congress presumably would have to mandate comprehensive cost-accounting of how every merchant shared its cost savings with consumers.

Political restrictions on interchange fees will increase the cost and reduce the quality of payment cards for consumers, reduce credit availability, and drive credit unions and community banks out of the credit card market, all with no promise of lower prices for consumers as a whole. In the long run they could roll back the clock on the movement toward a paperless payment system, stifle competition with emerging payment technologies, and launch endless rounds of politically-motivated interventions to rectify the unintended consequences of earlier interventions.

Sponsors of legislation in the United States apparently believe that a less-intrusive intervention would have results that are less distorting than in Australia, but the logic of interventionism suggests that this is not a sustainable equilibrium. And the less-intrusive American interventions raise new problems. For example, one proposal would exempt merchants from the antitrust laws in order to allow them to collectively bargain over interchange fees. But as the GAO Report notes, there is no reason to believe that bilateral bargaining between merchants and the card networks will produce outcomes that benefit consumers rather than the parties at the table.[177] And the costs and imperfections of regulation are essential to assessing the desirability of intervention. The question is not only whether savings would be passed through to consumers. The real welfare question is whether any benefits to consumers from reducing interchange fees would be *greater than* the benefit that consumers have today.

Ultimately, it is predictable that regulating interchange fees would:

[174] LUDWIG VON MISES, A CRITIQUE OF INTERVENTIONISM (1976).
[175] *See* Bradsher, *supra* note 117.
[176] *See* Gans, *supra* note 115, at 14 (emphasis added).
[177] GAO REPORT, *supra* note 4, at 62.

1. Likely lead to the re-imposition of annual fees and the reduction of competition in the credit card industry;
2. Lead to increased costs for all cardholders, including especially borrowers who revolve and pay penalties;
3. Lead to a reduction in the quality of cards (decreased benefits);
4. Make it economically impossible for many community banks and credit unions to continue to offer cards;
5. Ensure that it will no longer be profitable to issue cards to some consumers (*i.e.*, result in reduced credit availability for large swaths of the American public), and others will find it no longer financially beneficial to hold cards;
6. Cause some unraveling of the balanced network and a reduction in the overall value of the credit card payment network;
7. Likely encourage some retailers to bring back in-house credit operations and layaway plans which will still require cash customers to subsidize credit users but which will also reduce competition in the market for goods and services as well as the market for credit; and
8. Induce some consumers to use cash and checks rather than cards, with all their attendant costs, including especially a reduction in on-line commerce—a significant driver of small business growth.

It is difficult to imagine an intervention as poorly-supported by evidence or theory and that would be more damaging to consumers, the economy, competition, and innovation than artificial efforts to restrict interchange fees.

Conclusion

Merchant advocates have been vocal in their claims that interchange fees are too high and that Congress should intervene politically to lower them artificially. But neither economic theory nor empirical evidence support their claims. Moreover, there is strong evidence that government intervention would probably make matters worse. Setting interchange fees by market processes has led to a system of ownership and acceptance that is innovative and global in scope. Congress should be cautious before intervening in a system that has provided so many benefits to consumers, merchants, and the economy—especially in today's continued unstable credit market environment. Merchants, by contrast, would ask Congress to force consumers and the economy back to antiquated and cumbersome paper-based payment systems. Congress should resist this special interest pleading to replace decision by market processes with decision by political processes. When it comes to interchange fees, policymakers face a fundamental decision: should these fees be set by contract in the marketplace by competent business firms or through political influence?

The regime of competition and free enterprise has produced innovation, consumer choice, and established the United States as the unrivaled global leader in payment cards networks. It has spawned the development of e-commerce; indeed, it is impossible to even imagine e-commerce on a scale like we have today without a massive payment card network that seamlessly links together consumers and merchants. Credit cards have enabled retailers to eliminate their expensive and risky in-house credit operations. At the same time, by breaking the traditional link between selling goods and offering credit, credit cards have spurred competition in both markets, benefiting consumers. Widespread acceptance of credit cards has propelled small business growth by allowing small businesses to compete with established businesses without having to develop an expensive and risky in-house credit operation.

Yet despite these extraordinary benefits to consumers, merchants, and the economy, there are those who believe that the future should hold more Brinks trucks and safes and fewer electronic payments. But these claims are based on an inaccurate measure of the costs and benefits of payment cards relative to traditional legacy payment systems. In particular, they ignore the full costs of these alternative systems, including the costs of printing, handling, and transporting cash. At best, cash is more efficient than payment cards for very small transactions. Even then, it is hard to understand the logic of a policy that would require consumers to spend more time in line at ATMs, increase the risk of employee theft, and suffer the deadweight cost of driving around paper in armored cars. The future lies with more, not fewer, electronic payments.

The wisdom of intervention is especially weak where the problem is so poorly-defined and the potential for unintended consequences so great. Economists have provided no consensus that there is even a problem to be addressed. Absent any discernible impact on overall economic efficiency, merchants are left to argue that there is an "unfair" subsidy between cash shoppers and credit card users. The existence of any such subsidy is open to question but if the subsidy exists, it is because merchants choose to impose it rather than implement their right to discount for cash or checks as permitted under federal law and network rules. If any such subsidy exists merchants can address it by simply providing discounts to consumers who pay with cash. In any event, merchants themselves should be reluctant to seek congressional intervention in this area, as few industries are more prolific in creating those subsidies than the retail industry. Indeed, merchant cross-consumer subsidies are ubiquitous in the economy. These cross-subsidies are a product of healthy and vigorous competition and many of the merchants who are most vocal in condemning the supposed subsidy in interchange debates--like grocers, gas stations and retailers offering their own in-house credit operations—themselves impose the greatest cross-subsidies. Equally important, there is no way to know what is the "right" interchange fee or that intervention will make any improvements in the system rather than produce negative consequences for consumers and the economy as a whole.[178] Experience elsewhere has shown the difficulty of fine-tuning one price in an integrated, complex, dynamic, multi-party, global network.

Politically-motivated, artificial restrictions on interchange fees will likely increase the cost and reduce the quality of payment cards for consumers, reduce credit availability, and drive credit unions and community banks out of the credit card market, all with no promise of lower prices for consumers as a whole or an increase in economic efficiency. And in the long run they could roll back the clock on the movement toward a paperless payment system, stifle competition with emerging payment technologies, and launch endless rounds of politically-motivated interventions to rectify the unintended consequences of earlier interventions. Alternatively, Congress could simply recognize that the decision to accept payment cards is a

[178] As one commenter noted, in testimony to Congress on the desirability of interchange fee legislation:

> There are many elements to this bill. I have not done a careful study of it. I would like to suggest however that payment cards is one of the most complex industries that economists study. There are many moving parts. There are also many interdependencies between the merchants, cardholders, processors, acquirers, networks, and other players. As a result there is a greater risk in this industry than in others for government interventions to have unintended consequences. Finally, I am not aware of any systematic evidence that would support the position that the payment card network practices targeted by HR 2382 cause overall public harm or that the types of restrictions on payment card networks suggested in the bill would inure to the public benefit.

See Credit Card Interchange Fees Act of 2009 and Expedited CARD Reform for Consumers Act of 2009: Hearing on H.R. 2382 and H.R. 3639 Before the H. Comm. On Financial Services, 111th Cong. 3 (2009) (statement of David S. Evans, Lecturer, University of Chicago Law School).

business decision made by merchants in a free economy and calls to intervene on behalf of merchants are nothing more than special interest pleading.

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Note on Armen Alchian

Armen Alchian, in whose honor the ICLE has been formed, is a pioneer of new institutional economics and an intellectual forebear of the law and economics movement. His intuitive, non-technical (but rigorous and thoughtful) approach to economic questions is the model for the center's work. Alchian's focus on the importance of institutions to economic and legal analysis and his unwavering efforts to explain complex real-world phenomena with the powerful insights provided by property rights theory and the theory of the firm have inspired a generation of scholars. Nobel Laureate Friedrich Hayek said of Alchian, "There are two economists who deserve the Nobel prize because their work is important but won't get it because they didn't do a lot of work: Ronald Coase and Armen Alchian." Although into his nineties now, there is still hope for Alchian to follow in Coase's unexpected footsteps.