

THE ECONOMIC EFFECTS OF INTERCHANGE FEES

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I. INTRODUCTION

The purpose of a payment system is to transfer money, or a legal claim to money, from buyers to sellers. All else equal, the efficiency and competitiveness of a payment system increases with the speed and accuracy with which money moves from buyer to seller and declines as the costs and fees associated with payments increase. Efficient and competitive payment systems reduce transaction costs affecting a multitude of other markets, expanding output and reducing prices in those markets. An inefficient or monopolized payment system, on the other hand, can distort consumer and merchant choices and make underlying markets in goods and services less efficient.

Payment systems have long been the focus of intense political, legal, and regulatory disputes. In recent years, antitrust disputes have repeatedly erupted concerning credit card, debit card, and ATM card networks in the United States and other countries. In this article we focus on the debate over interchange fees in retail card payment systems—particularly the use of interchange fees in the MasterCard and Visa credit card networks.

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MasterCard and Visa are associations of banks.¹ “Issuer” banks recruit and serve cardholders, and “acquirer” banks recruit and serve merchants.² A member bank can be an issuer, an acquirer, or both. An interchange fee is nominally a transfer payment between two banks when a cardholder customer of one bank makes a purchase from a merchant customer of another bank. For retail MasterCard or Visa transactions in the United States, interchange fees are paid to the issuer and constitute the largest component of the fees paid by the merchant. The amount of the interchange fee typically is specified by MasterCard or Visa, depending on which card brand is presented by the cardholder, and is reported to average 1.75 percent in the United States.³ Because MasterCard and Visa are controlled by their bank members and operate on behalf of their banks, the question arises whether banks might use the collective setting of interchange fees for anticompetitive purposes.

The first antitrust challenge to interchange fees was *National Bancard Corp. (NaBanco) v. Visa U.S.A., Inc.* In that case, the U.S. District Court for the Southern District of Florida accepted arguments offered by Visa and its expert William Baxter that interchange fees were necessary to the existence of the Visa credit card system, achieved efficiencies, and were beneficial so long as use of the Visa processing network was not mandatory. The district court also accepted arguments that the relevant market was broad, including all payment methods, and Visa therefore lacked market power. The Eleventh Circuit affirmed.⁴

Baxter’s economic analysis in *NaBanco* and the continued applicability of that case have been challenged in recent years.⁵ The U.S. District Court for the Southern District of New York rejected a broad “all payment methods market” defense in the recent Department of Justice case against

¹ MasterCard recently converted into a stock corporation and began trading its shares in May 2006. See Press Release, MasterCard, MasterCard Incorporated Prices Initial Public Offering (May 24, 2006), <http://www.mastercardinternational.com/cgi-bin/newsroom.cgi?id=1266&category=all>.

² Our discussion of issuers or acquirers includes the activities of third-party processing agents that sometimes provide services to these banks and their customers.

³ Kenneth Posner & Camrom Ghaffari, *The Empire Strikes Back*, Morgan Stanley Equity Research (Mar. 8, 2005) (on file with authors). For a review of the history of interchange fees in electronic and paper payment systems, see Alan S. Frankel, *Monopoly and Competition in the Supply and Exchange of Money*, 66 ANTITRUST L.J. 313 (1998).

⁴ *Nat’l Bancard Corp. (NaBanco) v. Visa U.S.A., Inc.*, 596 F. Supp. 1231 (S.D. Fla. 1984), *aff’d*, 779 F.2d 592 (11th Cir. 1986).

⁵ See, e.g., Dennis W. Carlton & Alan S. Frankel, *The Antitrust Economics of Credit Card Networks*, 63 ANTITRUST L.J. 643 (1995); Frankel, *supra* note 3; David Balto, *Interchange Fee Rationales Don’t Hold Up*, AM. BANKER, Mar. 9, 2000, at 9; David Balto, *Comment: Let’s Reevaluate the Effects of Interchange Fees*, AM. BANKER, Mar. 14, 2000, at 14.

MasterCard and Visa.⁶ A recent class action (the *Wal-Mart* case) alleged harm to merchants flowing from the payment of anticompetitively elevated interchange fees on debit card transactions.⁷ Merchants in the United States have filed new legal challenges to credit card interchange fees, and European merchants have led an attack on the lawfulness of interchange fees before the European Commission.⁸ Regulators in many jurisdictions, including Australia, Israel, Mexico, New Zealand, Poland, Spain, Switzerland, and the United Kingdom, have been scrutinizing interchange fees.⁹

MasterCard and Visa, their member banks, and a number of economists have offered both legal and economic justifications for the manner in which those associations set interchange fees. In this article we provide an overview of the effects of interchange fees, describe possible alternatives, and review the justifications offered for such fees.

II. THE EFFECTS OF INTERCHANGE FEES ON PRICES AND OUTPUT

Interchange fees establish the major component of acquirers' marginal costs for processing transactions and account for most of the fees paid by merchants to acquirers for processing credit card transactions—the “merchant discount.” Because banks collectively control the setting of interchange fees, the fees have a direct effect similar to a horizontal agreement among banks establishing both a minimum merchant fee and a commission paid to card-issuing banks, which affects both merchants and consumers.

⁶ *United States v. Visa U.S.A., Inc. & MasterCard Int'l*, 163 F. Supp. 2d 322 (S.D.N.Y. 2001), *aff'd*, 344 F.3d 229 (2d Cir. 2003), *cert. denied*, 543 U.S. 811 (2004).

⁷ *In re Visa Check/Mastermoney Antitrust Litigation*, No. 96-CV-5238, 2003 WL 1712568 (E.D.N.Y. Apr. 1, 2003)

⁸ *Reyn's Pasta Bella, LLC v. Visa U.S.A.*, 259 F. Supp. 2d 992, 997 (N.D. Cal. 2003); *In re Payment Card Interchange Fee and Merchant Discount Antitrust Litigation*, MDL-1720 (JG) (JO), 2006 U.S. Dist. LEXIS 33750 (E.D.N.Y. May 17, 2006); Notice Pursuant to Article 19(3) of Council Regulation No. 17, Case COMP/29.373—*Visa International*, 2001 O.J. (C 226) 10 [hereinafter *Visa Notice Pursuant to Article 19(3)*], Commission Decision 2002/914 of July 24, 2002, *Visa International—Multilateral Interchange Fee*, 2002 O.J. (L 318) 17, 18–21 (settlement). The European Commission recently filed a statement of objections to MasterCard regarding its interchange fees. Press Release, European Commission, Competition: Commission Sends Statement of Objections to MasterCard (June 30, 2006), <http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/06/260&format=HTML&aged=0&language=EN&guiLanguage=en>.

⁹ MasterCard Inc., Form 10-K, at 2 (Dec. 31, 2003) (“Interchange fees are the subject of increasingly intense regulatory scrutiny worldwide . . .”). Stuart E. Weiner & Julian Wright, *Interchange Fees in Various Countries: Developments and Determinants*, in INTERCHANGE FEES IN CREDIT AND DEBIT CARD INDUSTRIES: WHAT ROLE FOR PUBLIC AUTHORITIES? 5, 5 (Kansas City Federal Reserve Bank, 2005).

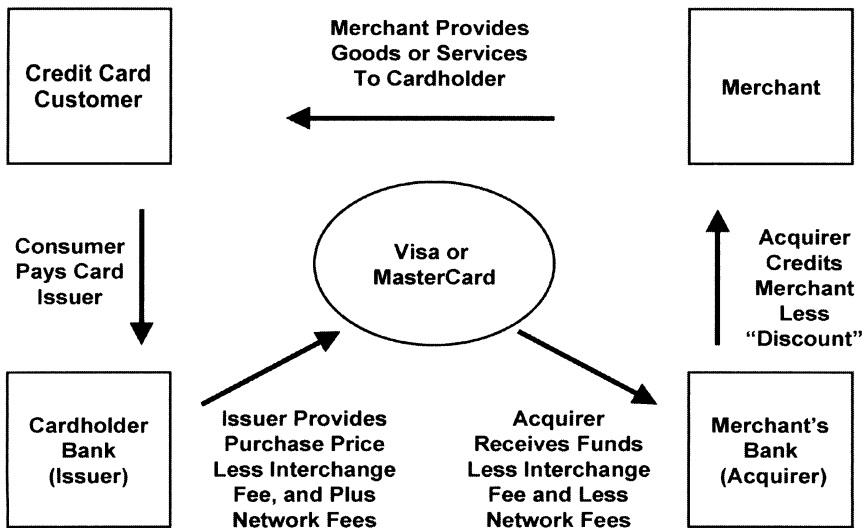


Figure 1. Flow of Funds in Credit or Debit Card Transaction

A. THE EFFECTS OF INTERCHANGE FEES ON MERCHANT FEES

The participants and net cash flows involved in a typical credit or debit card transaction are illustrated in Figure 1. A consumer is issued a card bearing the name of a branded network.¹⁰ The consumer (cardholder) presents the card to a merchant in connection with a retail purchase. The merchant contacts its acquirer, which obtains and passes to the merchant an authorization message from the issuer. After a transaction is completed at the point of sale, the merchant submits the transaction to its acquirer for collection. The issuer advances funds to the acquirer on the consumer's behalf, less the interchange fee. This interbank payment occurs through a net settlement system in which MasterCard and Visa each aggregate the payments due to and from all of their respective members and adjust each member's settlement balance to reflect its new net position. Payments credited to the acquirer are, in turn, credited to

¹⁰ For now, we restrict the discussion to four-party networks like those operated by MasterCard and Visa, in which the card issuer is a member bank (or other financial institution). In the United States, Discover Card and American Express issue three-party credit cards in which they control both merchant and cardholder relationships. In *United States v. Visa U.S.A.* the Department of Justice prevailed in its claim that MasterCard and Visa rules prohibiting their members from issuing Discover Card or American Express cards were anticompetitive. *Visa U.S.A.* 344 F.3d 229. American Express now operates a four-party system in which it has enlisted some other card-issuing banks, although it retains control of all merchant acquiring operations.

the merchant's account, less the fees assessed by the acquirer (the merchant discount). The issuer posts the transaction amount to the cardholder's account.¹¹ The consumer, of course, is obligated to repay the issuer for funds advanced on the consumer's behalf.¹²

Because acquirers do not receive the full amount of the transaction, they can, at most, profitably pass on to the merchant only the amount they receive (which is net of the interchange fee). As David Evans and Richard Schmalensee explain, "The interchange fee puts a floor under the merchant discount. Indeed, since the acquiring side of the business is fairly competitive, one can expect changes in merchant discounts to generally reflect changes in interchange fees."¹³ Moreover, the interchange fee is the major component of acquirers' costs of servicing merchants.¹⁴ Economic theory indicates that if interchange fees fall, competitive acquiring banks will pass along the reduction in marginal costs through lower merchant fees. In fact, merchant fees are often

¹¹ When charges are submitted by merchants whose prices are denominated in currencies other than U.S. dollars, MasterCard and Visa collect more funds from U.S. cardholders than required to pay the merchants and acquirers. This extra revenue is kept by MasterCard or Visa, not the issuing bank, although the issuing bank might add an additional fee of its own on transactions denominated in foreign currencies. See Statement of Decision, *Schwartz v. Visa Int'l Corp.*, No. C822404-4 (Cal. Alameda County Ct. 2003), available at <http://apps.alameda.courts.ca.gov/fortecgi/fortecgi.exe?ServiceName=DomainWebService&TemplateName=html/sample.html&rofact=04/07/03&Action=12262323>. (Author Alan Frankel testified on behalf of the plaintiff in *Schwartz*.) The associations also collect transaction processing and membership fees from their members.

¹² In a revolving credit card transaction, the cardholder may choose whether to repay the entire amount due or a lesser amount, carrying a balance (to which a finance charge applies) to the next month. Credit card customers who generally pay their card bill in full each month are known as transactors; those using the revolving credit feature are revolvers. In a direct debit card transaction, payment is taken directly from the customer's deposit account. In a deferred debit transaction, the funds are taken from the deposit account at a later time. The deposit account in either case may have an attached line of credit to fund negative balances. In a charge card transaction, the entire amount charged during a month is billed to the cardholder and is due in full.

¹³ DAVID EVANS & RICHARD SCHMALENSEE, *PAYING WITH PLASTIC* 199 (1999). Evans and Schmalensee state that "Visa could not deny that [by imposing an interchange fee] it had engaged in price fixing, but despite the general per se rule against such behavior, Visa had a possible defense." *Id.* at 276.

¹⁴ Howard Chang & David Evans, *The Competitive Effects of the Collective Setting of Interchange Fees by Payment Card Systems*, 45 ANTITRUST BULL. 641, 643 (2000). See also Louise Parent, Presentation to the American Express Analyst Community Meeting 2 (Aug. 3, 2005), http://library.corporate-ir.net/library/64/644/64467/items/168406/fcm_lp_sp.pdf ("Interchange represents the largest component of the Visa, MasterCard merchant discount and ultimately sets the floor for that rate."). In the United States, Visa's interchange fee constituted 82% of the average merchant discount in 2004. Bill Sheedy, Executive Vice President, Visa U.S.A Inc., *Interchange Reimbursement Fees: Delivering Value and Driving Innovation*, Presentation to the Federal Reserve Bank of Kansas City's 2005 Payments Conference 4 (May 6, 2005), <http://www.kc.frb.org/FRFS/PSR/PDF/SheedyPanelRemarks.pdf>.

explicitly formulated on an “interchange-plus” basis.¹⁵ The Reserve Bank of Australia (RBA) has found that the reduction of interchange fees in that country was associated with a more than proportionate reduction in merchant fees, and concluded that competition has further led merchants to pass along their own reduction in marginal costs.¹⁶ While technological progress has continued to reduce acquirer costs and, therefore, the acquirer markup over the interchange fee, MasterCard and Visa have in recent years increased U.S. interchange fees enough that average merchant discounts have increased.¹⁷

B. THE EFFECTS OF INTERCHANGE FEES ON CONSUMERS

Retail prices have historically been characterized by “price coherence”—prices tend to be the same at a particular retail location regardless of the payment method proffered.¹⁸ Price coherence creates cross-subsidies between payment methods with different costs. To the extent that credit cards are a high-cost payment method to merchants, then all consumers supply the funds that are collected by merchants and paid as interchange fees. Consumers typically cannot obtain lower retail prices by using payment methods that the merchant finds less costly, such as PIN-debit cards, without forgoing all purchases from merchants that accept the more costly credit and offline (i.e., MasterCard and Visa

¹⁵ Charles Marc Abbey, *Interchange Fee Increase a Chance to Review Pricing*, AM. BANKER, Mar. 3, 1998, at 20 (“Much of the industry employs interchange-plus pricing strategies. . . .”); John Small & Julian Wright, *Decentralized Interchange Fees in Open Payment Networks: An Economic Analysis* (Dec. 2000) (unpublished manuscript, on file with authors); Brief of Appellee Visa U.S.A., Inc. at 64, *National Bancard Corp. (NaBanco) v. Visa U.S.A., Inc.*, 779 F.2d 592 (11th Cir. 1986) (No. 84-5818) [hereinafter *Visa Brief in NaBanco*] (arguing that if the interchange fee falls “. . . merchants banks will drive the merchant discount rate down by the amount of reduction in [the interchange fee]. . . .”); Charles Marc Abbey, *The Case for PIN-Based Debit Acquiring*, CREDIT CARD MGMT., July 1, 2001, at 20; Parent, *supra* note 14, at 2 (“Visa and MasterCard acquirers keep the right to pass-through to merchants any association increases in interchange. This means that increases in interchange are felt immediately.”).

¹⁶ RESERVE BANK OF AUSTRALIA, PAYMENTS SYSTEM BOARD, 2005 ANNUAL REPORT 10–11 [hereinafter *PAYMENTS SYSTEM BOARD 2005 ANNUAL REPORT*] (“The fall in the average merchant service fee since the reforms is significantly larger than the decline in the average interchange fee . . . These lower merchant costs are feeding through into lower prices for goods and services (or smaller price increases than otherwise would have occurred). While merchants would undoubtedly have hoped that these lower costs translated into increased profits, competition means that just as the banks passed on their lower costs to merchants, so too must merchants pass on their lower costs to consumers.”).

¹⁷ According to Visa, between 1995 and 2004 the markup of merchant discount rates over Visa’s interchange fee fell from 0.47% to 0.37%, while Visa’s average interchange fee increased from 1.21% to 1.71%. Sheedy, *supra* note 14, at 4.

¹⁸ See, e.g., Carlton & Frankel, *supra* note 5, at 660; Frankel, *supra* note 3.

signature-based) debit cards.¹⁹ With retail prices unresponsive to merchant payment costs, there is potential for distortion of consumers' incentives to use different payment methods.

1. *The Effects of Interchange Fees on Issuer Costs and Prices*

If issuers and merchants were perfectly competitive and there were no costs associated with pricing differently according to payment method, then it is possible that an interchange fee would have no economic effects. To explain, suppose an interchange fee for credit card transactions is set at 5 percent of the sale amount and neither merchants nor issuers incur any other payment costs. Because pricing is assumed frictionless in this scenario, merchants charge credit card customers 5 percent more than cash customers, and issuers rebate 5 percent to those same credit customers. The interchange fee merely circulates revenue from cardholders to merchants and back again in full to cardholders—a result known as neutrality.²⁰ Interchange fees have no economic effects in this scenario, creating neither harm nor benefit; the net position of merchants, cash customers, and credit card customers would not vary with changes in interchange fees.

The important and interesting economic phenomena—the real effects of interchange fees—result from deviations from this perfect, frictionless world, such as imperfections in merchant pricing flexibility or imperfections in competition among banks (e.g., market power or costs associated with rebating the value of interchange fee revenue to cardholders). The U.S. acquiring market is generally considered to be highly competitive.²¹

¹⁹ See, e.g., Michael L. Katz, *Commissioned Report, in 2 REFORM OF CREDIT CARD SCHEMES IN AUSTRALIA* 41 (Reserve Bank of Australia Aug. 2001) (“When card-based transactions are more costly to merchants than are non-card-based transactions, non-card users are hurt by card use because merchants have incentives to raise retail prices to reflect their higher costs due to some consumers’ using relatively expensive payment means.”). In addition to the antitrust issues involved with interchange fees, there are distributional implications. Customers who never use MasterCard or Visa cards are disproportionately poorer than card customers. For example, only 28.5% of families with annual income below \$10,000 possess a bank credit card, compared to 95.8% for families with income above \$100,000. See U.S. CENSUS BUREAU, *STATISTICAL ABSTRACT OF THE UNITED STATES: 2004–2005*, Table No. 1186, <http://www.census.gov/prod/2004pubs/04statab/banking.pdf>. There is also a racial dimension. See Javier Silva & Rebecca Epstein, *Costly Credit*, DEMOS, May 2005, <http://www.demos.org/pubs/Costly%20Credit%20final.pdf> (discussing a study based on data from the Federal Reserve’s Survey of Consumer Finances for the years 1992 through 2001) (“59 percent of African-American households had credit cards in 2001, compared to 53 percent for Latinos and 82 percent for whites.”).

²⁰ Dennis W. Carlton & Alan S. Frankel, *The Antitrust Economics of Credit Card Networks: Reply to Evans and Schmalensee Comment*, 63 *ANTITRUST L.J.* 903, 912 (1995); Joshua S. Gans & Stephen P. King, *The Neutrality of Interchange Fees in Payment Systems*, 3 *TOPICS ECON. ANALYSIS* 1 (2003).

²¹ EVANS & SCHMALENSEE, *supra* note 13.

Whether interchange fees have significant effects, therefore, depends on the degree to which merchants price by payment method, and to which issuers rebate interchange fee revenue to cardholders. In fact, merchants generally do not charge different prices when their costs vary for different payment methods. As interchange fees increase, merchants are likely to pass the additional costs on to all of their customers.²² Issuers, on the other hand, generally do not fully rebate each increment in interchange fee revenue back to their cardholders.

From an issuer's perspective, an interchange fee is a commission received each time a cardholder customer makes a transaction. All else equal, increasing the interchange fee increases the profitability to issuers of card transactions.²³ The additional profits could be dissipated by competing banks through price reductions to cardholders, but interchange fees are sufficiently high that credit card transactions typically remain profitable even when cardholders pay no fees. Economic theory suggests that interchange fees might be retained by banks, rebated to cardholders through negative transaction fees, or expended by issuers in efforts to recruit more cardholders. In practice, all three behaviors appear to occur. Issuers rebate some, but not all, of their interchange fee revenue to cardholders in the form of cash or non-cash perks or payments, and they expend significant resources recruiting customers. The interchange fee thus may have effects analogous to (minimum) resale price maintenance, by encouraging issuers to undertake additional marketing efforts.²⁴ Such competitive responses may benefit consumers to some extent, but they can also reflect "rent-seeking" costs symptomatic of excessive profits generated from interchange fees.²⁵

²² Frankel, *supra* note 3; Jean-Charles Rochet & Jean Tirole, *Externalities and Regulation in Card Payment Systems*, 5 REV. NETWORK ECON. 1, 4 (2006) ("Merchants are likely to pass the extra costs, if any, of card transactions through to consumers in general, that is to cardholders and cash payers altogether.").

²³ Interchange fees reportedly accounted for 10% of MasterCard and Visa credit card issuer revenue in 1997 and 19% (\$20.62 billion) in 2005. *A Balancing Act for Profits*, CREDIT CARD MGMT., May 1999, at 52; *Bank Card Profitability Study*, CARDS & PAYMENTS, May 2006, at 31. According to the Federal Reserve, "Credit card earnings have been consistently higher than returns on all commercial bank activities" and profits appear to be higher for large issuers than smaller issuers. BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM, *THE PROFITABILITY OF CREDIT CARD OPERATIONS OF DEPOSITORY INSTITUTIONS* (June 2004).

²⁴ Carlton & Frankel, *supra* note 20, at 913.

²⁵ That is, competing issuers may dissipate interchange fee revenue through costly "rent-seeking" efforts. The concept of rent-seeking costs as economic waste originated with Gordon Tullock (although the term was coined later). See Gordon Tullock, *The Welfare Costs of Tariffs, Monopolies and Theft*, 5 W. ECON. J. 224 (1967). Rent seeking refers to costs incurred by parties seeking the right to collect profits, such as profits flowing from a government grant of a monopoly. In this case, the monopoly profits are collectively set

Increases in card-issuing revenue and profitability are likely the reason for dramatic increases in direct mail solicitations aimed at current and potential credit card customers. U.S. households received an estimated 6.06 billion such solicitations in 2005—a five-fold increase since the early 1990s.²⁶ This flood of mail continues to grow despite a sharp drop in response rates, from 2.8 percent in 1992 to a low of 0.3 percent in 2005.²⁷ Sellers, of course, promote their products even in competitive markets, and it is possible that even without interchange fees some consumers would value a particular perk or rebate enough that an issuer would provide it, funding its cost with fees collected from its own customers. Such competitively determined promotional efforts are generally innocuous. Solicitation efforts stimulated by prices fixed at supracompetitive levels, however, can create significant social costs.

2. *The Net Impact of Interchange Fees on Consumers*

All else equal, card programs that provide issuers with higher interchange fees generate greater profits and permit the issuer to share more interchange revenue with cardholders.²⁸ Like cash customers, cardholders pay higher retail prices as interchange fees increase.²⁹ Cardholders, however, are offered benefits not received by cash customers. Absent surcharging (or refusal) of cards by merchants, high interchange fees

interchange fees that issuers can obtain by incurring costs to tap into the pool of cardholders.

²⁶ Press Release, Synovate, Mail Monitor® Reports Record Six Billion Credit Card Offers Mailed in U.S. During 2005 (Apr. 27, 2006). Figures include American Express solicitations.

²⁷ *Id.*

²⁸ In the absence of perfect competition and frictionless rebating, only a portion of interchange fee revenues are returned in this way to consumers. Available evidence suggests that rebates, when offered, are lower than the associated interchange fee. For example, one cash-back Visa card plan promotes “up to 2 percent” cash back, but the 2% rebate percentage applies only on purchases above \$40,000 per year, and there is an annual limit on total rebates of \$1,000. The result is that the maximum possible rebate on the card is about 1.4%, and that is possible only at a narrow range of spending on that account of around \$70,000 per year (about 13 times average annual spending per U.S. bank credit card account). At average charge volume, rebates on this and some other cash-back cards are less than 1%. A recent article, which included Visa-sponsored cost and revenue studies, states that a \$54.24 transaction at a grocery store generates incremental commercial bank revenue that exceeds those banks’ incremental costs by \$0.60, only \$0.24 of which is claimed to be shared with cardholders in the form of reward programs. By contrast, commercial bank processing costs for cash and checks were assumed to be “equivalent to the price charged to merchants.” Daniel Garcia-Swartz, Robert Hahn & Anne Layne-Farrar, *The Move Toward a Cashless Society: A Closer Look at Payment Instrument Economics*, 5 REV. NETWORK ECON. 175, 187–88 (2006) [hereinafter *Closer Look*]; Daniel Garcia-Swartz, Robert Hahn & Anne Layne-Farrar, *The Move Toward a Cashless Society: Calculating the Costs and Benefits*, 5 Rev. Network Econ. 206 (2006) [hereinafter *Costs and Benefits*].

²⁹ Rochet & Tirole, *supra* note 22. Chakravorti and Emmons also suggest that revolvers who pay interest may be subsidizing transactors. Sujit Chakravorti & William Emmons, *Who Pays for Credit Cards?*, 37 J. CONSUMER AFF. 208 (2003).

raise retail prices faced by cash (and other low merchant cost) customers. Whether credit card customers are on balance better off with higher interchange fees depends on whether the amount of interchange revenue passed through to cardholders in the form of valuable benefits exceeds the increased retail prices paid by cardholders for purchases they make using all payment methods.³⁰ The number of net beneficiaries of interchange fees likely declines as more of the interchange fee revenue is retained by issuers or dissipated through higher solicitation costs.

3. *The Effects of Interchange Fees on Payment Choice*

As interchange fees paid to card issuers increase, competing issuers may reduce cardholder fees and increase the value of perks and rebates. These reductions in marginal cost increase the incentive for consumers to use credit cards rather than other payment methods. Even if the value of rebates does not offset the higher retail prices paid by a consumer, the consumer nevertheless may use a credit card because higher retail prices are paid irrespective of payment choice, while rebates are received only for card purchases.³¹

Merchants generally consider credit and charge cards, followed by signature debit cards, to be the most expensive of the commonly accepted payment methods.³² A principal reason is that interchange fees charged by MasterCard and Visa for credit card and offline debit card transactions have been much higher than interchange fees charged by ATM/debit

³⁰ Because cash customers pay elevated prices and receive no associated benefits, it is reasonable to consider them as subsidizing card issuers and those cardholders who receive rebates. Some authors have noted that such cross-subsidies are ubiquitous even in competitive markets. See, e.g., David S. Evans, *Bank Interchange Fees Balance Dual Demand*, AM. BANKER, Jan. 26, 2001, at 17 (“All customers end up paying higher prices as a result of retailers offering parking, tailoring, escalators, convenient store hours, gift-wrapping, and many other amenities that are used by only some customers.”). However, decisions not to charge differentially in such cases are typically made by independent, competing firms, not by all providers of, e.g., parking lots. Although transaction costs may prevent more precise pricing systems, such systems may still be desirable should transaction costs decline. See Dennis W. Carlton & Alan S. Frankel, *Transaction Costs, Externalities, and Two-Sided Payment Markets*, 2005 COLUM. BUS. L. REV. 617 (2005).

³¹ This externality (i.e., the usage externality) is discussed in more detail *infra* Part IV.A.

³² See, e.g., BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM, REPORT TO THE CONGRESS ON THE DISCLOSURE OF POINT-OF-SALE DEBIT FEES, Submitted to the U.S. Senate Committee on Banking, Housing, and Urban Affairs 15 (Nov. 2004) [hereinafter FRS REPORT ON DISCLOSURE] (“[M]any merchants view cash, checks, and PIN debit as comparable in cost on an average per-transaction basis and . . . they view signature debit and credit as relatively more expensive. They further report that cash costs merchants the least of any current retail payment method. Anecdotal reports from merchants indicate that PIN debit costs less than checks, although, as noted earlier, some large retailers that have developed the systems to efficiently process checks report their per-transaction cost for a check is lower than that for a PIN debit transaction.”).

card networks for online, PIN-verified debit transactions. Indeed, many U.S. PIN-debit networks at one time imposed no interchange fee, settling transactions at full par value.³³

Banks have little incentive to promote the use of cards generating lower fee revenue even if such cards are more efficient. We thus observe banks promoting offline MasterCard/Visa debit card usage (for which they receive relatively high interchange fees) and discouraging online PIN-debit transactions (for which they receive relatively low interchange fees) despite the lower fraud rates and more rapid transaction processing provided by the use of online PIN-based networks.³⁴

III. ALTERNATIVE PAYMENT ARRANGEMENTS

There are a number of arrangements that might avoid the collective setting of interchange fees. The costs and benefits of interchange fees will inevitably be evaluated in comparison to the practicality and competitive effects of such alternatives.

A. PAR COLLECTION

“Par” collection refers to the clearing and settlement of interbank payment claims at the face amount of the claim. Although the network

³³ Plaintiffs in *Wal-Mart* argued that par collection was the competitive price level for debit card transactions. See Plaintiffs’ Reply Memorandum of Law in Support of Plaintiffs’ Motion for Summary Judgment 17, *In re Visa Check/MasterMoney Antitrust Litigation*, No. CV-96-5238 (E.D.N.Y. 2003) (“Plaintiffs have also offered substantial evidence that the competitive level for on-line debit pricing is at par. This evidence includes: in 1991, fourteen years after on-line POS debit networks began operating, the average on-line debit interchange fee was below par, with 19 of the top 20 on-line debit networks clearing at par or with a negative interchange fee; Visa’s early recognition that if left ‘uncontained,’ the Regionals would maintain an at par interchange structure which would lead to the ‘demise’ of defendants’ off-line debit programs; Visa’s development of its plan to eliminate the Regionals’ at par pricing structure; banks offer debit cards to avoid the cost of checks and satisfy consumer demand and would offer them even without interchange; the Iowa legislation which would have required all debit transactions to clear at par; the MC 1980–81 Debit Strategy of a clearly identified, untied, at par off-line debit card; and at par pricing in Canada.” (citations omitted)).

³⁴ FRS REPORT ON DISCLOSURE, *supra* note 32, at 15 n.19 (“[B]ecause signature debit is significantly more likely to result in fraud than is PIN debit, it generates higher fraud-related costs.”) (“Merchants also generally consider cash the quickest method of payment at the checkout line.”). As with credit cards, some banks have offered promotions and perks like frequent flyer miles or rebates for use of signature debit transactions but not for PIN transactions (for which they sometimes instead impose a service charge), even when both can be performed using the same card. One of the primary motivations for the Reserve Bank of Australia’s intervention to reduce interchange fees on credit cards was its concern about inefficiencies created by banks providing incentives for customers to choose credit cards over PIN debit cards. I.J. Macfarlane, Governor, Reserve Bank of Australia, Gresham’s Law of Payments, Speech Before AIBF Industry Forum, Sydney, Australia (Mar. 23, 2005).

may assess fees to the issuer and acquirer to cover the network's own costs, the network does not condition participation in its clearinghouse system on an agreement by either issuer or acquirer to pay fees to other banks when their customers are on the opposite sides of payment transactions. In a par collection system, when an issuer's customer makes a \$50 purchase, the issuer's settlement balance is debited the \$50 (plus any network fees) and the acquirer's settlement balance is credited the identical \$50 (less any network fees).

Most consumers are familiar with par collection through their use of the check clearing and settlement system. If consumer A makes a check payable to consumer B for \$50, B can take it to A's bank and cash it for exactly \$50. A's bank cannot charge B a fee for cashing the check, although it may charge its own customer, A, according to the contractual terms of A's checking account plan. If B instead has its own bank collect the check from A, B's bank can charge B for the service it provides to B, but B's bank receives \$50 from A's bank. With par collection (and elimination of rules restricting merchant pricing and promotional freedom), encouraging the use of particular forms of payment is left to the decentralized decisions of each merchant acting in response to the costs associated with each method.

Par collection has worked successfully in paper-based payment systems.³⁵ It has also worked in card-based systems. Par collection was once common in U.S. PIN-debit systems, and the Interac Direct Payment

³⁵ Par collection developed as a result of competition in U.S. currency and check clearing and settlement markets. See Frankel, *supra* note 3, at 328; ED STEVENS, NON-PAR BANKING: COMPETITION AND MONOPOLY IN MARKETS FOR PAYMENTS SERVICES 19 (Federal Reserve Bank of Cleveland, Working Paper 9817, 1998) ("The persistence of non-par banking can be explained readily. Non-par banking could not have survived in competitive markets, but non-par banks did not operate in competitive markets."). Howard Chang and David Evans question whether price coherence always prevailed at retail. Chang & Evans, *supra* note 14, at 669–77. To the extent merchants could protect themselves by surcharging bank notes or checks, however, it would be anticompetitive to prohibit such pricing freedom, as card networks sometimes do, in part because such restrictions harm all consumers. See, e.g., *Nonpar Banking: Near the End of an Era?*, 21 FED. RES. BANK OF MINNEAPOLIS MONTHLY REV. 3, 7 (May 1966) ("[T]he direct expense of handling nonpar checks is most often borne by merchants. . . . Such costs, naturally, cannot be absorbed: they must be added to operating costs, which in turn are reflected in the selling price of products sold. The ultimate bearer of the charge is the consumer."). Chang and Evans do not question that competition eroded and eliminated interchange fees on checks, but they challenge the efficiency of the underlying rule that a demand claim on a bank must be paid in full if presented directly at the counter of an issuing bank. This is consistent with their support of interchange fees in credit card systems, but the suggestion that it would have been more efficient to permit banks to act collectively to impose interchange fees in checks (rather than the existing par collection system) might be difficult to support under antitrust principles; there is no evidence that the check system has been unable to function effectively without an interchange fee.

network, which operates at par, has become the most popular payment method in Canada.³⁶ Par debit networks also reportedly operate successfully in the Netherlands, Finland, and Denmark, and for some transactions in Germany.³⁷

It has been suggested that par collection, while successful in a variety of four-party payment systems, is simply a special (or not so special) type of interchange fee. This argument is often raised in an antitrust context. According to this argument, par collection fixes an interchange fee, just as MasterCard and Visa do now, only it fixes the level of the fee at zero. Otherwise, or so the argument goes, it is no different in economic substance than an interchange fee set at any other level.³⁸ Whatever the legal merits of this argument, characterizing the absence of any payment from one member of an association to another as the imposition of a fee fixed at zero creates unnecessary semantic confusion. In a par collection system, each acquirer competes for the patronage of merchants and each issuer competes for cardholders. Merchants pay fees to acquirers for services, and cardholders pay fees to issuers for services. Banks compete on the basis of their own costs and in light of competition with other banks, not in response to collectively set interchange fees.

B. MANDATORY UNILATERAL OR BILATERAL FEES

Another possible alternative is a decentralized interchange fee system.³⁹ In a decentralized system, each issuer would announce the fee it will charge to acquirers when redeeming its cardholders' transactions, or pairs of banks—issuers and acquirers—would enter into bilateral

³⁶ Interac Association, *A Background*, Jan. 2003, http://www.interac.ca/pdfs/background_en.pdf. The Interac network operates without a central switch, much like the Internet. Each directly connecting member can enlist other indirectly connecting members. See Robert D. Anderson & Brian Rivard, *Antitrust Policy Towards EFT Networks: The Canadian Experience in the Interac Case*, 67 ANTITRUST L.J. 389 (1999); Alan S. Frankel, *Editor's Note: EFT Networks and the Canadian Experience*, 67 ANTITRUST L.J. 385 (1999). In the United States, the Interlink network was the largest PIN-debit network while operating on a par basis. Visa acquired Interlink and subsequently imposed an interchange fee on its transactions. Visa has increased its fees a number of times in recent years. See *supra* note 33.

³⁷ Weiner & Wright, *supra* note 9, at 21; EUROPEAN COMMISSION, COMPETITION DG, INTERIM REPORT I: PAYMENT CARDS, SECTOR INQUIRY UNDER ARTICLE 17 REGULATION 1/2003 ON RETAIL BANKING 45 (Apr. 12, 2006) [hereinafter INTERIM REPORT].

³⁸ Visa Brief in *NaBanco*, *supra* note 15, at 44 (“[P]ar is simply another ‘price’”).

³⁹ Chang & Evans, *supra* note 14, at 654–55 (“[T]he obvious potential remedy to this supposed competitive problem [is] a prohibition on the setting on any interchange fee including zero.”); John Small & Julian Wright, *The Bilateral Negotiation of Interchange Fees in Payment Systems* 3 (Jan. 2002) (unpublished manuscript, available at http://profile.nus.edu.sg/fass/ecs/jkw/setting_interchange_2002.pdf). (Bilateral negotiation of interchange fees is “a market-based alternative to centrally set interchange fees.”)

contracts governing the amount of interchange fees, if any, paid in connection with card transactions between them.⁴⁰

A decentralized system has been criticized on the basis that thousands of member banks would have to enter into a web of millions of contracts connecting each bank to every other bank.⁴¹ But when banks have been confronted by the need to establish such a web of bilateral contracts in the past, they have found clever ways to avoid having each bank transact directly with every other bank. Correspondent banking—in which typically smaller or more remote banks route items or transactional data through larger or more centrally located agent banks—arose in just such a fashion. A relatively small number of banks could have direct contracts and settlement accounts with other large members and processors while offering processing, clearing, and settlement services to other banks.⁴² The top ten acquirers account for about 86 percent of all MasterCard and Visa bank card dollar charge volume, while the top ten issuers account for 84 percent of charge volume.⁴³ No more than 90 contracts—

⁴⁰ The plaintiff in *NaBanco* advanced the bilateral solution as an alternative remedy to a par collection system. *National Bancard Corp (NaBanco) v. Visa U.S.A.*, 596 F. Supp. 1231 (S.D. Fla. 1984). Bilateral interchange fee agreements have been used in the Australian online EFTPOS debit card system and, according to the United Kingdom Office of Fair Trading, in the MasterCard and Visa systems in Sweden. Investigation of the Multilateral Interchange Fees Provided for in the UK Domestic Rules of MasterCard UK Members Forum Limited (formerly known as MasterCard/Europay UK Limited), Competition Act of 1998, Decision of the Office of Fair Trading, No. CA98/05/05, [Case CP/0090/00/S] ¶¶ 401–402 (Sept. 6, 2005) (Eng.), available at <http://www.offt.gov.uk/NR/rdonlyres/E0CDB5F8-3ECC-462A-9D73-FDEC47ACEDA2/0/mastercard.pdf>. The Reserve Bank of Australia has identified shortcomings it believes exist in the existing EFTPOS arrangements and has proposed to regulate EFTPOS interchange fees. Press Release, Reserve Bank of Australia, Payments System Reform (Feb. 24, 2005), available at http://www.rba.gov.au/MediaReleases/2005/mr_05_02.html.

⁴¹ See, e.g., William F. Baxter, *Bank Interchange of Transactional Paper: Legal and Economic Perspectives*, 26 J.L. ECON. 541, 556 (1983) (“[I]f the number of . . . banks participating in this system is large, as it often will be, a complete set of bilaterally negotiated agreements would be excessively cumbersome and costly. Some uniform understanding [with respect to the interchange fee] would appear to be essential to any cost-effective payment system.”); Chang & Evans, *supra* note 14, at 655 (“To replicate the uniform acceptance that MasterCards currently enjoy, the thousands of issuers and acquirers would all have to reach millions of independent agreements to accept each others’ cards.”); Small & Wright, *supra* note 39, at 7 (“[B]ilateral bargaining would require many millions of separate negotiations given Visa alone has more than 21,000 members internationally.”).

⁴² Federal Express similarly uses a hub-and-spoke network to permit a package to travel from any of the 378 airports in its network to any other airport without maintaining direct flights between every city pair. It connects these cities using 645 aircraft, not by having each plane make 221 flights per day to link each city pair (142,506 direct flights), but by maintaining ten air express hub facilities. FedEx Express facts, <http://fedex.com/us/about/overview/companies/express/facts.html#air>.

⁴³ NILSON REPORT No. 849, Jan. 2006, at 10–11; NILSON REPORT No. 851, Feb. 2006, at 8; NILSON REPORT No. 854, Apr. 2006, at 8–9.

not millions—would therefore be required to cover 72 percent of all charge volume.⁴⁴ Individual banks not interested in direct contracts with many other banks need only shop for a single correspondent services contract. Particularly with modern data processing and communications technology, such correspondent relationships can be quick and efficient.

Another criticism of decentralized interchange fees is that each issuer—no matter how small—would have monopoly power over each acquirer. This concern derives at least in part from another competitive restriction imposed by MasterCard and Visa—their “honor-all-cards” rules. A merchant that accepts MasterCard branded cards issued by any issuing bank must accept MasterCard cards issued by all MasterCard member banks. The same is true of Visa.⁴⁵ If a merchant must accept an issuer’s cards, then even the smallest issuer has tremendous leverage over the acquirer and its merchants. A small issuer, for example, could refuse to sign a contract with acquirers unless the acquirers agreed, say, to a 50 percent interchange fee. If only one issuer demanded such a high fee, then a merchant would face the high fee on only a small number of transactions and might, therefore, decide to continue accepting cards. When all issuers evaluate their profit-maximizing interchange fee, however, the hold-out problem can lead fees by all banks to the monopoly level.⁴⁶

If an individual card issuer could exercise monopoly power in redeeming its own claims, there is no logical reason why all issuers acting collectively will forgo the exercise of market power in setting the interchange fee. Indeed, the same logic that suggests that banks accounting for even a small share of card issuing will have monopoly power in a bilateral system also implies that each network will have monopoly power, so long as it is not feasible for merchants to drop acceptance of the network. Although merchants collectively might prefer not to accept a more

⁴⁴ A bank would not need contracts governing “on-us” transactions in which it was both issuer and acquirer. On-us processing competes to at least a limited extent with MasterCard and Visa and might enable a large issuer to offer a slightly reduced merchant discount rate. Visa recently issued a rule prohibiting banks from self-clearing on-us transactions. See Lavinne Kuykendall, *Tighter On-Us Processing Rules at Visa*, AM. BANKER, Feb. 16, 2005, at 1.

⁴⁵ As a result of the settlement in the *Wal-Mart* litigation, both MasterCard and Visa agreed to permit merchants to accept their respective credit cards without necessarily accepting their same-branded debit cards. Their “honor all cards” rules were modified instead to consist of separate “honor all credit cards” and “honor all debit cards” rules. Notice of Settlement of Class Action, *In re Visa Check/MasterMoney Antitrust Litigation*, No. CV-96-5238 (E.D.N.Y. 2003). Merchants still cannot selectively refuse an association’s credit cards or debit cards based on the identity of the card-issuing bank.

⁴⁶ See, e.g., Baxter, *supra* note 41, at 576–77; Small & Wright, *supra* note 39, at 3–4.

expensive card brand, moreover, each may find itself at a prohibitive competitive disadvantage if it refuses a popular brand.⁴⁷

Although bilateral negotiations can lead to a hold-up problem, it is not clear that collectively set interchange fees resolve the problem, rather than transferring the exercise of market power from the individual issuer to the network comprised of issuers. To that extent, bilateral negotiations may not be any less practical than collectively set interchange fees. Networks might also address the hold-up problem through other means, such as eliminating their honor-all-cards rules or requiring issuing banks to conclude agreements with acquiring banks and their merchant clients, thus creating counterbalancing negotiating power on the part of acquiring banks.

C. VOLUNTARY BILATERAL FEE AGREEMENTS

The most significant conceptual problem with bilateral interchange fee contracts arises from the presumption—implicit in virtually all discussions of such scenarios—that each transaction in a bilateral fee system must fall under the coverage of a fee contract due to the associations' honor-all-cards rules. This scenario, however, is equivalent to a rule under which the association would refuse to deal with merchants who have not entered into a bilateral fee contract with each issuer. But if such a rule—requiring that a merchant must enter into a fee agreement with an issuer (let alone requiring that each merchant have a fee agreement with every issuing member) as a precondition for the merchant to be allowed to accept card transactions—would lead to higher fees, then the rule would be anticompetitive.

There is another alternative. A network need not require that fees be paid from an acquirer (and its merchant client) to an issuer as a condition for offering its clearinghouse services to those users of its system. The network could permit members to enter into fee agreements and could transfer fee proceeds from one member to another as part of the settlement process. Any such bilaterally negotiated fees, however, could be limited to pairs of banks that have voluntarily entered into such bilateral fee agreements.

⁴⁷ See, e.g., Jean-Charles Rochet & Jean Tirole, *Cooperation Among Competitors: Some Economics of Payment Card Associations*, 33 RAND J. ECON. 549 (2002); GRAEME GUTHRIE & JULIAN WRIGHT, *COMPETING PAYMENT SCHEMES* (University of Auckland, Working Paper No. 245, 2003). Some leading merchants may pay lower interchange fees, making it unlikely that they will drop cards, and making it harder for their competitors to drop cards, despite being charged higher fees. Following the *Wal-Mart* settlement, for example, it was reported that Wal-Mart negotiated low credit and debit interchange fees from Visa. MasterCard apparently followed suit, at least with respect to debit cards. See David Breitkopf, *Wal-Mart, MasterCard Reach Agreement on Signature Debit*, AM. BANKER, June 22, 2004, at 8.

D. OTHER ALTERNATIVES

The key factor that led to the competitive elimination of interchange fees in currency and check markets was the ability of merchants and their banks to choose the method used to transport financial claims back to the issuing bank for redemption.⁴⁸ The ability of acquirers to use competing transportation systems (and correspondent banks) led issuers to abandon their interchange fees altogether and join par collection clearinghouses. If merchants, who typically must pay interchange fees today, had the ability to choose the payment network over which to process the transaction (and issuers for legal or competitive reasons continued to participate in multiple networks), the competitive result might be a par collection system, or at the very least a system with significantly lower interchange fees. Just as an issuer tends to have an incentive to choose a network with a higher interchange fee in the current system, a merchant would have an incentive to choose a lower interchange fee if it had a choice.⁴⁹ It is the lack of real competition and choice for those paying the fees that leads networks to charge merchants (and therefore their customers) relatively high interchange fees in the current system.

There are major impediments to enhancing competition between MasterCard and Visa (and other brands) over interchange fees under existing rules. One impediment is the existence of restrictions on bypass competition. Bypass competition was for a long time not an economically significant alternative. Visa prevailed in *NaBanco* in part because the district court found use of Visa's network to be voluntary.⁵⁰ After First

⁴⁸ See generally Frankel, *supra* note 3.

⁴⁹ This assumes, of course, that merchants could not choose a negative interchange fee, such as Australian merchants enjoy for PIN-debit transactions. The point is that it is generally desirable for the party paying a fee to also be the party choosing the payment network imposing the fee. The current system, by contrast, permits the exploitation of a "principal-agent" problem in which consumers receive incentives to choose expensive networks for which merchants (and all consumers) pay.

⁵⁰ This finding followed the testimony of William Baxter that Visa's freedom to impose an interchange fee should be conditional on the ability of banks to opt out of the Visa interchange fee system. Baxter, *supra* note 41, at 586. *NaBanco* did not distinguish between opting out of the Visa processing system and the ability to negotiate a separate fee. See *Nat'l Bancard Corp. v. Visa U.S.A., Inc.*, 596 F. Supp. 1231, 1254 (S.D. Fla. 1984) (*NaBanco*), *aff'd*, 779 F.2d 592 (11th Cir. 1986) ("[The interchange fee] . . . is properly analyzed under the rule of reason because it is not mandatory. Acting on behalf of its principals, *NaBanco* is and always has been free to negotiate different terms of interchange, (not using [the Visa] Base II [settlement network]) and some VISA issuers have been willing to make alternate arrangements."); *NaBanco*, 779 F.2d at 600 ("In Baxter's opinion, such a fee is legally valid so long as all members of a four-party payment system have the option to bypass the required fee and negotiate their own fee. . . . As mentioned earlier, the [Visa] Base II system is not mandatory and may be bypassed if the VISA members so choose.").

Data Corporation assembled a network that potentially could bypass Visa and MasterCard for a significant number of transactions, however, Visa raised roadblocks to such arrangements.⁵¹ Other customized fee arrangements, such as those that might occur with “co-branded” MasterCard or Visa cards sponsored by a particular merchant, will affect fees only on a very small percentage of sales, unless consumers revert to carrying and using many different cards at each of many different merchants—thus negating one of the defining characteristics of “general purpose” credit cards.

The decentralized setting of interchange fees might be more effective if the current systems’ vertical restrictions and Visa’s prohibitions of bypass and on-us competition were eliminated.⁵² Bypass alone may be insufficient to generate a fully efficient, competitive market for network services if merchants and acquirers cannot compel an issuing bank to redeem its cardholders’ transactions over a competing network. But inter-network processing competition might be more effective if existing branded networks competed effectively to process each other’s cardholder transactions and if any interchange fee charged was that set by the network processing the transaction. Most issuers are already participants in both the Visa and MasterCard networks, and as a result of *United States v. Visa*, some issuing banks could have three or four data pipelines connecting them to merchants.

Other restrictions, however, impede inter-network competition for merchants: the prohibition of multi-branded credit cards and network pricing rules which do not permit merchants to obtain lower fees by switching to an alternative, lower cost network. An important feature of debit cards that gave merchants potential bargaining power over interchange fees in *Wal-Mart* was the multi-network functionality of many debit cards issued by banks. A Visa (offline debit) Check Card is, usually, also a PIN-debit card. A merchant who refuses Visa offline debit transactions can still complete a transaction using the same card accessing the same bank account by using its PIN-debit functionality.

The situation is different with credit cards. Under network rules, banks may not issue credit cards carrying both the MasterCard and Visa (or other) branded networks. The prohibition of multi-branded cards and network bypass competition increases the odds that if a merchant decides

⁵¹ NILSON REPORT No. 829, Mar. 2005, at 1, 5.

⁵² See, e.g., Press Release, Australian Competition and Consumer Comm’n, ACCC Proposes to Deny EFTPOS Price-Fix (Aug. 9, 2003).

not to accept one card brand and a cardholder presents that brand, the merchant may lose that sale or future sales.⁵³

Issuers and cardholders currently choose the payment method.⁵⁴ Encouraged by perks and rebates, consumers often choose to use credit cards. However, consumers collectively might be better off delegating network choice to merchants. The current system enables banks to take advantage of a free-rider problem facing consumers. Even if a consumer understands that presenting a particular credit card will impose relatively high costs on the merchant, the consumer has no incentive to avoid that card. If the merchant does not surcharge use of the card, then the consumer's individual interest will be served by choosing a relatively costly card (if it results in a rebate), even if the combined benefit to the cardholder and merchant would be greater if the consumer used a different form of payment. Consumers collectively might be better off if they could reject a costly card that drives up merchant costs and prices. Absent collective action by consumers, however, individuals frequently choose an expensive card, and merchants find competition from other merchants compels them to accept it.

IV. ECONOMIC ANALYSIS OF INTERCHANGE FEES

Economists have offered a variety of explanations why networks set interchange fees and how interchange fees may achieve efficiencies. MasterCard and Visa have, in fact, claimed that interchange fees are essential to their networks.⁵⁵

⁵³ Restricting banks to issue credit cards that can access only the MasterCard or Visa networks, but not both, may be likened to a form of customer and transaction allocation to particular networks. Competition might be enhanced by enabling issuers to issue multi-network credit cards and enhancing merchants' ability to choose or steer transactions to a particular network (at least if merchants are paying an interchange fee). Even if multi-network cards or bypass networks were more widely available, however, network rules and practices might permit consumers to choose the network even when merchants pay the resulting fee. An exception has sometimes existed in online debit networks. In some cases more than one PIN-debit network is accessible by the merchant and the issuing bank, which permits at least some merchants to choose the lowest cost network (although networks may attempt to use "routing rules" to restrict merchant choice).

⁵⁴ This occurs both when issuers solicit cardholders and afterward. Citibank, for example, has unilaterally switched many of its customers from Visa-branded cards to MasterCard-branded cards.

⁵⁵ See, e.g., Press Release, MasterCard Int'l, MasterCard Tells Federal Reserve Bank Conference that Interchange Is a "Home Run" for the Economy, Cardholders, and Merchants (May 6, 2005) ("Interchange is essential to four-party systems and cannot be analyzed in isolation."); VISA, A GUIDE TO VISA INTERNATIONAL (Australian ed., Sept. 2005) available at http://www.visa-asia.com/ap/au/mediacenter/factsheets/includes/uploads/Guide_to_Visa_Australia.pdf, at Fact Sheet 10 ("Interchange is an essential mechanism for balancing the costs and revenues of the issuing and acquiring sides of the payment network.").

William Baxter published the first economic defense of interchange fees during the course of the *NaBanco* litigation of the early 1980s.⁵⁶ After more than a decade of relative inactivity, a fresh wave of economic literature—in particular, theoretical explanations of how interchange fees might achieve efficiencies—began to appear in the late 1990s. These theoretical defenses build on Baxter’s original description of networks balancing the two sides of payment markets—issuers serving consumers and acquirers serving merchants. Although the need to balance the two sides of payment markets is described in different ways, economists have frequently invoked the concept of a usage externality—transactional cost differences at the point of sale not reflected in varying prices—or indirect network externalities arising in two-sided retail payment systems. The usual claim is that an interchange fee is the only way for a payment network to avoid market failure and overcome adverse consequences of externalities.⁵⁷

A. THE USAGE EXTERNALITY

In discussions of interchange fees, economic criticisms and defenses alike have focused in part on the existence of a usage externality. The usage externality refers to the fact that buyers (and indirectly, issuers) choose the form of payment, but sellers bear resulting direct costs which vary depending on the form of payment. Buyers thus impose an external cost on sellers through their choice. The interchange fee can, as a theoretical matter, remedy or internalize a usage externality.⁵⁸ However, it may also, as a theoretical matter, create, aggravate, or exploit a usage externality.

1. *Balancing Costs and Revenue*

Many defenses of interchange fees follow Baxter’s suggestion that without an interchange fee the costs and benefits of a particular payment method may not be balanced.⁵⁹ Baxter assumes “that income from card

⁵⁶ Baxter, *supra* note 41.

⁵⁷ See, e.g., Jean-Charles Rochet & Jean Tirole, *An Economic Analysis of the Determination of Interchange Fees in Payment Card Systems*, 2 REV. NETWORK ECON. 69, 73 (2003) (“Interchange fees are the only mechanism through which associations can perform the balancing act.”).

⁵⁸ See, e.g., Jean-Charles Rochet, *The Theory of Interchange Fees: A Synthesis of Recent Contributions*, 2 REV. NETWORK ECON. 97, 98 (2003); Richard Schmalensee, *Payment Systems and Interchange Fees*, 50 J. INDUS. ECON. 103, 105 (2002); Baxter, *supra* note 41, at 553.

⁵⁹ See, e.g., MasterCard Int’l, Inc., Submission to the Reserve Bank of Australia 38–39 (June 8, 2001, as revised July 20, 2001), available at http://www.rba.gov.au/PaymentsSystem/Reforms/CCSchemes/IIISubmissionsVol2/O.1_master_card_final.pdf [hereinafter MasterCard RBA Submission] (“[T]he interchange fee is . . . an efficient arrangement to balance the costs and benefits of credit card transactions in the open system between

holders is too small for the average card-issuing bank to cover its costs, whereas income from merchants is, on average, more than sufficient for merchant banks to cover their costs.”⁶⁰

The interchange fee, according to Baxter, remedies this imbalance by measuring the extent of the cost imbalance and setting an interchange fee that, in effect, taxes some of the excess revenue obtained by merchants and uses the proceeds to subsidize the card-issuing side of the market. An interchange fee set too low will cause issuers to incur losses on their card operations or deter consumers from using cards, and an interchange fee set too high could exceed the benefits to merchants, so merchants will refuse to accept cards.

In the Baxter model of the credit card market, without an interchange fee consumers might not use credit cards even if the combined benefits to merchants and consumers exceeded the combined costs required to serve them. Merchants would have an unfulfilled preference to have consumers use credit cards more frequently. This might occur if card issuing is relatively costly but consumer benefits are modest (i.e., consumers are price-sensitive to card fees) and acquiring is relatively inexpensive but merchant benefits are substantial (i.e., merchants are price-insensitive).

Michael Katz, however, explains a logical flaw in this reasoning.⁶¹ Consumers and merchants have a direct commercial relationship with each other: a merchant may not be powerless to affect consumer payment choice. In a perfectly competitive retail market with no other transaction costs, a merchant could charge more for cash sales than for credit card sales if the latter saved significant costs.⁶² This would cause buyers to perfectly internalize the externality and consider merchants’ preferences along with their own when making payment choices.⁶³

issuers and acquirers, and thereby the cardholders and merchants. . . . In an open credit card scheme it is important to understand that issuing and acquiring services are quite different both in terms of their nature and cost . . . These differing functions result in an imbalance between the issuers’ and acquirers’ costs, which must be corrected through an allocation of revenues between them. This is typically achieved through interchange fees.”)

⁶⁰ Baxter, *supra* note 41, at 575–76.

⁶¹ Katz, *supra* note 19, at 9.

⁶² Julian Wright, *Optimal Card Payment Systems*, 47 EUR. ECON. REV. 587, 603 (2003) (“In a world of perfect retail competition, the interchange fee will not be allowed to play the role of aligning joint benefits and joint costs, but nor will it be needed for this purpose.”).

⁶³ Joshua S. Gans & Stephen P. King, *The Role of Interchange Fees in Credit Card Associations: Competitive Analysis and Regulatory Issues*, 29 AUSTL. BUS. L. REV. 94, 100–01 (2001) (“[S]uppose that it was possible for the customer and merchant to vary the retail price contingent on the payment mechanism used. In this situation . . . the network effect on the merchant side would virtually be eliminated. . . . [W]e show that an efficient outcome always results.”). The same result can be achieved through a separating equilibrium with identical merchants

This two-price equilibrium absent transaction costs has been described in many published discussions of interchange fees since Baxter first mentioned the possibility in 1983.⁶⁴ It is generally recognized, however, that price coherence tends to prevail, and a two-price (or multi-price) outcome is uncommon.⁶⁵ Price coherence can lead to inefficiency in payment choice because buyers do not face the true marginal costs associated with their payment decisions.

Sellers would benefit if they could overcome this inefficiency. If permitted, and it is not too costly, they might want to incur the inconvenience of offering a discount for credit card purchases (assuming, as Baxter did, that credit cards saved significant costs). If they cannot engage in price discrimination at the point of sale, they might encourage card use with signage, promotions, or special credit card checkout lanes.

Another possibility is that merchants recruit banks to help them offer a discount for credit cards; the interchange fee, in this view, is simply an indirect way to accomplish an efficient two-price outcome. A merchant could set its price based on the cash cost and let card issuers offer a discount for credit card purchases on the merchant's behalf. If the issuing market is perfectly competitive and rebating is costless, issuers will pass the amount of the interchange fee along to the cardholder in the form of rebates. At the efficient interchange fee, in this model, the

specializing in cash or credit, assuming (unrealistically) there were no efficiencies associated with merchants accepting more than one payment method.

⁶⁴ Baxter, *supra* note 41, at 553 n.9. See also Carlton & Frankel, *supra* note 5, at 657–59; Frankel, *supra* note 3, at 342; Rochet & Tirole, *supra* note 57, at 76; Katz, *supra* note 19, at 21.

⁶⁵ Computerized point-of-sale payment terminals could reduce the cost of differential pricing. The fact that surcharges usually are not used by merchants when they are an available option does not imply either that interchange fees are preferable or that restricting merchant pricing freedom is innocuous. As fees increase or the cost of distinguishing between payment methods decreases, more merchants may find it advantageous to set different prices based on payment method. When surcharging was permitted in Sweden and the average credit card discount fee was about 2%, a survey found roughly 5% of merchants surcharged credit cards. IMA MARKET DEVELOPMENT AB, STUDY REGARDING THE EFFECTS OF THE ABOLITION OF THE NON-DISCRIMINATION RULE IN SWEDEN, PREPARED FOR THE EUROPEAN COMMISSION COMPETITION DIRECTORATE GENERAL, 13, 18 (Feb. 29, 2000), available at <http://europa.eu.int/comm/competition/antitrust/cases/29373/studies/sweden/report.pdf>. In Australia, where merchant fees for credit cards are relatively low but there has been much publicity about the new ability of merchants to surcharge, a MasterCard survey reportedly found that 8% of retailers surcharge credit card purchases. Yahoo Finance, Credit card surcharging on the rise, <http://au.pfinance.yahoo.com/041013/1/bk9.html> (last visited Apr. 25, 2005). In the Netherlands, where most merchants paid discount rates between 3.8% and 4.5%, roughly one in five set different prices for credit cards—10% surcharged and 9% offered discounts for alternative payment methods. ITM RESEARCH FOR COMPETITION DG, THE ABOLITION OF THE NO-DISCRIMINATION RULE 5, 7–8 (Mar. 2000), available at <http://europa.eu.int/comm/competition/antitrust/cases/29373/studies/netherlands/report.pdf>.

merchant is indifferent between the customer's payment choice despite the existence of price coherence, and consumers have efficient incentives to choose to use credit cards when the joint benefits to merchant and cardholder exceed the joint costs.

2. *The Economic Effects of Deviations from the Theoretical Optimum*

A usage externality will persist as long as merchants cannot perfectly fine-tune their prices to reflect the costs imposed by different payment methods and as long as any interchange fee is not set at precisely the correct amount to eliminate the externality for a particular merchant. The direction and magnitude of this externality, however, cannot be determined on the basis of economic theory alone, although theory suggests that banks that control the level of the interchange fee will tend to set the fee at a level that maximizes their profits.

If the interchange fee is set at a level above the theoretical optimum (which could be negative) and there is no surcharging, the result is inefficient. Even if issuing is perfectly competitive and rebating interchange revenue to cardholders is costless, the result is too much use of credit cards; retail prices rise to all consumers, and wealth transfers occur from cash customers to credit card customers. If it is costly for issuers to rebate fee revenue and for consumers to switch card issuers, then promotional efforts will increase and issuers may retain profits from interchange fees. Likewise, if individual issuers have market power, they will not tend to pass all of their interchange fee proceeds to cardholders. Achieving the level of card use that optimizes transactional markets then requires even higher interchange fees. But the resulting increase in retail costs from fees not delivered to consumers increases effective retail prices and makes underlying markets for goods and services less efficient.

There has been debate in the theoretical literature as to whether the networks have incentives to set interchange fees at the socially optimal level. Some authors have concluded that, as a matter of theory, networks will not generally set interchange fees at the socially optimal level, but that theory alone cannot predict whether they will set them too high or too low, or predict how much the interchange fees will deviate from the theoretical optimum.⁶⁶

3. *The Effects of Intersystem Competition on the Level of Interchange Fees*

The existence of a usage externality implies only that it might be possible for a merchant (or an omniscient social planner) to use an

⁶⁶ See, e.g., Schmalensee, *supra* note 58; Rochet, *supra* note 58; Joshua Gans & Stephen King, *Approaches to Regulating Interchange Fees in Payment Systems*, 2 REV. NETWORK ECON. 125 (2003).

interchange fee to fine-tune retail transaction costs to make payment markets more efficient than they would be if merchants were left alone to decide whether and how to influence payment choice.⁶⁷ But it is unlikely that a centralized interchange fee set collectively by banks will improve merchant payment efficiency in practice.

If an individual merchant cannot easily fine-tune its own pricing practices to reflect small differences in its costs and benefits of accepting various forms of payment, and cannot otherwise encourage efficient payment choices, then it is unlikely that an association of banks will be able to choose an interchange fee that happens to achieve a more efficient outcome for merchants overall, let alone for any particular merchant. More importantly, banks are not directly interested in achieving efficient retail payment markets; they are only interested in retail efficiency to the extent it would increase bank profits. If increases in interchange fees above the efficient level generate additional profits for their members, MasterCard and Visa will likely have an economic incentive to increase the fees whether or not efficiency is thereby enhanced.

If competition between MasterCard and Visa (along with American Express and Discover Card) constrained or prevented interchange fees from exceeding the optimal level under a usage externality theory, this might lessen any concern with the fees if intersystem competition remained intense. Although there have been some theoretical attempts to show that an association might have a unilateral incentive to choose the optimal interchange fee, other theoretical models suggest that, if allowed to do so, associations will tend to set interchange fees at a level that maximizes interchange fee revenue. This will tend to be the highest level where merchants will continue to accept the cards.⁶⁸

Competition between alternative card systems is unlikely to constrain fees effectively unless cardholders can switch easily between multiple networks and have no network preference, and merchants can switch between the networks (or effectively steer consumers toward or away from a network) to take advantage of fee differences.⁶⁹ These conditions

⁶⁷ If solving a usage externality problem with an indirect two-price solution is the reason why credit card networks impose an interchange fee, then the theory suggests each merchant should be permitted to select the amount of the fee and have that amount credited directly to the accounts of their card customers.

⁶⁸ See, e.g., Schmalensee, *supra* note 58; Rochet, *supra* note 58; Gans & King, *supra* note 66.

⁶⁹ See, e.g., Guthrie & Wright, *supra* note 47, at 3 (“[C]ompeting card Associations act exactly as though they were a single card scheme. . . . [T]hey will also seek to attract a greater base of cardholders in the first place, by charging less to card users and more to

might be more likely to prevail if each credit card could access multiple networks, with merchants choosing the network. In the existing networks, however, competition between networks over interchange fees is focused largely on generating higher fees to issuing banks, not lower fees to merchants.⁷⁰

Competition between card brands is ineffective at constraining interchange fees because a network with lower fees gets fewer sales. If one network were to set its interchange exactly at a theoretically efficient level while its rival offered a slightly higher interchange fee, issuers would prefer the network with the higher fee unless the fee was so much higher that merchants refused that brand.⁷¹ Consumers would have no incentive at the point of sale to avoid the more expensive brand if price coherence prevailed, and the issuer would have an incentive to market more heavily or enhance rebates for consumers using the more expensive brand.

merchants (in the case of competing card associations, by setting higher interchange fees). . . . [W]hen merchants are homogenous there will be no scope to further raise merchant fees above the levels set by a single card scheme, since this would lead all merchants to reject cards.”).

⁷⁰ In recent years Visa and MasterCard have routinely cited “competition” between them (and now American Express) as a reason they raise interchange fees. *See, e.g.*, Pete Hisey, *How High Can You Go?*, CREDIT CARD MGMT., Apr. 1999, at 105 (“Visa, which says it has been at a disadvantage to MasterCard in the amount of cash it can allow an issuer to earn, says that its increases in interchange rates simply level the playing field. . . . Clearly, neither Visa nor MasterCard is content to allow the other the high ground, particularly as large issuers are deciding if they even want to stay with either association.”); Lavonne Kuykendall, *Visa Raising Interchange Fees on Credit, Matching MC, American Express*, AM. BANKER, Feb. 24, 2004, at 7 (“Visa U.S.A. is scheduled to announce today that it will raise its interchange rates April 3. The move, Visa said, is designed both to keep pace with MasterCard International and American Express Co. and to make itself the most attractive partner for the soon-to-merge Bank One Corp. and J.P. Morgan Chase & Co. . . . William Sheedy, Visa’s executive vice president of bank card research and interchange strategy, called the revision of the credit interchange schedule a purely competitive move. ‘When we made fee changes driven by the economics of the business, we have been clear about that,’ he said. But ‘here we have a MasterCard fee increase as well as American Express’ appeal to banks based on higher merchant fees.”).

⁷¹ Letter from Bruce Mansfield, General Manager, Visa Int’l, Australia & New Zealand, to John Veale, Head of Payments Policy, Reserve Bank of Australia (Apr. 7, 2005), *available at* http://www.rba.gov.au/PaymentsSystem/Reforms/CCSchemes/SubmissionsCCIStd/visa_07042005_1.pdf (“[H]igher interchange fees make a credit card scheme more attractive to issuers. More cards will be issued under that scheme and presented to merchants, so a continually increasing proportion of transactions will attract the higher interchange rate. This will raise costs for acquirers and they, in turn, will increase the service fees they charge to merchants. . . . Conversely, lower interchange fees do not in practice make a credit card scheme more attractive to acquirers. This is primarily because acquirers typically ‘blend’ their pricing and charge each merchant one overall merchant service fee based on the projected proportionate volume of cards from each scheme. In effect, the lower cost scheme therefore subsidizes the higher cost scheme with the merchant receiving only perhaps some marginal benefit of the lower cost scheme’s interchange rates.”).

Ultimately there is little to prevent each network from increasing the interchange fee to the same level that a monopoly association would choose if consumers are loyal to particular cards.⁷²

There is only a very weak constraint on this process. Merchants cannot discriminate in pricing between different card brands due to network no-surcharge and non-discrimination rules (and transaction costs), but a network may have to increase its fee only in modest increments so it does not get too far out in front of other brands and risk losing merchants. As long as a merchant cannot choose which networks to use to clear and settle a transaction initiated by the customer presenting a particular card, the networks can increase interchange fees until they reach the point that further increases in the level of the fees will cause enough merchants to drop the cards (or consumers to switch to cash-only retailers) to render the increase unprofitable. That, however, may occur only at the monopoly level.⁷³

4. Evidence from Merchant Behavior

If interchange fees have been used to solve an economically significant merchant usage externality, then merchants should generally be content with the fees and indifferent among consumer payment choices. One would also expect that merchants would play a significant role in the setting of any interchange fees they pay (or receive). In fact, the way interchange fees are imposed in the retail economy bears little resemblance to the theoretical usage externality model or the logical implications of that defense. Merchants are far from happy about the existence and level of interchange fees they pay.⁷⁴ Merchants have little say in the setting of interchange fees, and acquirer banks get systematically fewer votes in the Visa and MasterCard associations than issuing banks.⁷⁵

⁷² If issuers were perfectly competitive and rebates were costless to administer, so that issuers could not obtain economic profits regardless of the level of the interchange fee, network “competition” would still lead the networks to raise the fee to the monopoly level, but cardholders rather than issuers would obtain the monopoly revenue (on net, from cash customers). If, as fee defenders often assume, issuers are not perfectly competitive or—as marketplace experience shows—increases in fee revenue are not costlessly passed through to cardholders, then it is less likely that cardholders will be net beneficiaries of interchange fees and more likely that issuers will profit from the fees.

⁷³ Rochet, *supra* note 58, at 104–05 (“The privately optimal [interchange fee] equals the maximum value of the interchange fee that is compatible with sellers’ accepting cards. . . .” “[I]f sellers’ willingness to pay [to accept cards] is high . . . the privately optimal [interchange fee] exceeds the socially optimal level . . . there is overprovision of card payment services.”).

⁷⁴ See, e.g., Abbey, *supra* note 15, at 20 (“Many [acquirers] view the April interchange increase as a negative event that is highly unpopular within the merchant community.”).

⁷⁵ See, e.g., Schmalensee, *supra* note 58, at 116 (“In the U.S., banks’ voting power in the Visa and MasterCard associations is more sensitive to issuing volume than to acquiring volume . . .”).

The networks have argued that individual merchants may oppose interchange fees because they are attempting to free ride upon other merchants—that is, an individual merchant could obtain the network benefits from interchange fees imposed on other merchants if it alone did not have to pay the fees. However, merchants' collective activity through their trade associations suggests otherwise. Merchants, both individually and collectively, have lobbied through their trade associations (and lawsuits) for a general reduction or elimination of interchange fees.⁷⁶

According to the usage externality theory, socially efficient interchange fees should be set to equalize merchant costs across (or more generally, make merchants indifferent between) payment methods; higher cost payment methods should therefore have lower or even negative interchange fees.⁷⁷ Although Visa's interchange fee was accepted in *NaBanco* in part because it purportedly was based on an analysis of costs, there is no indication that MasterCard and Visa have set interchange fees to make merchants indifferent between various consumer payment choices.⁷⁸ Rather, several studies have concluded that credit cards currently cost merchants substantially more than cash, checks, and PIN-debit card transactions on either a per-transaction or a per-dollar basis.⁷⁹

⁷⁶ See, e.g., Kenneth Posner, *American Express Litigation Spells Risk for Card Industry* (Morgan Stanley Equity Research, Nov. 19, 2004) (on file with authors); *Merchants Expand Credit-Card Fight: Lawsuits that Claim Visa, MasterCard Collude on Fees Could Hit Issuers' Profits*, WALL ST. J., June 23, 2005, at A3.

⁷⁷ Economists sometimes describe the interchange fee as balancing net "costs" and "benefits" obtained by merchants and consumers. Aside from reduced transaction costs, however, the principal benefit they claim merchants obtain by accepting credit cards is increased retail sales—a benefit that, to an individual merchant, depends importantly on whether other merchants also accept credit cards. See discussion *infra* Part IV.B.1.

⁷⁸ See, e.g., Göran Bergendahl et al., *What Does It Cost to Make a Payment?*, 2 REV. NETWORK ECON. 159, 163 (2003) ("One consistent result is that a credit card is considerably more expensive for merchants to accept than any of the others. This is due to the relatively high merchant fee that is triggered with credit card use."). As a result of its recent settlement with the European Commission, Visa now publishes the level of fees and cost allocations for cross-border transactions within Europe. See Visa Europe, Interchange fee levels, <http://visaurope.com/aboutvisa/overview/fees/interchangefeelevels.jsp> (last visited July 25, 2006). The United Kingdom's Cruickshank Report noted that the "process of determining these default [interchange fee] rates is extremely opaque to outsiders." DON CRUICKSHANK, COMPETITION IN UK BANKING: A REPORT TO THE CHANCELLOR OF THE EXCHEQUER D3.115 (Mar. 2000). This situation may be changing due to regulatory intervention in various countries and resulting disclosure of the networks' interchange fees and methodologies.

⁷⁹ See FOOD MARKETING INSTITUTE, IT ALL ADDS UP: AN ACTIVITY-BASED COST STUDY OF RETAIL PAYMENTS (2000); RESERVE BANK OF AUSTRALIA, REFORM OF CREDIT CARD SCHEMES IN AUSTRALIA I, A CONSULTATION DOCUMENT 23 (Dec. 2001), available at <http://www.rba.gov.au/PaymentsSystem/Reforms/CCSchemes/IAConsultDoc/index.html> [hereinafter RBA CONSULTATION DOCUMENT] (summary of previous studies). The Food

The Reserve Bank of Australia, which reviewed data from the Australian Retailers Association to evaluate the fixed and variable costs associated with each payment method, concluded that the cost differences were even greater for large value purchases. For example, the purchase of a \$1,000 item would cost a merchant \$19.00 if paid with a credit card, but between \$0.17 and \$1.00 if paid by PIN-debit card (depending on the size of the retailer), and \$0.12 if paid by cash.⁸⁰

These results are inconsistent with the theoretical usage externality justification for interchange fees. Interchange fees account for most of the additional cost of accepting credit and offline debit cards over alternative payment methods. In Australia, credit card costs were around 1.10 percentage points higher than cash costs prior to the recent reform, with an average interchange fee of 0.95 percent.⁸¹ If the interchange fee were being used to cause consumers to internalize the payment costs that they impose on merchants, then the interchange fee should in fact be negative (although, at only fifteen basis points, differences in costs between merchants may be as significant as differences between payment methods). The fee itself, in other words, appears to be the primary source of the existing usage externality, and elimination of the interchange fee would significantly reduce the average cost differential faced by merchants.

A recent extension of the usage externality claim is that, even though electronic payment methods are the most expensive payment methods for merchants, if the costs and benefits of payment methods to other participants (consumers, commercial banks and central banks) are included, then society overall would be better off with more consumers using electronic payment methods. For example, a recent paper estimates that, including all participants, cash has the highest social marginal cost while credit has the lowest.⁸² However, this result is derived entirely

Marketing Institute study found, "The typical credit or off-line debit card transaction costs grocers 72 cents This figure is at least twice as high as payments by check (36 cents), online debit cards (34 cents) and food stamp coupons (35 cents). Of that 72 cents, the study found that about 80% covers settlement costs, largely the transaction fees that financial institutions charge retailers." See Press Release, Food Marketing Institute, Consumers Double Use of Electronic Payments to Buy Groceries; Report Shows Cost-Control Opportunities for Retailers (Feb. 9, 2001), <http://www.fmi.org/media/mediatext.cfm?id=289>.

⁸⁰ RBA CONSULTATION DOCUMENT, *supra* note 79, at 22.

⁸¹ RESERVE BANK OF AUSTRALIA, REFORM OF CREDIT CARD SCHEMES IN AUSTRALIA— IV FINAL REFORMS AND REGULATION IMPACT STATEMENT 6 (Aug. 2002), *available at* http://www.rba.gov.au/PaymentsSystem/Reforms/CCSchemes/FinalReforms/complete_statement.pdf.

⁸² See Garcia-Swartz et al., *Closer Look*, *supra* note 28, at 187–88. The authors caution that their results should not be interpreted as definitive numbers, but are only illustrative. The

from the estimated consumer benefits. That is, the estimated net social marginal cost for all participants other than consumers retains a ranking similar to that of merchant costs—credit has the highest estimated net social marginal cost, while cash has the lowest. Thus, inclusion of other parties yields the same result as for merchants—the other parties, collectively, would be better off with fewer credit transactions. This result remains inconsistent with interchange fees being used to correct a usage externality.⁸³

B. NETWORK EXTERNALITIES

Network externalities and a claimed “chicken-and-egg problem” are also frequently cited as justifications for interchange fees.⁸⁴ Some authors have argued that a two-sided indirect network externality exists in a payment system when merchants or consumers consider whether to participate. In a typical formulation, Howard Chang and David Evans write “the value of the product to cardholders is higher if there are more merchants that take the card, and the value of the product to merchants is higher if more cardholders use the card.”⁸⁵

1. *The “Chicken-and-Egg Problem”*

A chicken-and-egg problem refers to the claimed difficulty of introducing a product or service that exhibits network effects. Many products and services exhibiting network effects, of course, are successfully introduced with neither subsidy nor cartel. By its nature, a network externality is likely to become less important (and a less persuasive justification) as a network matures.⁸⁶ Visa and MasterCard now operate the largest card

qualitative rankings are sensitive to a variety of strong assumptions, such as the assumption that no payment method except cash has fraud costs associated with it. Inconsistencies between the estimates and observed behavior also suggest that the estimates should be viewed with caution. For example, a representative consumer’s estimated net marginal costs for a grocery store transaction show the highest marginal cost for cash, which is the method consumers choose to use most frequently at grocery stores, and the lowest marginal cost for credit, which is among the least chosen payment methods at grocery stores.

⁸³ As a policy matter, moreover, it is questionable whether an industry association should be permitted to defend collective pricing on the grounds that its members’ product is deserving of a subsidy because it benefits third parties.

⁸⁴ See, e.g., David Evans & Richard Schmalensee, *Economic Aspects of Payment Card Systems and Antitrust Policy Toward Joint Ventures*, 63 ANTITRUST L. J. 861, 887 (1995); EVANS & SCHMALENSEE, *supra* note 13, at 137; Chang & Evans, *supra* note 14, at 649; Gans & King, *supra* note 66; Rochet, *supra* note 58; Rochet & Tirole, *supra* note 57, at 73; Schmalensee, *supra* note 58.

⁸⁵ Chang & Evans, *supra* note 14, at 648.

⁸⁶ See, e.g., Rochet, *supra* note 58, at 98 (“Payment card networks are also characterized by a more classical network externality. . . . This externality becomes less and less important as the network matures, when virtually all potential users have joined.”). See also Katz, *supra* note 19, at 14; Rochet, *supra* note 58, at 98 (discussing how this network externality

payment systems and enjoy almost ubiquitous penetration among major merchants. Thus, they probably have little continued need to overcome chicken-and-egg entry barriers. Even if interchange fees could be shown to have helped a new network gain members to achieve a viable scale (and if there were no effective way to do so that avoided collective pricing), that would not establish that society benefits if the fees persist indefinitely. In particular, this theory has difficulty explaining increases in fees well after the networks have achieved widespread acceptance, an efficient scale of operations, and substantial market power.

An extreme version of the network externality defense was posited by MasterCard in Australia. MasterCard asserted that a decrease in interchange fees could cause increased consumer fees, and this could cause such a large decrease in consumer willingness to use cards that fewer merchants would accept the cards, notwithstanding the lower direct cost of doing so, leading to a “death spiral” collapse of its network.⁸⁷ Yet while a reduction in interchange fees might well reduce the use of credit cards by some consumers in some transactions, it seems unlikely that a reduction in merchant fees would be associated with a net decrease in the number of merchants accepting the cards. This is particularly unlikely if, net of interchange fees, each card transaction costs merchants less on average than alternative methods of payment—as suggested by the claimed usage externality justification.

It seems unlikely that merchants collectively benefit today from increased credit card usage by their customers at the margin, given the existing level of merchant fees. Although an individual merchant choosing to accept card transactions reveals by doing so that it benefits from accepting cards, such a decision is typically made in light of the card acceptance decisions of competing merchants.⁸⁸ Preventing the loss

becomes less important as networks mature). Katz, following Liebowitz & Margolis, questions whether this type of effect is an “externality” at all. S.J. Liebowitz & Stephen E. Margolis, *Network Externality: An Uncommon Tragedy*, 8 J. ECON. PERSP., Spring 1994, at 133.

⁸⁷ See, e.g., MasterCard RBA Submission, *supra* note 59, at 11. The Reserve Bank of Australia proceeded to reduce interchange fees significantly, notwithstanding this and other arguments, and so far there has been no “death spiral.”

⁸⁸ With voluntary exchange, even customers of monopolists or cartels (e.g., OPEC) are net private beneficiaries of the monopolized product. The fact that merchants are more likely to accept cards when many consumers have a preference to use them, however, does not mean that merchants collectively are net beneficiaries of that pattern of usage—particularly when consumer preferences are distorted by the interchange fee. Katz, *supra* note 19, at 19 (“[T]he merchants’ collective benefits may be zero because one merchant’s increased sales can come at the expense of other merchants’ sales.”). Credit cards are only likely to increase *aggregate* retail sales significantly to the extent they reduce aggregate transaction costs and save resources in the economy as a whole, not to the extent they prevent a merchant from losing sales to other merchants. *Id.* at 11; RBA CONSULTATION DOCUMENT, *supra* note 79, at 23–27.

of sales to rival merchants generates a private benefit, but not a net social benefit, because one merchant's gain is another's loss.

2. *The Effects of Interchange Fees in the Presence of Issuer Market Power*

As discussed earlier, if merchants can costlessly charge different prices to customers who present different payment methods and if markets are competitive, then there would be no role or need for the interchange fee.⁸⁹ Some theoretical models therefore rely on the assumed existence of market power among card issuers to explain how interchange fees can enhance efficiency.⁹⁰ The idea is that if issuers have market power they will restrict output and increase transaction fees to cardholders. By increasing the marginal profit of each card transaction, the interchange fee induces card issuers in these models to *expand* output. If set just right, the interchange fee can offset the output-reducing effect of issuer market power.

This claimed efficiency effect has nothing directly to do with claims about externalities or the existence of a two-sided market. The two-sidedness of the market simply provides a mechanism for issuers to be subsidized without state intervention, with what is in effect privately collected tax revenue supplied to the banks by all consumers, including cash, PIN-debit, and other customers who impose lower costs on merchants. Economic efficiency might theoretically be improved by paying subsidies to firms with market power, but it is questionable whether an industry association should be permitted to act collectively to set prices

⁸⁹ Gans and King argue that perfect competition by merchants would have the same effect as perfect surcharging of credit cards: the level of the interchange fee would be irrelevant (the neutrality result). They reach this conclusion, however, through the unlikely assumption that "perfect competition" encompasses a complete separation of the retailing industry into credit-only and cash-only merchants. Gans & King, *supra* note 20, at 39 ("Any attempt to systematically distort interchange fees will simply split the market into competing cash and credit markets and will not raise banks' profits."). Deviations from neutrality are thus due to "imperfect competition" among merchants in this formulation. There is no dispute that merchants cannot perfectly discriminate among payment methods (in part due to system rules) or replicate their operations for each payment method. The point is that banks are collectively exploiting the existence of price coherence, the vertical restrictions they impose, and economies of scope across payment types.

⁹⁰ Wright, *supra* note 62, at 607 ("Note as with the earlier models, there will be too little card usage from the central planner's perspective. Cardholders do not internalize the markups they generate for issuing banks when making their usage decisions."); Rochet & Tirole, *supra* note 47, at 552 ("[W]e assume that acquirers are competitive while issuers have market power. The acquiring side . . . is widely viewed as highly competitive. . . . In contrast, the issuing side is generally regarded as exhibiting market power. . . . Note that were the issuing side perfectly competitive, issuers would have no preference over (make no profit regardless of) the interchange fee, and so the latter would be indeterminate. . . ."); Rochet, *supra* note 58, at 107 ("When issuers' market power is large . . . banning the [no-surcharge rule] is likely to be welfare decreasing.").

based on a claim that the members of the association possess market power and therefore need added incentives to expand output.⁹¹

MasterCard and Visa do not contend their issuing members have market power. To the contrary, they often argue the opposite—that issuer competition is intense enough to fully protect cardholders from any exercise of market power by the networks themselves. According to this argument, any supracompetitive profits generated by otherwise anticompetitive policies will be passed through to cardholders, not retained as issuer profits, and so could cause no net harm to the public.⁹² Joint ventures, trade associations, and networks with numerous members, however, can restrict competition without directly controlling downstream prices. In the credit card market, moreover, switching, rebating, and marketing costs may dissipate much of the fee proceeds and permit issuers to retain profits, and significant wealth transfers to card customers from other consumers may be problematic as a matter of public policy.

3. Price Elasticities and Cost-Shifting in Two-Sided Credit Card Markets

Baxter's original claim that consumers are more price-sensitive to transaction fees than merchants has led some to suggest that it is efficient for a network and its members to shift a relatively large share of total costs onto merchants. In collecting a given amount of revenue, they argue, collecting more from merchants and less from cardholders will lead to a greater amount of card use.⁹³

One problem with this formulation of the network externalities defense is that it treats the economic position of merchants as separate from that of consumers. If merchants are competitive, however, they will pass along their higher costs to consumers. Although it is true that an interchange fee will stimulate card usage, it accomplishes this not merely by shifting costs of card usage to merchants, but to non-card

⁹¹ If individual issuers possess market power, it is also hard to credit claims that they lack collective market power when acting through their associations. If issuing is insufficiently competitive, the associations could, e.g., liberalize membership requirements rather than tax transactions made with alternative payment methods.

⁹² The Tenth Circuit accepted Visa's argument in the *MountainWest* case that its large membership meant that it lacked even *collective* market power, let alone that its individual members possessed significant market power. *SCFC ILC, Inc. v. Visa U.S.A., Inc.*, 36 F.3d 958 (10th Cir. 1994). In fact, the concentration of card issuing has increased markedly in recent years. But even if MasterCard and Visa's issuers have some market power, it would make more sense to exercise vigilance over further market concentration through the many mergers and portfolio acquisitions that have taken place, rather than resort to the drastic "solution" of permitting MasterCard and Visa to stimulate card issuing through taxation of non-card customers.

⁹³ See, e.g., Margaret E. Guerin-Calvert & Janusz A. Ordovery, *Merchant Benefits and Public Policy Towards Interchange: An Economic Assessment*, 4 REV. NETWORK ECON. 384, 389 (2005).

customers. It is a mistake to equate expansion of card usage by a particular card network as necessarily procompetitive. Like exclusionary conduct, interchange fees can increase the sales by a network with market power while simultaneously harming competition.

Even if it is true that merchants have relatively inelastic demand for accepting card transactions, this merely explains why it is possible for a monopolist or cartel to raise merchant fees profitably. A profit-maximizing monopolist will tend to seek to charge higher prices to customers with less elastic demand. Although there are circumstances in which it is economically efficient for price regulators to permit sellers to charge more to customers with less elastic demand, merely showing that shifting costs from one side of the credit card market to the other increases use of credit cards and permits the banks to raise more revenue for a given amount of usage seems insufficient to justify this form of collective price setting. Moreover, the premise underlying this type of price discrimination is that fixed costs are so great that failure to charge more to customers with inelastic demand will not permit the fixed costs to be covered. Aside from a general appeal that there may be large costs involved in operating credit card networks, however, there is scant evidence that individual card issuers could not recover their costs from their consumer customers directly via competitive pricing instead of through a collectively imposed price discrimination system of fees charged to merchants.

It is theoretically possible that it is economically efficient to permit industry associations—the members of which collectively possess market power—to exploit the inelastic demand of one set of customers. It is also possible, however, that the members of the banking industry are not taxing merchants to subsidize card issuing because that is the only way to cover the costs of operating a card-issuing business, but rather because that is the way the card issuers can maximize the profits resulting from their collective exercise of market power.

C. THE RELATIONSHIP OF COSTS TO INTERCHANGE FEES

MasterCard and Visa have described their processes for setting interchange fees in different ways. Visa has stuck fairly close to Baxter's justification, claiming that "interchange is a financial adjustment to reduce the imbalance between the costs associated with issuing and acquiring, with a view to increasing demand for use of the payment services. . . ."⁹⁴

⁹⁴ CRUICKSHANK, *supra* note 78, at 261.

At least in Australia, Visa does not contend that it actually pursues a process that resembles any of the theoretical “balancing” models offered by its economic consultants. Instead, it reportedly claims merely that “[t]he setting of interchange fees is a complex matter that requires commercial judgment. In the current arrangements, this judgment is shaped by the realities of market-place competition.”⁹⁵

MasterCard has described the justification for the existence and level of its interchange fees differently than Visa, explaining that interchange fees “compensate card issuers for the cost of services they supply to acquirers through the payment scheme” which “[a]cquirers in turn supply . . . to retailers.”⁹⁶ MasterCard claims there are “three main cost components” to its interchange fee. These include, first, the “cost of providing a payment guarantee,” which in turn is composed of two cost elements: “fraud losses incurred by issuers and issuer costs of authorisation and risk control.”⁹⁷ The second and third main components allegedly incurred by issuers on behalf of retail merchants include “the cost of funding the interest free period for those customers who receive one; and the costs of processing incoming transactions.”⁹⁸

MasterCard’s description of the interchange fee has been markedly different from that of Visa.⁹⁹ Whereas Visa stresses the complexity of its balancing process, MasterCard simply itemized a few specific issuer costs it claims should be covered by the interchange fee.¹⁰⁰

⁹⁵ Katz, *supra* note 19, at n89.

⁹⁶ CRUICKSHANK, *supra* note 78, at D3.78. The description applies both to MasterCard and to the Switch domestic UK network. In Australia, MasterCard contends, “Interchange fees can be thought of as a reimbursement by the acquirer to the issuer for part of the issuers’ costs so as to optimise the services they carry out for the benefit of both cardholders and merchants.” MasterCard RBA Submission, *supra* note 59, at 39.

⁹⁷ CRUICKSHANK, *supra* note 78, at D3.78.

⁹⁸ RBA CONSULTATION DOCUMENT, *supra* note 79, at 43. *See also* MasterCard Bylaws and Rules §11.09(a) (May 1999), *quoted in* Katz, *supra* note 19, at n.88 (“For sales transactions, various elements of expense make up the interchange fee, including cost of processing, costs of money, and increased risk due to the use of MasterCard cards in interchange transactions.”).

⁹⁹ Gans and King contend there actually is no economic distinction between the rationales offered by the two associations. Joshua S. Gans & Stephen P. King, *The Role of Interchange Fees in Credit Card Association: Competitive Analysis and Regulatory Options*, 29 AUSTL. BUS. L. REV. 94, 101–02 (2001). But there is at least a clear practical difference between a sweeping claim that Visa must be trusted to finely balance unmeasured and unstated consumer and merchant costs and demand because this balancing act is so “complex,” and MasterCard’s claim that a few specific cost items can be measured and charged to merchants as an interchange fee.

¹⁰⁰ In reaching a 2001 settlement with the European Commission, Visa agreed to base its cross-border interchange fee, like MasterCard, on the “cost of payment guarantee,” “cost of processing,” and “cost of free funding period.” It claims those costs account for 50%, 24%, and 26% of cross-border credit card interchange fees, respectively. *See* <http://>

The “payment guarantee” refers to the fact that a merchant receives payment even if the cardholder never pays an outstanding balance or in the event of cardholder fraud when the issuer authorized the transaction after the merchant followed proper procedures. Card issuers, however, make all decisions concerning the extension of credit. Issuers decide to whom they offer and issue cards, the size of credit lines, and whether to authorize particular transactions. Because issuers observe all transactions made on a particular card account, issuers are in a better position than acquirers or merchants to monitor and control cardholder fraud. It therefore makes economic sense for issuers to bear the costs resulting from their credit extension decisions. To the extent that interchange fees cause merchants to bear some of the costs of issuers’ credit decisions, then issuers will tend to provide credit to riskier consumers.

MasterCard claims payment guarantee costs benefit the merchant, but that attribution is entirely arbitrary. A payment guarantee is valuable not only to sellers, but also to buyers who find it easier to pay for goods and services. A cardholder can travel to a distant city, rent a car, and check into a hotel without having to procure cash and leave a cash deposit or purchase a draft or letter of credit from a bank to satisfy those service providers. Reductions in transaction costs reduce the spread between the total cost paid by consumers and the amount received by sellers, and benefit both parties. Again, economic theory suggests that one should align the payment of costs with the party best able to monitor and control those costs.

The interest-free period is the second component of MasterCard’s cost justification. To the extent it is provided to cardholders, the free period is a cost determined by the issuer, and so it makes sense that it be borne by the issuer. On its face, an interest-free loan is an obvious cardholder benefit. MasterCard, however, claims this free period benefits merchants. It reasons that prior to the introduction of general-purpose cards, merchants wishing to offer sales on credit typically offered an interest-free period until the end of the billing month, after which interest might be computed on outstanding balances. By relieving merchants of the need to absorb the cost of providing the interest-free

www.visaeurope.com/acceptingvisa/interchange.html. Visa will reduce its cross-border, intra-regional interchange fee for direct debit card transactions by more than 50%, and its weighted average interchange fee for credit and deferred debit cards to 0.7% by 2007 (roughly a 20% reduction). Visa also agreed to submit specific cost studies to provide objective benchmarks, will not exceed those benchmarks in the future, and will increase the transparency of interchange fees and underlying costs to merchants. *See* Visa Notice Pursuant to Article 19(3), *supra* note 8. (Author Alan Frankel testified at the Commission’s oral hearing on behalf of complainant EuroCommerce.).

period, MasterCard claims the issuers deserve to recover that cost from the merchants.

When merchants incurred the costs associated with any interest-free period, those costs resulted from the merchants' own choices. Moreover, the merchants, as card issuers, stood to obtain revenues from their credit operations in addition to their retail sales. The interest-free period itself likely originated from the high costs of processing small credit transactions prior to the invention and general adoption of computer technology. Merchants—particularly small merchants—offering credit to their customers would have been faced with a difficult and expensive task if they sought routinely to charge interest during the period between the purchase date and the statement date. At the same time, interest rates were usually relatively low, so it was more sensible to wait until the statement date and then apply simple, easily computed interest (say, at 1 percent or 1.5 percent per month) on the unpaid balance. This would especially be true for merchants from which customer purchases were frequent and small, such as neighborhood grocery or general stores.

Permitting the associations to use average issuer costs from this source to justify collective price setting to retailers and reimbursement of issuers (irrespective of each issuer's own cost of providing the free period, if any) is unlikely to generate economic efficiencies. Improvements in technology have greatly reduced or eliminated the transaction costs that helped create the interest-free period. Today, the existence of such a period is a marketing decision by the individual card issuer that, for MasterCard and Visa accounts, is entirely beyond the control of merchants. Issuers, however, are able to fund the costs of an interest-free period, if consumers find them valuable, through finance charges when they do revolve a balance, or through other fee arrangements.¹⁰¹

The existence of four-party payment systems operating at par suggests that a system can operate effectively with acquirers recovering their

¹⁰¹ Despite the reduction of interchange fees in Australia, the fraction of cardholder accounts lacking an interest-free period has steadily declined. Reserve Bank of Australia, Payments System, Payment Statistics, <http://www.rba.gov.au/PaymentsSystem/PaymentsStatistics/ExcelFiles/RPS.xls>. The costs of funding the free period and credit losses have been cited as reasons why finance charges are set at relatively high rates. Christopher DeMuth, *The Case Against Credit Card Interest Rate Regulation*, 3 YALE J. REG. 201 (1986). It is not clear what is included when MasterCard refers to "the costs of processing incoming transactions" as the third main component of interchange fees, so it is difficult to address them. As a general matter, such costs as merchant fraud, merchant-side processing, and merchant infrastructure are under the control or influence of acquirers, and it would make sense to let acquirers recover such costs from merchants. Costs such as cardholder fraud, credit losses, and cardholder billing are under the control or influence of issuers, and it makes sense to let issuers recover these costs from their own cardholder customers in one form or another, at least absent proof that a significant market failure would result.

costs from their own merchant customers and issuers from their own cardholder customers. If in fact issuers did incur costs that benefited merchants but not cardholders, then merchants would rationally want to compensate consumers who use credit cards, and they could use price or nonprice means to do this. The question is whether such a usage externality exists, and, if so, whether allowing an association to collectively set prices, with the problems that collective price setting can raise, is a socially beneficial way of addressing the externality, rather than simply using decentralized and competitively based means.

D. THE EFFECTS OF INTERCHANGE FEES ON COMPETITION BETWEEN FOUR-PARTY AND THREE-PARTY CARD SYSTEMS

MasterCard and Visa have claimed that interchange fees are necessary to allow them to compete effectively with three-party firms like American Express.¹⁰² American Express is considered a three-party system because it historically was the sole issuer of its own branded cards, and it alone directly controlled all relationships with merchants that accepted American Express cards. American Express recently began licensing some MasterCard and Visa member banks to issue American Express cards.¹⁰³ American Express, however, remains vertically integrated into issuing cards, and it continues to be the sole acquirer of American Express branded transactions from merchants.¹⁰⁴

1. *The Effect of Interchange Fees on Competition Between American Express and Four-Party Systems*

Because it serves as its own exclusive acquirer, American Express can establish merchant fees on a unilateral or bilateral basis with merchants, and it typically charges merchants higher discount rates than merchants pay to accept MasterCard or Visa card transactions.¹⁰⁵ American Express

¹⁰² See, e.g., MasterCard Int'l Press Release, *supra* note 55 ("Since no one is arguing that Amex's fees should be regulated, and since interchange is how four-party systems, like MasterCard, compete with three-party systems, like American Express, an attack on interchange fees is really an attack on corporate structure."). The standard nomenclature is a bit confusing. MasterCard and Visa are actually five-party systems, including the network, issuer, acquirer, cardholder, and merchant. American Express was a three-party system when it issued all of its own cards; it is now a four-party system in which it issues cards and also licenses others to issue some of its cards.

¹⁰³ American Express's ability to enlist MasterCard and Visa member banks to issue American Express cards resulted from the injunctive relief granted in *United States v. Visa and MasterCard*. *United States v. Visa U.S.A., Inc.* 163 F. Supp. 2d 322 (S.D.N.Y. 2001), *aff'd*, 344 F.3d 229 (2d Cir. 2003), *cert. denied*, 543 U.S. 811 (2004).

¹⁰⁴ Parent, *supra* note 14, at 5.

¹⁰⁵ *Id.* at 4-5. In the United States, Discover Card also operates a three-party system introduced in the late 1980s. Discover Card generally collects merchant fees at rates below those charged by MasterCard and Visa acquirers.

need not set an explicit interchange fee among banks. When its licensee banks issue cards, those banks are paid a fee by American Express that is similar to an interchange fee from the bank's perspective, but the amount can be negotiated directly with American Express in its status as an integrated network and acquirer.¹⁰⁶

If MasterCard and Visa could not set an interchange fee, the fees charged to merchants for accepting MasterCard and Visa transactions would fall significantly. If American Express could nevertheless maintain its higher merchant fees at their existing level, consumer usage of American Express cards would generate far more revenue for American Express (and its issuing bank partners) than card-issuing banks would receive from consumer use of MasterCard or Visa cards. American Express and its bank issuers might be able to offer more attractive consumer card programs than MasterCard and Visa card issuers, which could stimulate relative growth of American Express's transactions. In the extreme case, if American Express's fees were unchanged and enough issuers and consumers switched to American Express, merchants would end up paying higher fees (and consumers higher retail prices) than before, notwithstanding the sharply reduced fees on MasterCard and Visa card transactions.

While it is true that American Express finds it profitable to charge a premium over MasterCard and Visa merchant fees, there is a limit to the amount by which American Express fees can exceed those of MasterCard and Visa without the former losing so many merchants that further increases are unprofitable. American Express's existing fees presumably tend to reflect that profit maximization process. In fact, American Express acknowledges that low interchange fees put downward pressure on its own merchant fees.¹⁰⁷

If MasterCard and Visa eliminate their interchange fees, merchant fees for those brands will fall. One immediate effect would be an increase in the relative premium merchants pay to accept an American Express

¹⁰⁶ *Id.* at 5, 7.

¹⁰⁷ Harvey Golub, Chairman and CEO, American Express, Freedom of Choice: Opening the Marketplace for Card Issuers, Remarks Prepared for Credit Card Forum (May 2, 1996), http://home3.americanexpress.com/corp/latestnews//harvey_speech.asp (“[F]or more than 10 years, the interchange setting mechanisms have indicated that the rates are set too low. . . . [A]s a Visa member, I would wonder how it is in my interest to have merchants push American Express to lower merchant rates . . . In fact, we did lower prices at American Express. . . .”); Ed Gilligan, Group President, Global Corporate Services and Int'l Payments, American Express, Remarks Before the Financial Community Meeting 10 (Aug. 4, 2004), http://library.corporate-ir.net/library/64/644/64467/items/172842/fcm0408_eg_s.pdf (“[L]imits on the level of interchange fee . . . could exert a downward pull on our own discount rates.”).

transaction. If American Express previously set profit-maximizing merchant fees, it would probably have to reduce those fees to re-establish a privately optimal premium over MasterCard and Visa fees.

Furthermore, American Express's higher fees are likely due in large part to their corporate card holders, which are typically very loyal and profitable customers who are perhaps usually likely to avoid merchants that do not accept American Express cards. If, in fact, American Express and other three-party systems were completely to replace Visa and MasterCard, it is less likely that American Express and those other three-party systems could continue to profitably charge merchants more for former Visa and MasterCard customers than Visa and MasterCard could.

For the elimination of interchange fees to increase overall merchant costs (and retail prices), American Express and other three-party system rates would have to remain relatively high despite the change in customer base; and the substitution effect in which a more costly American Express network attracts more cardholder transactions would have to more than offset the direct cost savings resulting from lower MasterCard and Visa fees. While extreme cases might be difficult to rule out on theoretical grounds alone, it would seem unlikely that the direct savings resulting from reduction of MasterCard and Visa fees and the likely decline in American Express merchant fees could be offset by an increase in American Express's share of transactions.

2. *Early Evidence from Australia*

The Reserve Bank of Australia (RBA) has provided an experiment into the effects of major changes in interchange fees.¹⁰⁸ The RBA asserted control over credit card interchange fees in 2001 and began regulating those fees directly in 2003.¹⁰⁹ The RBA reduced credit card interchange fees by 0.40 percentage points (about half of the former level for

¹⁰⁸ See, e.g., Howard Chang, David Evans & Daniel D. Garcia Swartz, *The Effect of Regulatory Intervention in Two-Sided Markets: An Assessment of Interchange-Fee Capping in Australia*, 4 REV. NETWORK ECON. 328, 329 (2005); Joseph Farrell, *Assessing Australian Interchange Regulation: Comments on Chang, Evans and Garcia-Swartz*, 4 REV. NETWORK ECON. 359 (2005); Henry Ergas, *Panel on Competition Policy in Card-Based Payment Systems: Commentary*, 4 REV. NETWORK ECON. 415, 417 (2005). (Author Alan Frankel served as a consultant to an Australian financial institution.)

¹⁰⁹ The RBA concluded in part that interchange fees contributed to a structure of incentives that encouraged the growth of the credit card network at the expense of less costly payment methods. See AUSTRALIAN COMPETITION AND CONSUMER COMM'N AND RESERVE BANK OF AUSTRALIA, DEBIT AND CREDIT CARD SCHEMES IN AUSTRALIA: A STUDY OF INTERCHANGE FEES AND ACCESS (2000), available at <http://www.accc.gov.au/content/index.phtml/itemId/306324>; RBA CONSULTATION DOCUMENT, *supra* note 79, at 16. A similar argument has been advanced in the United States. See Sujit Chakravorti & Alpa Shah, *Underlying Incentives in Credit Card Networks*, 48 ANTITRUST BULL. 53 (2003).

electronic transactions) and eliminated the networks' no-surcharge rules.¹¹⁰ In response, average merchant fees in Australia for MasterCard, Visa, and (domestic brand) Bankcard credit cards fell by 0.41 percentage points between the first quarter of 2003 and the second quarter of 2004, and by a total of 0.50 percentage points through March 2006.¹¹¹

American Express fees also fell following the reduction of four-party interchange fees. The RBA reports American Express's average merchant fees fell by 0.23 percentage points between the first quarter of 2003 and the first quarter of 2006, and those declines appear to be continuing.¹¹² In addition to reducing its merchant fees, there are indications that the Australian reforms have led American Express to reduce net merchant costs in other ways. For example, when merchants obtained the right to surcharge credit card transactions, American Express's higher merchant fees led the telecommunications firm Telstra to surcharge AmEx transactions at a higher rate than four-party card transactions.¹¹³ American Express subsequently entered into a "marketing campaign" with Telstra which coincided with Telstra's reduction of the AmEx surcharge to the level charged for four-party card transactions.¹¹⁴

Despite the reduction in merchant fees for accepting both three- and four-party cards in Australia, it has been suggested that merchants have been harmed due to an increase in the relative usage of American

¹¹⁰ PAYMENTS SYSTEM BOARD 2005 ANNUAL REPORT, *supra* note 16, at 10.

¹¹¹ Reserve Bank of Australia, Bulletin Statistical Tables, series C3 (including merchant service charges plus other merchant charges). The RBA attributes the greater reduction in merchant fees to the intensified competition amid the widespread repricing of merchant agreements, the increased transparency of average merchant fees, which are now published by the RBA, and the abolition of no-surcharge rules.

¹¹² *Id.* Average American Express and Diners Club merchant fees remain significantly higher than the average of MasterCard, Visa, and Bankcard fees (2.27% and 2.25%, respectively, vs. 0.95%). Diners Club—a smaller three-party system with fewer than one-third as many cards in Australia as American Express—experienced a reduction in merchant fees of 0.11%. See also Parent, *supra* note 14, at 5; American Express Co., Form 10-K, at 13 (Dec. 31, 2004) ("[G]overnment regulation of the bankcard associations' pricing could ultimately affect all card service providers by requiring reduction of the levels of interchange, which will drive down merchant discount rates. Downward movement of interchange and merchant discount fees may affect the relative economic attractiveness to card issuers and merchant acquirers of participation in a particular network. . . . Reductions in bankcard interchange mandated by the Reserve Bank of Australia in 2003 have resulted in lower merchant discount rates for VISA and MasterCard. As a result of changes in the marketplace, we have reduced our own merchant discount rates in Australia . . .").

¹¹³ See, e.g., Cosima Marriner, *Telstra's \$200m Jackpot May Be Just the First Course*, SYDNEY MORNING HERALD, May 25, 2004, at 5, available at <http://www.smh.com.au/articles/2004/05/24/1085389333955.html>.

¹¹⁴ See Infochoice, *Telstra and Amex in Marketing Alliance*, Dec. 6, 2005, <http://www.infochoice.com.au/banking/news/creditcards/05/12/article14190.asp>.

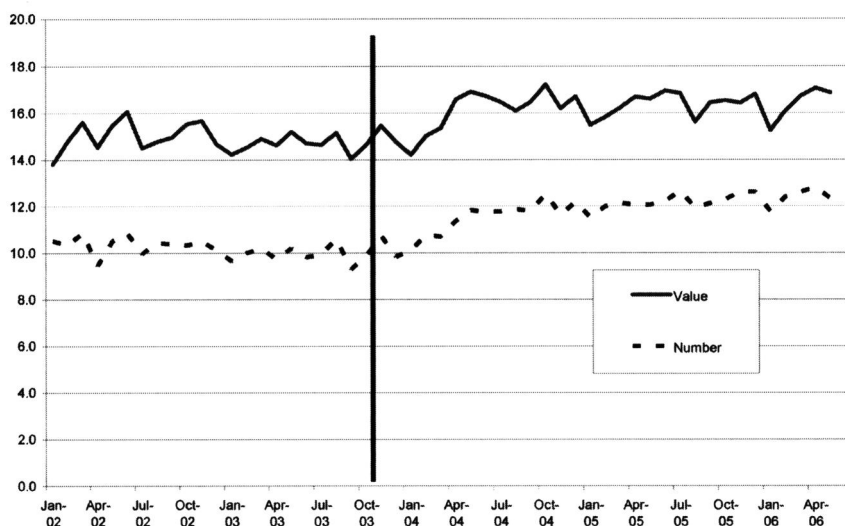


Figure 2. Combined Share of American Express and Diners Club Transactions in Australia (Number of Transactions and Transaction Value)

Source: Reserve Bank of Australia

Express and Diners Club cards.¹¹⁵ Figure 2 shows how American Express's and Diners Club's combined share of credit and charge card transactions and spending increased by 1–2 percentage points since the reforms became effective.¹¹⁶ The RBA notes that most of this increase occurred in 2004 when two Australian banks began to issue American Express cards, and the three-party card share of total transaction value has been relatively stable since then.¹¹⁷

Merchants, of course, would be better off if all card fees fell without any increase in the share of purchases accounted for by the most expensive cards. Even if it was caused by the interchange fee regulation, however, the effect of the modest increase in the three-party card share of transactions in Australia was far outweighed by the direct benefit to

¹¹⁵ See, e.g., Press Release, Visa Int'l, New Reserve Bank Data Confirms Impact of Loophole: Australian Merchants A\$44 million Out of Pocket due to RBA Loophole (Aug. 18, 2005).

¹¹⁶ Monthly share data for American Express and Diners Club combined are posted by the RBA at http://www.rba.gov.au/PaymentsSystem/PaymentsStatistics/payments_data.html. The average purchase amount is greater on the three-party cards than the four-party cards, but that difference has been narrowing since 2004.

¹¹⁷ PAYMENTS SYSTEM BOARD 2005 ANNUAL REPORT, *supra* note 16, at 16.

merchants of the lower fees for each card brand. Given the transaction volume, fee reductions, and increased share of American Express and Diners Club reported by the RBA, merchants appear to have saved about AU\$1.4 billion through March 2006 as a result of the RBA's intervention.¹¹⁸ Merchant costs will be even lower if the reduction in credit card interchange fees generated a relative shift towards debit cards.

The RBA concludes that the reduction in merchant fees in Australia has led to lower retail prices. Although the estimated percentage price reduction is small (the RBA estimates that "when fully passed through, the Consumer Price Index (CPI) will be 0.1 to 0.2 percentage points lower than it otherwise would have been as a result of the reforms"), the price reductions apply to products and services that span the entire retail economy.¹¹⁹

The reduction of interchange fee revenue paid to issuers has been accompanied by changes in the terms of some card plans. Annual fees are now more common in Australia, particularly for cards offering reward programs, and it generally takes more spending now to earn the same rewards.¹²⁰ According to one estimate, the reduction in interchange fee revenue led issuing banks to increase consumer fees, but only by between 30 and 40 percent of the amount of lost interchange fees.¹²¹ The repricing of credit card plans has also led to a more general intensification of competition with respect to fees and finance charge rates, which has especially benefited consumers who revolve balances.¹²²

¹¹⁸ The computation compares actual fees paid with the fees that would have been paid had the average fee rates and three-party system share prevailing in September 2003 persisted.

¹¹⁹ PAYMENTS SYSTEM BOARD 2005 ANNUAL REPORT, *supra* note 16, at 11. For an alternative view, see Chang et al., *supra* note 108, at 340–41. The RBA notes that measuring empirically the impact of small percentage cost reductions on a price index like the CPI is quite difficult because many other factors cause the index to change. PAYMENTS SYSTEM BOARD 2005 ANNUAL REPORT, *supra* note 16, at 11. Reductions in marginal cost, such as occurs with the reduction of payment fees, typically result in lower prices. See, e.g., U.S. Dep't of Justice & Federal Trade Comm'n, Commentary on the Horizontal Merger Guidelines 57 (Mar. 2006), available at <http://www.ftc.gov/os/2006/03/CommentaryontheHorizontalMergerGuidelinesMarch2006.pdf> ("Economic analysis teaches that price reductions are expected when efficiencies reduce the merged firm's marginal costs, i.e., costs associated with producing one additional unit of each of its products.").

¹²⁰ PAYMENTS SYSTEM BOARD 2005 ANNUAL REPORT, *supra* note 16, at 12.

¹²¹ Chang et al., *supra* note 108. See also INTERIM REPORT, *supra* note 37, at vi ("The empirical evidence [in Europe] shows that if the interchange fee increases by 1 Euro only 25 cents are passed on to consumers in lower fees.").

¹²² See, e.g., Stephen Bartholomeusz, *Big Banks Lured into the Credit Card Limbo*, SYDNEY MORNING HERALD, Jan. 31, 2006, at 17, available at <http://www.smh.com.au/news/business/big-banks-lured-into-the-credit-card-limbo/2006/01/30/1138590440591.html> ("The fresh outbreak of competition in credit cards reflects the continued unbundling of the credit card product that started with the Reserve Bank's reforms to interchange

MasterCard warned the RBA that any reductions in interchange fees could destroy a delicate balance maintained by the associations, causing a death spiral in which less cardholder usage would lead to fewer merchants accepting MasterCard cards despite their lower merchant fees.¹²³ The total number of credit card accounts in Australia rose 16.8 percent in the two years following the reduction in interchange fees, despite increased annual fees and reduced rebates, while the number of transactions grew 10 percent, the value of transactions 13.6 percent, and outstanding card balances 29.3 percent.¹²⁴

The RBA has also found that a small percentage of merchants in a wide variety of industries have responded by instituting surcharges for credit cards, notwithstanding the interchange fee reductions.¹²⁵ Rather than dropping cards, the number of merchants accepting cards may have increased due to the lower fees and the ability to surcharge credit card transactions, contributing to an increase in card transactions. The RBA has stated that it will continue to monitor the situation in Australia.¹²⁶

fees. Those reforms stripped hundreds of millions of dollars from the banks and triggered a repricing of card features, including loyalty programs, that made the cost and benefits of the cards far more transparent. Customers are now paying higher fees for fewer rewards, which created the opportunity for rival institutions to compete purely on price.”); Scott Murdoch, *Banks Vie for Credit Card Share*, HERALD SUN, Feb. 14, 2006, at 15, available at http://www.heraldsun.news.com.au/common/story_page/0,5478,18137229%25E664,00.html (“In the past few years there has been a proliferation of so called no-frills credit cards, which have relatively low interest rates and annual membership fees. The RBA said the new cards usually offered 9 to 13 percent interest rates, compared with the usual standard of up to 17 per cent.”).

¹²³ MasterCard RBA Submission, *supra* note 59.

¹²⁴ Reserve Bank of Australia, Payments Data, http://www.rba.gov.au/PaymentsSystem/PaymentsStatistics/payments_data.html. Comparisons are October 2003 to October 2005. Card transactions and spending dipped slightly in 2004 and grew significantly in 2005. The growth of credit card usage slowed relative to the use of PIN-debit cards. PAYMENTS SYSTEM BOARD 2005 ANNUAL REPORT, *supra* note 16, at 13. One of the Reserve Bank’s goals was to encourage greater consumer usage of the more efficient PIN-debit EFTPOS system. The RBA data indicate that the four-party schemes (MasterCard, Visa, and Bankcard) experienced an increase in the number of purchase transactions, and the value of those purchases, notwithstanding the increased combined share of American Express and Diners Club, based on the total number and value of credit and charge card purchases multiplied by the shares of those purchases accounted for by Bankcard, MasterCard, and Visa. Commonwealth Bank notes that there has been “[n]o reduction in use of credit cards,” along with a “[p]roliferation rather than a consolidation of credit cards per customer.” Stephen Morrow, Executive General Manager Transactions and Consumer Financing, Commonwealth Bank, Credit Card Reforms (Apr. 6, 2004), http://shareholders.commbank.com.au/group_display/0,1922,CH2193percent25FTS10643,00.html.

¹²⁵ PAYMENTS SYSTEM BOARD 2005 ANNUAL REPORT, *supra* note 16, at 11. Some merchants have also begun surcharging only American Express cards, or surcharging a higher amount for American Express than for other credit cards. RESERVE BANK OF AUSTRALIA, PAYMENTS SYSTEM BOARD 2004 ANNUAL REPORT 11–12.

¹²⁶ *Id.* at 13.

There are some indications that the RBA, which plans an updated review in 2007, may consider moving farther towards a par collection system both for credit cards and PIN-debit (EFTPOS) transactions.¹²⁷

3. *Competition Policy in the Presence of Vertically Integrated Networks*

Some authors have suggested that four-party systems should not be handicapped relative to three-party systems in terms of their ability to set fees. To level the playing field, they contend MasterCard and Visa should be permitted to act collectively and use the interchange fee system to replicate the pricing structure available to them if they were three-party systems.¹²⁸

Of course, a merger of all MasterCard or Visa member banks—even if limited to their credit card operations—would be subject to antitrust challenge. Permitting these banks to act as if they had merged their operations for purposes of increasing merchant fees and remitting the incremental funds to card issuers, therefore, could raise competitive concerns similar to those resulting from the elimination of all intra-brand competition.

If many merchants began to surcharge (or threatened to surcharge) American Express transactions, this would alleviate concerns that American Express could unilaterally exercise market power even if MasterCard and Visa could not; any increase in American Express's merchant fees would be borne by American Express's own cardholder customers if price coherence were broken in this way. Price coherence, however, otherwise has a similar effect for costly American Express transactions as for MasterCard and Visa transactions made more costly to merchants as a result of interchange fees. Like the four-party systems, American Express reinforces price coherence with restrictions (now abandoned in

¹²⁷ RESERVE BANK OF AUSTRALIA, REFORM OF THE EFTPOS AND VISA DEBIT SYSTEMS IN AUSTRALIA: A CONSULTATION DOCUMENT 2 (Feb. 2005), available at http://www.rba.gov.au/PaymentsSystem/Reforms/Eftpos/ConsultDocFeb2005/february_2005_a_consultation_document.pdf ("The Bank has already announced its intention to review the standards for the credit card schemes in 2007. At that time the Bank intends to review interchange fees in all card payment systems to assess whether the public interest would be promoted by moving the various arrangements for setting interchange fees to a more consistent basis.").

¹²⁸ See, e.g., EVANS & SCHMALENSSE, *supra* note 13, at 288–89 ("NaBanco could contend that setting an interchange fee between acquirers and issuers was illegal price fixing, even though the internal prices set within American Express and the Novus [Discover Card] systems to balance the incentives for acquiring and issuing are completely immune to antitrust challenge. . . . In many [joint venture] cases, the joint venture participants would have faced no antitrust issue had they merged into a single firm, eliminating all competition between them, and engaged in the same practices.").

Australia) that prevent merchants from steering customers away from use of American Express cards in favor of other cards.¹²⁹

Although it may not seem fair from the associations' perspective to deny them the ability to tax retail transactions in the same way that American Express can, it is appropriate to ask whether it makes sense to allow industry-spanning bank associations to act as if they had merged into a single firm for purposes of setting fees to merchants. If by so doing they can collectively exploit the existence of transaction costs and their own vertical restrictions in a way that raises the prices to merchants and merchants' consumers, then simple appeals to "fairness" and "level playing fields" would seem inadequate justifications.

Indeed, it might make sense instead to ask the question in reverse: if the efficiency and competitiveness of payment markets can be maximized by four-party, par collection payment systems and the elimination of vertical restrictions on merchants and issuers, then might there be an economic justification to regulate or restructure a firm like American Express at some future date if the "unbalanced" playing field described by MasterCard and Visa should threaten to deprive the public of the benefits of four-party system competition?¹³⁰

V. CONCLUSION

There will always be some transaction costs in the economy resulting from the imperfections in and the competitively determined costs of engaging in retail trade and payment. An interchange fee, however, artificially increases those costs. It acts much like a sales tax, but it is privately imposed and collected by banks, not the government. It significantly and arbitrarily raises prices based not on technologically and competitively determined costs, but through a collective process.

¹²⁹ See, e.g., Am. Express Co., Form 10-K, at 11 (Dec. 31, 2004) ("[W]e do encounter a relatively small number of merchants that accept our Cards, but tell their customers that they prefer to accept another type of payment and, consequently, suppress use of the Card. We devote significant resources to respond to this issue . . . when necessary, by canceling merchants who suppress the use of our Card products.").

¹³⁰ Although there is a "failing firm defense" in U.S. merger law and policy, competition authorities here have long expressed a preference to maximize the competitive benefits from a declining industry for as long as possible, rather than permit a merger that prematurely eliminates significant competition. The Merger Guidelines, for example, accept a failing-firm defense in only very limited circumstances. U.S. Dep't of Justice & Federal Trade Comm'n, Horizontal Merger Guidelines § 5.1 (1992, revised 1997), available at <http://www.ftc.gov/bc/docs/horizmer.htm>. It would seem inconsistent to permit thousands of banks with collective market power to price collectively today on the basis of a stated long-term concern that their credit card businesses might erode over time as consumers switch to proprietary three-party systems that can more effectively charge high prices.

Interchange fees distort competitive markets by steering consumers toward using more costly and less efficient payment methods, and generate significant increases in costs due to rent-seeking behavior.

The increasingly elaborate and technically complex theoretical justifications for interchange fees are unconvincing. While they describe a variety of ways in which interchange fees could, in theory, be used to increase efficiency and enhance social welfare, there is a notable lack of evidence that bank associations use interchange fees in the manner suggested by the theories advanced in their support. As Michael Katz reminds us:

One can write down theoretical models in which the cartel outcome [in, e.g., the chemicals industry] is more efficient than the non-collusive outcome. But we do not allow this possibility to paralyze public policy toward price fixing. Indeed, the efficiency enhancing effects are considered so unlikely that price fixing of this sort is per se illegal in the United States.¹³¹

This is exactly right. The mere ability to construct a theoretical model in which it might be *possible* for an omniscient and benevolent social planner to fix an interchange fee in a way that improves upon a decentralized, competitive market, does not mean that this is what banks do if given the unrestricted right to fix these prices—particularly when there is a clear and plausible mechanism by which such price fixing, in fact, harms the public. The evidence, moreover, suggests that interchange fees in the United States are being set too high and does not appear consistent with theoretical predictions if the fees were being set in a socially beneficial fashion.

The economic rationale for the continued maintenance of no-surcharge or no-discrimination restrictions on merchants is also questionable. Indeed, some defenders of interchange fees have noted that their theoretical justifications for the fees evaporate if merchants can easily price differentially according to the payment method used. Vertical restrictions on merchants prevent direct competition between the networks from occurring at the point of sale. Although merchants historically have been reluctant to price differentially at the point of sale, modern retail payment technology makes this easier than ever and there is no reason to impede one of the few ways merchants have to align their interests with those of their customers.

¹³¹ Michael Katz, *What Do We Know About Interchange Fees and What Does It Mean for Public Policy: Commentary on Evans & Schmalensee*, in INTERCHANGE FEES IN CREDIT AND DEBIT CARD INDUSTRIES: WHAT ROLE FOR PUBLIC AUTHORITIES? 121, 130 (Kansas City Federal Reserve Bank 2005).

Decentralized competitive alternatives exist to the collective imposition and setting of interchange fees, and four-party payment systems operate successfully today using those alternatives. The interchange fee itself could be eliminated, leaving each bank and merchant to compete independently for the patronage of their respective customers, or interchange fees could be limited to voluntary bilateral arrangements. Opportunities for competition among networks, processors, and individual banks to transmit, clear, and settle transactions should be encouraged, not prohibited, so that those paying fees for payment services have genuine choices over how to clear and settle retail transactions.

In the United States, controversies over interchange fees and vertical restrictions in card payment systems have primarily centered on private antitrust litigation. The Federal Reserve System, long concerned with the efficiency of the check clearing system, is becoming increasingly interested in card payment systems. Regulatory and competition authorities in other countries have shown great interest and have in many cases intervened to reduce interchange fees. This regulatory and legal activity is likely to shed more light on the economics of modern card payment networks.