

**Meeting Between Federal Reserve Staff  
and Merchants Payment Coalition  
November 2, 2010**

**Participants:** Representatives of the Merchants Payment Coalition (MPC), Walmart, Sears Financial Services, Publix Super Markets, The Kroger Co., Best Buy, 7-11, Charming Shops, and Supervalu.

Louise Roseman, David Mills, Robin Prager, Mark Manuszak, Edith Collis, Chris Clubb, Dena Milligan, Joshua Hart, Stephanie Martin, David Stein, and Ky Tran-Trong (Federal Reserve Board); Julia Cheney (Federal Reserve Bank of Philadelphia)

**Summary:** Federal Reserve staff met with representatives of the MPC, merchants and other individuals representing merchants (collectively referred to as “merchants”) to discuss the interchange fee provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act (the “Dodd-Frank Act”). MPC is a trade organization that represents about 2.7 million retail stores. Using prepared materials, representatives of the merchants outlined economic principles of regulation and expressed views as to their preferred approaches for implementing the interchange fee provisions of the Dodd-Frank Act. Specifically, representatives of the merchants expressed their preference for a presumptive at-par interchange fee, limiting the fraud adjustment to issuer-specific actions that demonstrably prevent fraud, imposing limits on fees charged to merchants, and requiring at least two networks per authorization method on a debit card. A copy of the prepared materials is attached.<sup>1</sup>

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<sup>1</sup> A revised version of the materials distributed at the meeting has been attached to this summary at the request of MPC.

**Jeffrey I. Shinder**  
Attorney at Law  
212-350-2709  
jshinder@constantinecannon.com

October 27, 2010

**BY E-MAIL**

Ms. Louise Roseman  
Division Director  
Division of Reserve Bank Operations and Payment Systems  
Board of Governors of the Federal Reserve System  
20th Street and Constitution Avenue NW  
Washington, DC 20551

Re: Rulemaking Pursuant to Section 920 of the Electronic Fund Transfer Act

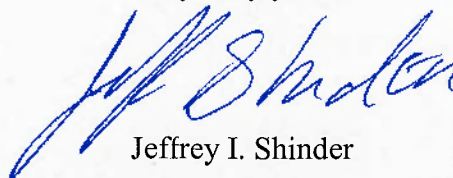
Dear Director Roseman:

On behalf of the Merchants Payments Coalition, in advance of the November 2 meeting concerning the Section 920 rulemaking, I enclose:

- the Coalition's White Paper;
- the report of Steven C. Salop and Charles River Associates, Inc. (with integrated attachments);
- the report of Stephen C. Mott (with separate attachments); and
- the report of Kenneth J. Morrison.

Please do not hesitate to contact me with any questions.

Very truly yours,



Jeffrey I. Shinder

Enclosures (by email)

176873.1

# Merchants Payments Coalition

Presentation Regarding

## Section 920 of

# The Electronic Fund Transfer Act

November 2, 2010

# Introductions

- Meeting Participants
- Merchants Payments Coalition
  - More than 20 national and 80 state trade associations
  - Associations collectively represent about 2.7 million stores with about 50 million employees

# Overview

- Debit interchange
- Fraud adjustment
- Network fees
- Circumvention issues
- Network non-exclusivity, network routing

# Economic Principles of Regulation

- Efficient cost-allocation
- Minimize market intrusion
- Minimize administrative costs
- Maximize consumer welfare

# Conclusions of Economic Analysis

- Strong presumption that debit interchange should be at-par (API)
- No fraud adjustment except for paradigm shifting technology
- Network fees charged to merchants limited to prevent circumvention
- Two unaffiliated networks for each type of debit transaction (signature and PIN) the bank offers
- Full merchant control over routing

# Debit Interchange Rulemaking



# Debit Interchange Rulemaking

- Presumptive At-Par Interchange Standard (API)
  - Advances consumer welfare
  - Has generated high per capita usage of debit in countries around the world
  - Banks have incentives to issue debit without interchange
- Potential for positive interchange up to a cap
  - Cap limited to incremental costs to issuer of authorizing, clearing and settling (ACS) debit transactions

# Debit Interchange Rulemaking

- Incremental ACS Costs
  - Readily identifiable and very low
  - Do not vary materially by merchant or merchant category

# Debit Interchange Rulemaking

- Non-ACS issuer costs
  - Prohibited by the statute
  - Significant administrative & regulatory burdens
  - Will vary widely by issuer (i.e. fraud)
  - Reflect inefficiency of signature debit

# Debit Interchange Rulemaking

- “Reasonable and proportional to the cost incurred by the issuer”
- “incremental cost” ... “for the role of the issuer in the authorization, clearance or settlement of a particular electronic debit transaction”

# Fraud Adjustment Rulemaking

# Fraud Adjustment Rulemaking

- API will reduce fraud by encouraging PIN debit
- Adjustment principles
  - Should not reward inefficiency (i.e., by permitting the recovery of costs associated with preventing signature debit fraud)
  - Should be implemented on a per issuer basis
  - Should be limited to spurring new technology

# Fraud Adjustment Rulemaking

- Merchants bear a substantial portion of debit fraud losses
- Issuers are best positioned to police fraud
- Merchants bear large fraud prevention costs - PCI
- Signature debit is more fraud prone than PIN debit
- Better alternatives exist

# Fraud Adjustment Rulemaking

- Adjustment must be “reasonably necessary to make allowance for costs incurred by issuer in preventing fraud”
- Prevention must reduce fraud and be cost-effective
- Must take into account “any fraud-related reimbursements (including amounts from charge-backs) received from consumers, merchants or payment card networks”



# Network Fees Rulemaking

# Network Fees Rulemaking

- Network market power and incentive to exploit power to compete for issuers will remain post regulation
- Numerous ways for networks to use network fees as a substitute for interchange
- Board should limit network fees charged to merchants

# Network Fees Rulemaking

- New categories of fees have been added in recent years
- Visa and MasterCard have moved in lockstep raising them
- Network fees fund deals with issuing banks

# Network Fees Rulemaking

- Two separate and independent prohibitions
- Cannot be “used to directly or indirectly compensate an issuer with respect to an electronic debit transaction”
- Cannot be used “to circumvent or evade the restrictions of this subsection”

# Circumvention Issues

# Circumvention Issues

- “Sham” debit cards
- Post-regulation “unbundling”
- Credit card interchange
- Deterrence

# Circumvention Issues

- “The Board may prescribe regulations . . . regarding any interchange transaction fee that an issuer may receive or change with respect to an electronic debit transaction, to implement this subsection (including related definitions), and *to prevent circumvention or evasion of this subsection.*”

# Network Non-Exclusivity/ Network Routing Regulation



# Network Non-Exclusivity/ Network Routing Regulation

- Regulation should require:
  - At least 2 networks on single-function cards
  - At least 2 networks for each type of transaction on dual-function cards
  - Merchants control routing
  - No impediments on routing choice by networks or issuers

# Network Non-Exclusivity/ Network Routing Regulation

- Benefits of non-exclusivity
  - Creates network competition for merchants
  - Market may reduce need for regulation over time
  - Maintains competition for issuers

# Network Non-Exclusivity/ Network Routing Regulation

- Rationales for non-exclusivity rules
  - Many cards bear only signature or PIN debit functionality
  - Many merchants accept only signature debit and some accept only PIN debit
  - Hundreds of millions of debit cards bear only Visa debit networks
- Competition for issuers will continue
  - Signature debit alternatives to Visa and Mastercard exist

# Network Non-Exclusivity/ Network Routing Regulation

- Networks, issuers, acquirers and processors can frustrate merchant routing in numerous ways
  - Rules
  - Pricing
  - Programs
  - Other
- Need for provisions to ensure compliance

# Network Non-Exclusivity/ Network Routing Regulation

- Issuers or networks shall not:
  - “Restrict the number of payment card networks on which an electronic debit transaction may be processed” to
  - “2 or more” networks “which are owned, controlled, or otherwise operated by” ... “affiliated persons”
- Issuers or networks shall not:
  - in any way “inhibit the ability of any person who accepts debit cards for payments” to
  - “direct the routing of electronic debit transactions for processing over any payment card network that may process such transactions”

**The Canadian Experience With PIN Debit**

**Kenneth J. Morrison**

**Futuresolve Inc.**

**On Behalf of the Merchants Payments Coalition**

**Submitted To**

**The Board of Governors of the Federal Reserve System**

**Concerning Its Rulemaking Pursuant to**

**Section 920 of the Electronic Fund Transfer Act**

**October 27, 2010**

## Table of Contents

<b>I.</b>	<b>INTRODUCTION</b> .....	<b>3</b>
<b>II.</b>	<b>SUMMARY OF CONCLUSIONS</b> .....	<b>5</b>
<b>III.</b>	<b>THE STRUCTURE AND EVOLUTION OF PIN DEBIT IN CANADA</b> .....	<b>7</b>
III.A.	STRUCTURE AND FRAMEWORK FOR INTERAC DEBIT .....	7
III.B.	INTERAC DEBIT SERVICES CONTINUE TO EXPAND AND EVOLVE .....	9
<b>IV.</b>	<b>INTERAC DEBIT PRICING</b> .....	<b>10</b>
IV.A.	INTERAC PIN DEBIT AT THE POS .....	10
<b>V.</b>	<b>INTERAC PIN DEBIT IS A HUGE SUCCESS IN CANADA</b> .....	<b>11</b>
<b>VI.</b>	<b>REASONS FOR THE SUCCESS OF INTERAC PIN DEBIT IN CANADA</b> .....	<b>13</b>
VI.A.	MERCHANTS PREFER INTERAC PIN DEBIT .....	13
VI.B.	CANADIAN CONSUMERS PREFER INTERAC PIN DEBIT AS THEIR METHOD OF PAYMENT.....	15
VI.C.	FINANCIAL INSTITUTIONS ENDORSED AND PROMOTED INTERAC PIN DEBIT .....	17
<b>VII.</b>	<b>VISA AND MASTERCARD ANNOUNCED PLANS TO IMPLEMENT RESPECTIVE PIN DEBIT PRODUCTS IN CANADA</b> .....	<b>19</b>
VII.A.	VISA PIN DEBIT IN CANADA .....	20
VII.B.	MASTERCARD PIN DEBIT IN CANADA .....	23
VII.C.	REACTIONS OF MERCHANTS, CONSUMERS AND OTHER PAYMENTS SYSTEM STAKEHOLDERS.....	25
VII.D.	ACTIONS BY THE GOVERNMENT OF CANADA.....	26
<b>VIII.</b>	<b>CONCLUSIONS</b> .....	<b>28</b>
<b>IX.</b>	<b>APPENDIX A - CURRICULUM VITAE - KENNETH J. MORRISON</b> .....	<b>31</b>

## I. INTRODUCTION

1. I am Kenneth J. Morrison, President of FutureSolve Inc. My Curriculum Vitae is included as Appendix A. In this report I address the continuing significant success of PIN debit in Canada, reasons for this success, the announcements by Visa and MasterCard to introduce their respective PIN debit payment products in Canada, and the outcomes of the announcements including implementation of a Code of Conduct for the Credit and Debit Card Industry in Canada.
2. PIN debit cards for use in Canada are issued by financial institutions that are members of the Interac Association. The cards are typically referred to as ‘bank cards’ and ‘client cards’, and include the Interac brand mark. The number of PIN debit transactions per capita in Canada was 110.8 in 2008, among the highest in the world.<sup>1</sup>
3. The Interac PIN debit service has operated since its inception with zero interchange (at-par), and Interac has no plans to move away from its ‘at-par’ model.<sup>2</sup>
4. Interac PIN debit is a tremendous success because financial institutions, merchants and consumers, from the very early stages of debit payment systems in the 1980s, recognized its substantial benefits while at the same time understanding the limitations, risks and weaknesses of alternative debit products such as promoted by Visa and MasterCard. The business case to install PIN pads to accept PIN debit cards is attractive to merchants due to the Interac at-par pricing model that results in lower payment transaction costs. PIN debit also delivers payment convenience to merchants’ customers, reduces the risks inherent in accepting checks, and reduces the risks and costs of handling cash in stores. The business case for financial institutions to implement and promote Interac PIN debit included leveraging the success of consumers using PIN debit cards at automated teller machines (ATMs), reducing risks in the payments system, reducing the volume of checks, and improving service to consumers and merchants.

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<sup>1</sup> *Statistics on payment and settlement systems in selected countries, Figures for 2008*, Bank for International Settlements, p. 248. <http://www.bis.org/publ/cpss88.htm>

<sup>2</sup> Interac testified before the Canadian Government House of Commons Finance Committee that it has no plans to move away from zero interchange for Interac debit transactions, see: testimony of Mr. Mark O’Connell, President and CEO of Interac, House of Commons Canada, Standing Committee on Finance, Evidence, June 16, 2009, p.8, <http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV4000797/FINAEV37-E.PDF>



5. During 2009, Visa and MasterCard attempted to implement their respective PIN debit cards for transactions at the point-of-sale (“POS”) in Canada. Their plans included placing their respective PIN debit brand marks on the same debit cards as the very successful Interac brand and taking actions with card issuers and acquirers to ensure their debit products were given preference over Interac, to both consumers and merchants.<sup>3</sup> The Government of Canada responded by implementing a Code of Conduct for the Credit and Debit Card Industry in Canada that prevented Visa and MasterCard from exploiting their market power and Honor-All-Cards (“HAC”) rules to impose their debit products on merchants to gain a foothold, and eventually perhaps a leading position in debit in Canada.<sup>4</sup> Visa’s and MasterCard’s PIN debit products must now be offered in Canada on their own merits, separate from Interac debit products.<sup>5</sup>
6. Even though virtually all Canadian banks are members of Visa and/or MasterCard, they declined to issue Visa and MasterCard signature debit cards and to-date have not issued

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<sup>3</sup> Visa and MasterCard planned to add their respective PIN debit products to a debit card presently used for Interac debit in order to take advantage of Interac’s success. See: Transparency, Balance and Choice: Canada’s Credit and Debit Card Systems, Report of The Standing Committee on Banking, Trade and Commerce, June 2009, pp.30-32, <http://parl.gc.ca/40/2/parlbus/commbus/senate/com-e/bank-e/rep-e/rep04Jun09-e.pdf>. Visa intended to give preference to routing debit transactions to Visa, see: Visa Debit, Introducing the next generation of debit, <http://www.visa.ca>. Also see: testimony of Mr. Tim Wilson before the House of Commons, Canada, Standing Committee on Finance, Evidence, May 14, 2009, p.25 <http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV3907136/FINAEV28-E.PDF>. TD Canada Trust testified before the Finance Committee that it was subject to considerable fines if it did not support Visa Debit, see: testimony of Mr. Jeff van Duynhoven, President and CEO of TD Canada Trust Merchant Services, House of Commons Canada, Standing Committee on Finance, Evidence, May 26, 2009, p.5 <http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV3925183/FINAEV30-E.PDF>. Visa and MasterCard did not indicate that both of their brands would ever appear on the same card even though card issuing duality (Visa and MasterCard) exists in Canada.

<sup>4</sup> See: Code of Conduct for the Credit and Debit card Industry in Canada, [http://www.fin.gc.ca/n10/data/10-049\\_1-eng.asp](http://www.fin.gc.ca/n10/data/10-049_1-eng.asp)

<sup>5</sup> The Government of Canada, Senate Standing Committee, Banking, Trade and Commerce concluded after industry hearings in 2009 pertaining to debit and credit card systems in Canada that Visa and MasterCard, if competing with Interac debit in Canada, “----will marginalize Interac, and either drive it out of business regardless of its governance structure or lead to a merger or acquisition that would have the effect of limiting competition in the debit card market to Visa and MasterCard..” See: Transparency, Balance and Choice: Canada’s Credit and Debit Card Systems, Report of The Standing Committee on Banking, Trade and Commerce, June 2009, p.31, <http://parl.gc.ca/40/2/parlbus/commbus/senate/com-e/bank-e/rep-e/rep04Jun09-e.pdf>

Visa or MasterCard PIN debit cards for debit card payments at the POS in Canada.<sup>6</sup> Bank of Montreal includes the Maestro (MasterCard's international PIN debit service) brand mark on some of its debit cards to facilitate use of the cards for debit transactions in locations where Maestro is accepted outside Canada.<sup>7</sup> On October 18, 2010 Canadian Imperial Bank of Commerce ("CIBC") announced it would start issuing debit cards with the Visa debit brand mark included on the card along with the Interac brand and that cardholders will be able to use Visa for debit transactions at the POS outside Canada and for online transactions.<sup>8</sup>

7. Visa and MasterCard HAC rules in Canada have not been used to force merchants to accept Visa's and MasterCard's debit cards.<sup>9</sup>

## II. SUMMARY OF CONCLUSIONS

8. The business case for financial institutions in Canada to issue and promote the use of debit cards has never been dependent on revenue from interchange fees. The Interac Association and its financial institution members set the interchange fee for Interac PIN debit at zero when the service was first introduced and it remains zero today.<sup>10</sup>
9. If financial institutions in Canada had at any time seen a need for interchange in their debit card operations, they could have implemented interchange fees for Interac or issued Visa and MasterCard debit products, facilitated by the following:

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<sup>6</sup>TD merchant Services testified on May 16, 2009 that Visa debit is not in Canada. See: testimony of Mr. Jeff van Duynhoven, President and CEO of TD Canada Trust Merchant Services, House of Commons Canada, Standing Committee on Finance, Evidence, May 26, 2009, p.10,

<http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV3925183/FINAEV30-E.PDF>

MasterCard Canada testified before the Standing Senate Committee on Banking, Trade and Commerce, on April 22, 2009, that "MasterCard debit does not exist in Canada." See: Proceedings of the Standing Senate Committee on Banking, Trade and Commerce, Issue 5 - Evidence, April 22, 2009,

[http://www.parl.gc.ca/40/2/parlbus/commbus/senate/Com-e/bank-e/05eva-e.htm?Language=E&Parl=40&Ses=2&comm\\_id=3](http://www.parl.gc.ca/40/2/parlbus/commbus/senate/Com-e/bank-e/05eva-e.htm?Language=E&Parl=40&Ses=2&comm_id=3)

<sup>7</sup> See: *Banking with BMO is simple and convenient*, <http://bmo.com/home/personal/banking/everyday/how-to-bank-bmo/debit-payment>.

<sup>8</sup> See: *CIBC, Personal Banking*, [http://www.cibc.ca/ca/features/cibc-advantage-card.html?WT.mc\\_id=IntROTADVCARD-E10](http://www.cibc.ca/ca/features/cibc-advantage-card.html?WT.mc_id=IntROTADVCARD-E10).

<sup>9</sup> Mr. Tim Wilson, Head of Visa Canada, testified before the House of Commons Finance Committee that Visa changed its rules so that retailers can select to not accept Visa debit without impacting acceptance of other Visa products. See: Testimony of Mr. Tim Wilson, Head of Visa Canada, House of Commons Canada, Standing Committee on Finance, Evidence, May 14, 2009, p.18,

<http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV3907136/FINAEV28-E.PDF>

<sup>10</sup> See: testimony of Mr. Mark O'Connell, President and CEO of Interac, House of Commons Canada, Standing Committee on Finance, Evidence, June 16, 2009, pp.8, 15.

<http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV4000797/FINAEV37-E.PDF>

- The governance of Interac is dominated by its financial institution members, and thus they had the power to implement an interchange fee for Interac PIN debit transactions.<sup>11</sup>
  - Financial institutions in Canada that issue Interac debit cards can issue both Visa and MasterCard cards.<sup>12</sup>
  - Acquirers of Interac debit are also acquirers of Visa and MasterCard.
  - Issuers and acquirers in Canada were aware of Visa and MasterCard debit options and related interchange revenue potential.
10. Although the Government of Canada issued the Code of Conduct for the Credit and Debit Card Industry in Canada that disallows competing debit brands from co-residing on the same debit card for PIN debit payments in Canada, financial institutions have flexibility to issue separate (separate from Interac) Visa debit cards if they wish to generate interchange revenue.<sup>13</sup> No financial institution has elected to do so.<sup>14</sup>
11. Visa Canada testified before the House of Commons Standing Committee on Finance that Visa had been trying to enter the debit market in Canada for almost a decade but did not have the right interchange pricing to make Visa debit attractive to merchants or card issuers.<sup>15</sup> Visa Canada had testified earlier that “*Our interchange rates for Visa debit were*

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<sup>11</sup> During hearings before the Government of Canada, House of Commons, Standing Committee on Finance, Mr. Mark O’Connell, President and Chief Executive Officer, Interac Association testified that “Under the consent order (Consent Order approved by Competition Tribunal in 1997), a majority vote of the board could change that rate (the Interac zero interchange rate).” See: Evidence, Tuesday June 16, 2009, <http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV4000797/FINAEV37-E.PDF>

<sup>12</sup> In November 2008 the Canadian Competition Bureau announced that Canadian Visa and MasterCard issuers could issue both Visa and MasterCard cards (duality), and that acquirers could acquire transactions for both the Visa and MasterCard networks. See: the Competition Bureau’s Letter to Financial Institutions – Duality and Dual Governance of Credit card Networks in Canada, [http://www.competitionbureau.gc.ca/eic/site/cb\\_bc.nsf/eng/02749.html](http://www.competitionbureau.gc.ca/eic/site/cb_bc.nsf/eng/02749.html)

<sup>13</sup> Clause # 6, Code of Conduct for the Credit and Debit Card Industry in Canada, “Competing domestic applications from different networks shall not be offered on the same debit card.” See: [http://www.fin.gc.ca/n10/data/10-049\\_1-eng.asp](http://www.fin.gc.ca/n10/data/10-049_1-eng.asp).

Visa announced its PIN debit product in Canada is subject to interchange fees, <http://www.visa.ca/en/aboutcan/mediacentre/interchange/pdf/April-2010-Interchange-Rates.pdf>. MasterCard announced its point of sale PIN debit product in Canada will not be subject to interchange fees.

<sup>14</sup> TD merchant Services testified on May 16, 2009 that Visa debit is not in Canada. See: testimony of Mr. Jeff van Duynhoven, President and CEO of TD Canada Trust Merchant Services, House of Commons Canada, Standing Committee on Finance, Evidence, May 26, 2009, p.10, <http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV3925183/FINAEV30-E.PDF>.

<sup>15</sup> See: testimony of Visa Canada before House of Commons Standing Committee on Finance, evidence, May 14, 2009, p. 27, <http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV3907136/FINAEV28-E.PDF>

*reduced last year to reflect market feedback.*<sup>16</sup> Visa's testimony implies Visa card issuers were not interested in Visa's PIN debit offer for Canada, even at its previously higher interchange rates.

12. During the hearings on debit and credit card matters before the Government of Canada Senate and House of Commons committees in 2009, and in submissions to the government appointed Payments Task Force, no single financial institution or payment network presented or justified a case for interchange in debit card payment services.<sup>17</sup>

### **III. THE STRUCTURE AND EVOLUTION OF PIN DEBIT IN CANADA**

#### **III.A. STRUCTURE AND FRAMEWORK FOR INTERAC DEBIT**

13. In 1986, the financial institutions that owned Interac announced plans to provide a nationwide shared POS PIN debit service. The objective was to achieve interoperability between the financial institutions' proprietary debit systems and cards and thus enable a merchant (local or national) to accept cards issued by any Interac member. The PIN debit service was introduced nationwide in 1994.<sup>18</sup>
14. Interac PIN debit in Canada is promoted by card issuers and the Interac Association. The financial institutions issuing cards promote the service to their customers as a convenient, secure and efficient way to access funds in their deposit accounts to make payments at the POS. The Interac Association runs media advertisements on a periodic basis, funded by the Interac transaction switch fee that is paid by card issuers and acquirers.<sup>19</sup> Individual merchants also promote PIN debit with signage in their stores.

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<sup>16</sup> See: testimony of Visa Canada before House of Commons Standing Committee on Finance, evidence, May 14, 2009, p. 18, <http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV3907136/FINAEV28-E.PDF>

<sup>17</sup> The term "payment network" includes organizations such as Interac, Visa, MasterCard, American Express and all other such entities providing debit and credit card services. The Government of Canada appointed a Task Force to study and make recommendations on the future of the payments system in Canada. The mandate of the Task Force and the submissions made by payments system stakeholders can be seen at <http://paymentsystemreview.ca/index.php/home/>. See also evidence from government hearings at <http://www2.parl.gc.ca/content/hoc/committee/402/FINA/evidence>

<sup>18</sup> See: *About Interac Association*, <http://www.interac.org>

<sup>19</sup> See: *Member Fees*, <http://interac.ca/members/fees.php>

15. Interac debit transactions are cleared and settled through the systems operated by the Canadian Payments Association (“CPA”). The transactions are final and irrevocable, and thus very low risk.<sup>20</sup>
16. Interac operates in accordance with a Consent Order approved by the Canadian Competition Tribunal in 1996. The Consent Order:<sup>21</sup>
- Expanded the list of financial institutions and other organizations eligible to join Interac;
  - Confirmed Interac’s continuing right to set an interchange fee for debit card transactions;<sup>22</sup>
  - Required Interac to price its payment services on a cost recovery basis; and
  - Allowed merchants to apply a surcharge for debit card transactions.
17. In 2007, Interac began discussions with the Competition Bureau to change the Consent Order including allowing Interac to become a for-profit entity and to change its governance model to enable Interac to compete more aggressively with Visa’s and MasterCard’s plans to implement their PIN debit products in Canada.<sup>23</sup> On February 12, 2010, the Competition Bureau announced that Interac would be permitted to change its governance model including having independent directors, but that it must remain a not-for-profit organization.<sup>24</sup>

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<sup>20</sup> Canadian Payments Association, Rule E1, Exchange of Shared Electronic Point-of-Service Payment Items for the Purpose of Clearing and Settlement, [http://www.cdnpay.ca/imis15/pdf/pdfs\\_rules/rule\\_e1.pdf](http://www.cdnpay.ca/imis15/pdf/pdfs_rules/rule_e1.pdf)

<sup>21</sup> See: *Competition Tribunal*, [http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/ywapi/ct02472\\_consent.pdf/\\$file/ct02472\\_consent.pdf](http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/ywapi/ct02472_consent.pdf/$file/ct02472_consent.pdf)

<sup>22</sup> Interac had the right to set interchange rates for Interac PIN debit since the association was formed in the 1980s.

<sup>23</sup> Interac testified that it faced challenges as an association of its members (large number of financial institutions) gaining consensus to make changes (stating “---- it moves at the pace of the slowest.”) and that this hindered its ability to compete on a level playing field with Visa and MasterCard. See: Evidence, Tuesday June 16, 2009, p. 6, <http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV4000797/FINAEV37-E.PDF>. Visa and MasterCard do not require approval of members to introduce new products in Canada and are not subject to Canada’s payments legislation because their payment transactions are processed via their own respective networks.

<sup>24</sup> The Competition Bureau stated “In particular, the Bureau does not agree that the removal of the restriction against for-profit activities by Interac would be pro-competitive, or is necessary to allow Interac to remain competitive.” See: Commissioner of Competition Announced Decision in Response to Interac’s Request to Vary Consent Order, <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/emg/03198.html>

18. Interac debit cards are issued by forty-three financial institutions (members of Interac).<sup>25</sup> Issuers compete in packaging, pricing and promoting Interac debit services to their customers. Interac debit transactions are acquired from merchants by twenty-seven acquirers (members of Interac).<sup>26</sup> Acquirers compete for the business of merchants in ways such as pricing of transactions, signage at the merchant POS, information provided to merchants, and provision of fraud mitigation tools. All activities of the Interac member organizations are carried out without the need for interchange.

### **III.B. INTERAC DEBIT SERVICES CONTINUE TO EXPAND AND EVOLVE**

19. In 1996, the original eight financial institution owners of Interac formed a separate company, Acxsys, to provide management services to the Interac Association and to develop and operate new payment services.<sup>27</sup>
20. In 2004, Acxsys launched an email money transfer service to provide consumers with a capability to transfer funds electronically to other persons and organizations.
21. In 2004, Acxsys announced an alliance with the NYCE network in the United States to provide cross-border POS PIN debit services. Interac cardholders that are customers of six large Canadian financial institutions can use their debit cards for POS transactions at nearly two million merchant locations in the United States. The NYCE network covers about 80% of the US market.<sup>28</sup>
22. In 2005, Acxsys launched the Interac online (Internet) payment service.
23. In 2006, Interac announced its commitment to implement EMV chip cards for Interac PIN debit to provide increased protection against counterfeit and lost and stolen card fraud.<sup>29</sup> Interac's timeline for implementation of chip cards requires all debit cards presented at the POS and POS acceptance devices to be chip-enabled by December 31, 2015.<sup>30</sup>

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<sup>25</sup> See: *Issuers*, <http://www.interac.ca/members/issuers.php>

<sup>26</sup> See: *Acquirers*, <http://www.interac.ca/members/acquirers.php>

<sup>27</sup> Additional information about the Interac Association, Acxsys Corporation, and milestones for Interac payment services is available at <http://www.interac.ca/about.php>

<sup>28</sup> <http://www.interac.ca>. Financial institutions in the United States that are members of NYCE have not to-date made this service available to their PIN debit cardholders in the US.

<sup>29</sup> A chip card is a card that contains an embedded computer chip. The Canadian chip card standard is EMV (Europay, MasterCard, and Visa). See: [http://www.interac.ca/media/press\\_3.php](http://www.interac.ca/media/press_3.php)

<sup>30</sup> <http://www.interac.ca/merchants/chip.php>

24. In 2010, Interac announced plans for ‘Interac Flash’. Interac Flash is a contactless enhancement to the Interac Direct Payment (PIN debit) product and the consumer ‘flashes’ the debit card in front of the card reader rather than inserting the card in the card reader and entering a PIN.<sup>31</sup> Interac Flash is intended for merchant locations with smaller value transactions.

#### **IV. INTERAC DEBIT PRICING**

##### **IV.A. INTERAC PIN DEBIT AT THE POS**

25. Interac is a not-for-profit organization and charges each issuer and acquirer a per transaction switch fee to recover its costs. The current switch fee is CDN \$ 0.007299 per transaction (reduced from \$0.008253, effective November 1, 2009).<sup>32</sup> The switch fee varies with the volume of transactions and annual costs of the Interac organization, and historically has ranged between CDN \$0.004 and CDN \$0.008.<sup>33</sup>
26. Each acquirer and issuer in the Interac PIN debit system in Canada establishes fees totally independent from other members and from any influence by Interac. The interchange fee for Interac PIN POS debit card transactions is zero and has been zero since the service was introduced. Interac testified before the Canadian House of Commons Finance Committee that ad valorem fees originated from the credit business, do not apply to debit, and that Interac has no intention to move away from the flat switch fee calculated to cover its costs.<sup>34</sup> Interac testified it has no plans to levy interchange fees for Interac debit transactions.<sup>35</sup>
27. Interac permits merchants to surcharge for PIN debit transactions provided the cardholder is notified of the amount of the surcharge directly on the PIN pad screen,

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<sup>31</sup> See: *Interac Flash*<sup>TM</sup> Introduced to Market, [http://www.interac.ca/media/press\\_34.php](http://www.interac.ca/media/press_34.php)

<sup>32</sup> See: *Member Fees*, <http://www.interac.ca/members/fees.php> Interac calculates its annual operating costs and divides this total by the volume of transactions to determine the total switch fee, which is charged 50% to acquirers and 50% to issuers.

<sup>33</sup> See: testimony of Mr. Mark O’Connell, President and CEO of Interac, House of Commons Canada, Standing Committee on Finance, Evidence, June 16, 2009, p.2, <http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV4000797/FINAEV37-E.PDF>

<sup>34</sup> See: testimony of Mr. Mark O’Connell, President and CEO of Interac, House of Commons Canada, Standing Committee on Finance, Evidence, June 16, 2009, p.7, <http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV4000797/FINAEV37-E.PDF>

<sup>35</sup> See: testimony of Mr. Mark O’Connell, President and CEO of Interac, House of Commons Canada, Standing Committee on Finance, Evidence, June 16, 2009, p.8, <http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV4000797/FINAEV37-E.PDF>



providing the customer the option of cancelling the transaction prior to payment. Interac reports that surcharging is not a common practice.<sup>36</sup>

## V. INTERAC PIN DEBIT IS A HUGE SUCCESS IN CANADA

28. The early success of Interac PIN debit including its convenience and low risk for consumers and attractive at-par pricing to merchants spurred growth in every dimension of the service. As more financial institutions issued cards and more consumers used their cards and demanded consumer acceptance, merchants in all sectors accepted the cards.

29. The overall growth record of the service is illustrated in Table 2 below.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
# Monthly Avg Users (millions)	16.7	17.6	18.5	19.2	19.8	20.5	20.9	21.3	21.5	22.3
# Terminals (thousands)	438.2	463.2	494.9	520.6	546.0	571.4	591.9	603.2	630.5	708.7
# Merchants (thousands)	310.9	328.0	350.1	365.6	378.6	391.3	404.6	410.3	413.5	435.8
# Transactions (millions)	1,960.1	2,236.6	2,404.1	2,590.0	2,891.2	3,070.1	3,293.2	3,451.8	3,705.4	3,882.0
Transactions Value (\$Billions)	85.20	94.90	104.87	116.00	124.40	137.42	148.70	156.82	168.58	171.36

*Table 1 Interac Business Volumes*

*Source: Interac Association, <http://www.interac.ca>*

30. Canadian consumers used Interac PIN debit cards for 3,881.95 million transactions in 2009, 59 per cent higher than the combined number of payments initiated with Visa and MasterCard credit cards (3,881.95 million versus 2,442.24 million).<sup>37</sup>

31. Interac PIN debit cards are as widely accepted as credit cards in Canada. In a survey of merchants conducted by the Bank of Canada in 2006, all responding merchants reported that they accept cash, 93 per cent accept debit cards and 92 per cent accept credit cards.<sup>38</sup>

<sup>36</sup> See: *Customer Transaction Surcharges*, <http://www.interac.ca/consumers/fees.php>

<sup>37</sup> Interac 2009 Statistics, [http://www.interac.ca\\_Credit\\_Card\\_Statistics\\_Visa\\_and\\_MasterCard\\_Canadian\\_Bankers\\_Association\\_http://www.cba.ca/contents/files/statistics/stat\\_cc\\_db038\\_en.pdf](http://www.interac.ca_Credit_Card_Statistics_Visa_and_MasterCard_Canadian_Bankers_Association_http://www.cba.ca/contents/files/statistics/stat_cc_db038_en.pdf)

<sup>38</sup> *Merchant Acceptance, Costs, and Perceptions of Retail Payment Systems: A Canadian Survey*, Bank of Canada Discussion Paper 2008-12, August 2008, p. 6, <http://www.bank-banque-canada.ca/en/res/dp/2008/dp08-12.html>



32. Acceptance of Interac PIN has expanded in all merchant sectors as illustrated in Table 3 below.

Merchant Classification	2000		2007	
	# Merchant Locations	% of Total Interac Transactions	# Merchant Locations	% of Total Interac Transactions
Beer/Liquor/Wine	3,980	4	5,208	4
Convenience Stores	20,832	3	16,189	3
Department Stores	6,220	7	13,856	9
Drug Stores/Pharmacy	6,310	6	7,240	5
Gas Station/Auto Repair	35,432	10	47,113	13
Hardware & Gardening	10,307	4	11,525	4
Other Services	32,947	4	46,892	2
Prof. & Bus. Services	34,114	2	57,506	2
Restaurants/Bars/Fast Food	40,412	13	56,934	15
Small Food Specialty	14,464	6	14,854	5
Specialty Clothing	68,611	12	82,771	11
Supermarkets	8,749	24	10,064	23
Travel/Hotel/Card Rental	23,627	4	27,565	3
Utility & Government	5,465	0	12,607	1
<b>Totals</b>	<b>311,470</b>	<b>100</b>	<b>410,324</b>	<b>100</b>

Table 2 Interac Merchant Locations  
 Source: Interac Association, <http://www.Interac.ca>

33. Interac PIN debit is accepted by virtually every type of merchant/business sector including: Agriculture, Landscaping, Building Trades and Contracting, Airlines, Bus Operators, Car Rental, Hotels and Motels, Railroads, Moving and Storage Companies, Marinas, Travel Agencies, Toll Operators, Telephone and Cable Services, Utilities, Automotive Sales, Home Supply and Hardware, Discount, Department and Variety stores, Food Stores, Convenience Stores, Catering Firms, all types of Restaurants and Fast Food, Drug Stores, Hobby Stores, Resorts, Recreation Establishments, Laundry, Consumer repairs, Entertainment, Sports, Fitness Clubs, Movie Theatres, Movie Rentals, Medical Services, all forms of Licenses, Courts and Fines, all types of payments to governments (at all levels of government), Automobile Services, Gas Stations including pay-at-the-pump, Parking Passes, Parking Lots, Insurance Premiums, Schools and Universities, Daycare, Charities and Courier/Delivery Services. Merchants participating in events such as arts and craft shows, local community markets and fairs are able to accept Interac PIN debit using wireless PIN Pads.

34. Interac PIN debit has been very effective in reducing the use of checks as a method of payment in Canada. Table 4 below shows Interac PIN debit and checks as a per cent of non-cash payments through select years since Interac PIN debit was introduced.

	1996	2000	2004	2008
Checks as % of non-cash payments	45.4	28.1	18.9	13.0
Credit cards - % of non cash payments	22.2	21.5	23.9	27.6
Debit cards - % of non cash payments	16.6	33.2	38.3	39.8

Table 3 *Select Methods of Payment in Canada*<sup>39</sup>

## VI. REASONS FOR THE SUCCESS OF INTERAC PIN DEBIT IN CANADA

### VI.A. MERCHANTS PREFER INTERAC PIN DEBIT

35. Merchant prefer Interac PIN debit at the point-of-sale due to its lower cost relative to other methods of payment, convenience for both merchants and consumers, and low risks. In a survey of merchants conducted by the Bank of Canada in 2006, 60 per cent of merchants preferred debit cards, 52 per cent preferred cash and only 21 per cent preferred credit cards.<sup>40</sup> When merchants were asked which of the three payment methods they prefer consumers to use the most often, 53 per cent preferred debit cards, 39 per cent preferred cash, and only 5 per cent preferred credit cards.<sup>41</sup>
36. The study by Bank of Canada in 2006 calculated the variable per transaction cost to merchants for an average transaction value of CDN \$36.50 was lowest for PIN debit, at 19 cents, versus 25 cents for cash and 82 cents for credit cards.<sup>42</sup>

<sup>39</sup> *Statistics on payment and settlement systems in selected countries*, Committee on Payment and Settlement Systems, Figures for 2000, Bank for International Settlements, July 2002, p. 22. *Statistics on payment and settlement systems in selected countries*, Committee on Payment and Settlement Systems, Figures for 2008, Bank for International Settlements, December 2009, pp. 243, 244, <http://www.bis.org/publ/cpss88.htm>

<sup>40</sup> *Merchant Acceptance, Costs, and Perceptions of Retail Payment Systems: A Canadian Survey*, Bank of Canada Discussion Paper 2008-12, August 2008, p. 9, <http://www.bank-banque-canada.ca/en/res/dp/2008/dp08-12.html>

<sup>41</sup> *Merchant Acceptance, Costs, and Perceptions of Retail Payment Systems: A Canadian Survey*, Bank of Canada Discussion Paper 2008-12, August 2008, p. 9, <http://www.bank-banque-canada.ca/en/res/dp/2008/dp08-12.html>

<sup>42</sup> *Merchant Acceptance, Costs, and Perceptions of Retail Payment Systems: A Canadian Survey*, Bank of Canada Discussion Paper 2008-12, August 2008, p. 22, <http://www.bank-banque-canada.ca/en/res/dp/2008/dp08-12.html>

37. Interac's at-par pricing model continues to be a factor in the lower cost of PIN debit versus other methods of payment. In the survey conducted by the Bank of Canada merchants reported fees ranging from 7 cents to 25 cents per transaction, and a median fee of 12 cents.<sup>43</sup> Interac testified before the House of Commons Finance Committee in 2009 that the merchant fee for Interac POS debit presently ranges from 3 cents to 15 cents, with an average of 7 or 8 cents.<sup>44</sup> Accordingly, the Interac PIN debit per transaction cost to merchants is trending lower.
38. The Interac online (Internet) payment service enables an increasing number of merchants to offer their customers a secure Internet payment option as an alternative to using credit cards.<sup>45</sup> When a consumer with a deposit account at a participating financial institution wishes to make an Interac Online payment to a participating merchant, the merchant's website directs the consumer to select the consumer's financial institution. The consumer connects online to the financial institutions (using the same security processes as for online banking) and the payment takes place entirely within each respective bank's Internet banking systems, not the merchant's Internet site, and thus the consumer does not provide any financial information, card numbers or log-in information outside the security of the customer's bank systems.<sup>46</sup>
39. The Interac Flash™ service announced in June, 2010 will make Interac even more convenient and cost-effective for merchant sectors handling small cash transactions, including micropayments.<sup>47</sup>
40. Visa's and MasterCard's move to PIN rather than signature for card transactions in Canada and the announced March 2011 shift of liability for fraudulent transactions to the issuer, acquirer or merchant that is not chip compliant, together with Interac's at-par PIN

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<sup>43</sup> *Merchant Acceptance, Costs, and Perceptions of Retail Payment Systems: A Canadian Survey*, Bank of Canada Discussion Paper 2008-12, August 2008, p. 10, <http://www.bank-banque-canada.ca/en/res/dp/2008/dp08-12.html>

<sup>44</sup> See: testimony of Mr. Mark O'Connell, President and CEO of Interac, House of Commons Canada, Standing Committee on Finance, Evidence, June 16, 2009, p.5, <http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV4000797/FINAEV37-E.PDF>

<sup>45</sup> More than five hundred online merchants now offer the Interac Online payment option to their customers. See: *List of merchants*, at [http://www.interac.ca/consumers/productsandservices\\_ol\\_main\\_merchant.php](http://www.interac.ca/consumers/productsandservices_ol_main_merchant.php)

<sup>46</sup> See: *How Interac Online works*, [http://www.interac.ca/consumers/productsandservices\\_ol\\_main.php](http://www.interac.ca/consumers/productsandservices_ol_main.php). Financial institutions participating in Interac online are listed at [http://www.interac.ca/consumers/productsandservices\\_ol\\_main\\_list.php](http://www.interac.ca/consumers/productsandservices_ol_main_list.php)

<sup>47</sup> See: *Interac Flash™ Introduced to Market*, [http://www.interac.ca/media/press\\_34.php](http://www.interac.ca/media/press_34.php)

debit pricing, provides incentive for additional merchants to install PIN pads and accept Interac PIN debit.<sup>48</sup>

## **VI.B. CANADIAN CONSUMERS PREFER INTERAC PIN DEBIT AS THEIR METHOD OF PAYMENT**

41. Canadian consumers embraced the convenience and security of Interac PIN debit from the time it was introduced in 1994. The number of Interac PIN debit transactions per capita in Canada was 110.8 in 2008.<sup>49</sup>
42. Research conducted for the Interac Association revealed that in 2008 Interac PIN debit was the preferred method of payment for 45 per cent of debit cardholders, compared to 22 per cent cash, 31 per cent credit cards, and 1 per cent checks.<sup>50</sup> Interac reports that nine in ten Canadian adults have a banking card that enables access to Interac products provided by financial institutions.<sup>51</sup>
43. Many Canadian consumers do not pay transaction fees to their financial institution for Interac debit. Canadian banks offer deposit account customers packages of services that provide a specified number of, or unlimited, free debit transactions. The Canadian Bankers Association (“CBA”) reports (based on research conducted for the CBA) that 40% of Canadians spend less than CDN \$10.00 per month on bank service fees and 30% pay no service fees.<sup>52</sup>
44. Two Canadian financial institutions offer rewards programs to customers using PIN debit. Bank of Montreal awards points in the Air Miles program to customers using their debit card.<sup>53</sup> Scotiabank offers a “SCENE ScotiaCard and Scotiabank Account” plan that gives customers with certain types of accounts entertainment rewards points for purchases made with a debit card.<sup>54</sup>

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<sup>48</sup> Installation of a PIN pad enables the merchant to avoid liability for fraudulent card transactions and to accept lower cost Interac PIN debit transactions.

<sup>49</sup> Bank for International Settlements, Statistics on payment and settlement systems in selected countries, Figures for 2008, P. 248, <http://bis.org/publ/cpss88.htm>

<sup>50</sup> <http://www.interac.ca/media/stats.php>

<sup>51</sup> Interac 2008 Research facts, <http://www.interac.ca/media/researchfacts.php>

<sup>52</sup> See: *Banks and Consumers*, Canadian Bankers Association, <http://www.cba.ca/en/media-room/50-backgrounddeers-on-banking-issues/127-banks-and-consumers>

<sup>53</sup> Bank of Montreal awards 1 Air Miles reward for every \$40.00 spent using the debit card during the month. See: *How to Collect*, <http://www.bmo.ca/home/personal/banking/airmiles/how-to-collect?nav=left>

<sup>54</sup> See: *Scene Program*, [http://www.scotiabank.com/cda/content/0,1608,CID13474\\_LIDen.00.html](http://www.scotiabank.com/cda/content/0,1608,CID13474_LIDen.00.html)

45. Interac cardholders that are customers of six large Canadian financial institutions can use their debit cards for POS transactions at nearly two million POS locations in the United States, through the arrangement between Interac and the NYCE network. NYCE covers about 80% of the US market.<sup>55</sup>
46. Cardholders using Interac PIN debit cards can obtain cashback with their purchases at participating merchants, thus saving the time and cost of using an ABM or visiting their bank branch to withdraw cash.<sup>56</sup>
47. The convenience of using Interac debit at the POS is being further enhanced by the contactless product Interac Flash. Consumers will be able to make Interac debit payments at participating merchants by flashing their chip enabled debit card in front of a card reader.<sup>57</sup> Interac Online gives consumers a secure debit payment option for Internet payments, using the consumer's bank Internet site that the consumer also uses for online banking.<sup>58</sup>
48. Consumers using Interac PIN debit are protected by provisions in the Canadian Code of Practice for Consumer Debit Card Services ("Debit Card Code"). The Debit Card Code contains provisions pertaining to:
- Protection of cardholder PINs.
  - Information that must be supplied to cardholders in bank account statements.
  - Cardholder protection in the event of losses, and particularly that cardholders are not liable for losses resulting from circumstances beyond their control such as a cancelled or expired card, and a card reported lost or stolen.
  - Procedures for cardholders to follow in the event of questioned transactions.
  - The cardholder's responsibility to resolve merchandise issues with the merchant.<sup>59</sup>
49. Interac PIN debit cardholders are also protected by the zero-liability policy of Interac and its members.<sup>50</sup>

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<sup>55</sup> See: [http://www.interac.ca/consumers/productsandservices\\_merch.php](http://www.interac.ca/consumers/productsandservices_merch.php) and also testimony of Mr. Mark O'Connell, President and CEO of Interac, House of Commons Canada, Standing Committee on Finance, Evidence, June 16, 2009, p.1,

<http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV4000797/FINAEV37-E.PDF>

<sup>56</sup> Debit cardholders can request participating merchants to add a cash withdrawal amount to their purchase transaction, and the cash is provided without a transaction fee. See: *Cashback*,

[http://www.interac.ca/consumers/productsandservices\\_merch.php](http://www.interac.ca/consumers/productsandservices_merch.php)

<sup>57</sup> See: *Interac Flash*, [http://www.interac.ca/consumers/productsandservices\\_merch.php](http://www.interac.ca/consumers/productsandservices_merch.php)

<sup>58</sup> See: ACXSYS, *Interac Online, Customer Service Rules*, <http://www.interac.ca/customercommitment.php>

<sup>59</sup> See: *Consumers and Debit Cards, Canadian Code of Practice for Consumer Debit Card Services, 2004 Revision*, <http://fcac-acfc.gc.ca/eng/industry/RefDocs/debitcardcode/debitcardcode-eng.pdf>

50. Customers using the Interac Online payment service are protected by Interac Online customer service rules including “Response to Claims”, “Payment of Claims”, and unauthorized transactions.<sup>61</sup>

#### **VI.C. FINANCIAL INSTITUTIONS ENDORSED AND PROMOTED INTERAC PIN DEBIT**

51. The core business case for financial institutions in Canada to implement and promote PIN debit included:
- Leveraging the investments made in providing PIN debit cards to their customers for use at automated teller machines (ATMs).
  - Reducing the volume of checks in the payments system.
  - Improving the overall efficiency of the payments system by facilitating more electronic payments.
52. The high level of security provided by Interac PIN debit cards enabled a financial institution in Canada to issue the cards to virtually all of its customers, both consumers and business, for use at ATMs, payments at the POS, in-branch transactions and online banking.
53. Each Interac PIN debit transaction is processed online at the POS and authorized only if the cardholder has sufficient funds in his/her deposit account or has an account overdraft agreement with his/her financial institution. Accordingly, Interac PIN debit transactions in Canada do not generate overdraft revenue for financial institutions unless there is prior approval of the transaction by the cardholder.
54. Each financial institution in Canada has complete flexibility in pricing Interac PIN debit to merchants and consumers. POS debit is a ‘deposit account access service’ and no interchange fees are paid to card issuers. The Interac association does not influence PIN debit pricing decisions.
55. There were and are no reasons for an interchange fee in PIN debit card systems. In on-line PIN debit there is no float, no risk in settlement between card issuers and acquirers, and no extension of credit to the cardholder or merchant. The objective is to build maximum participation of consumers and merchants, and an arbitrary and unnecessary interchange fee

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<sup>60</sup> The *zero liability* policy of Interac means the cardholder is not responsible for losses beyond the cardholder’s control. See: *Security*, <http://www.interac.ca/consumers/security.php>

<sup>61</sup> See: ACXSYS, *Interac Online, Customer Service Rules*, <http://www.acxsys.ca>

would have the effect of setting an artificial base level for pricing. This would reduce price competition, increase the cost to merchants, and deliver no benefits.<sup>52</sup>

56. Interac PIN debit is a secure system. Debit card fraud at the POS is shown in Table 5.

	2004	2005	2006	2007	2008	2009
Dollars Lost to Debit Card Fraud (\$ CDN Millions)	60	70.4	94.6	106.8	104.5	142.3
Dollar Value of Transactions (\$CDN. Billions)	124.40	137.42	148.70	156.82	168.58	171.36
Dollars Lost to Debit card Fraud as a Per Cent of Dollar Value of Transactions	0.0004823	0.0005123	0.0006362	0.0006810	0.0006195	0.0008304

Table 4 Interac PIN Debit Fraud  
Source: <http://www.interac.ca/media/stats.php>

57. By comparison, the Canadian Bankers Association reported fraud in Visa, MasterCard and Amex programs in Canada in 2009 was CDN \$358,361,292 on net retail sales of CDN \$264.47 billion, or 0.00135%, higher than for Interac debit.<sup>63</sup>

58. The overall success of Interac PIN debit in Canada has enabled financial institutions to offer more efficient and secure payment services to consumers, and to improve the efficiency of the payments system. In 1994 when PIN debit was launched nationwide in Canada, 69.4 per cent of the volume of payment transactions was paper and 30.6 per cent electronic. In 2009, 16.44 per cent of the volume of transactions was paper and 83.56 per cent electronic.<sup>64</sup>

<sup>62</sup> The Government of Canada, Standing Senate Committee on Banking, Trade and Commerce, as a result of research and testimony of witnesses during 2009, concluded “The committee also believes that there is little rationale for a percentage-based interchange, merchant discount and switch fees on debit cards, since this payment method involves a relatively simple and nearly instantaneous transfer of funds from the account of the purchaser to the account of the seller.” See: *Transparency, Balance and Choice: Canada’s Credit and Debit Card Systems*, Report of The Standing Committee on Banking, Trade and Commerce, June 2009, p.31, <http://parl.gc.ca/40/2/parlbus/commbus/senate/com-e/bank-e/rep-e/rep04Jun09-e.pdf>

<sup>63</sup> Canadian Bankers Association, Credit Card Statistics, [http://cba.ca/contents/files/statistics/stat\\_cc\\_db038\\_en.pdf](http://cba.ca/contents/files/statistics/stat_cc_db038_en.pdf)

<sup>64</sup> Percentage of paper versus electronic items flowing through the automated clearing and settlement system, www. <http://www.cdnpgv.ca>

## VII. VISA AND MASTERCARD ANNOUNCED PLANS TO IMPLEMENT RESPECTIVE PIN DEBIT PRODUCTS IN CANADA

59. In November 2006 Visa Canada Association, MasterCard Canada Inc. and Interac Association announced that chip cards would be implemented nationwide in Canada beginning in 2008. At the same time Visa and MasterCard announced that cardholders using chip credit cards would be required to use a PIN rather than signature to authorize transactions.
60. Visa announced that chip cards and use of PINs would provide greater security and convenience, stating “*Because your Personal Identification Number (PIN) replaces your signature, the transaction is more secure.*” Visa cited research that concluded most Canadians prefer PIN verification versus signature.<sup>55</sup>
61. Effective March 31, 2011 liability for card-present transactions that are fraudulent will rest with the party (the issuer, acquirer or merchant) that is not in compliance with the chip and PIN implementation requirements. Merchants must implement chip and PIN capable POS terminals in order to avoid responsibility for fraudulent Visa and MasterCard transactions after the March 31, 2011 deadline.<sup>66</sup> By equipping checkouts with chip card readers, merchants will no longer physically handle the customer’s card and thus will have even less control over the type or brand of card a cardholder uses.<sup>67</sup>
62. The above noted changes made by Visa and MasterCard, including implementation of chip cards, requirement to use PIN rather than signature, and deadlines for the liability shift positioned the organizations to announced plans to introduce their respective PIN debit products in Canada.
63. Visa and MasterCard PIN debit products in Canada will operate outside the rules of the Canadian Payments Association, Canadian Payments legislation, and the Canadian Code

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<sup>65</sup> Visa Chip Cards, <http://www.visa.ca/chip/cardholders/benefitsofchippin/index.jsp>

<sup>66</sup> Visa initially set the requirements and date for the liability shift effective October, 2010. See: [http://www.visa.ca/chip/merchants/resources/downloads/VisaChipPIN-FactSheet\\_webversion.pdf](http://www.visa.ca/chip/merchants/resources/downloads/VisaChipPIN-FactSheet_webversion.pdf). MasterCard adopted the same schedule. In late September 2010, Visa and MasterCard announced the date for the liability shift has been extended to March 31, 2011, See: <http://www.retailcouncil.org/advocacy/national/cards/notice240910.asp>. Merchants must also be chip card compliant to meet the December 31, 2015 deadline for Interac debit transactions at the POS.

<sup>67</sup> Chip and PIN procedures require the cardholder to insert his or her card in the card reader and that the merchant not handle the card., <http://www.interac.ca>



of Practice for Consumer Debit Card Services.<sup>58</sup> They will be governed by their respective corporate rules, subject only to voluntary compliance with provisions of the Code of Conduct for the Credit and Debit Card Industry in Canada.<sup>59</sup>

#### VII.A. VISA PIN DEBIT IN CANADA

64. In 2008 Visa announced it would introduce Visa debit in Canada in 2009, and that Visa debit would be a chip and PIN product that worked like Interac PIN debit. Visa planned to take advantage of the highly successful Interac PIN debit service by including the Visa debit brand on the same cards presently used for Interac debit.<sup>70</sup>
65. Visa's announced interchange fees for Visa PIN debit in Canada as shown in Table 6.

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<sup>68</sup> Visa and MasterCard transactions clear and settle via their own respective networks rather than through systems operated under Canadian Payments legislation. According, Visa and MasterCard transactions are not covered by CPA rules applicable to debit card transactions: Rule E1, Shared Electronic Point-of-Service Payment Items, Rule E2, Exchange for the Purpose of Clearing and Settlement of Electronic Online Payment Items, Rule E4, Exchange of PIN-less Point-Of-Service Debit Payment Items for the Purpose of Clearing and Settlement. See: *Automated Clearing and Settlement Rules and Standards*,

[http://www.cdnpgv.ca/imis15/eng/Act\\_Rules/Automated\\_Clearing\\_Settlement\\_System\\_ACSS\\_Rules/eng/rul/Automated\\_Clearing\\_Settlement\\_System\\_ACSS\\_Rules.aspx?hkey=fd136984-e35f-4bf3-b534-3bcb8bb138ac#E](http://www.cdnpgv.ca/imis15/eng/Act_Rules/Automated_Clearing_Settlement_System_ACSS_Rules/eng/rul/Automated_Clearing_Settlement_System_ACSS_Rules.aspx?hkey=fd136984-e35f-4bf3-b534-3bcb8bb138ac#E)

<sup>69</sup> See: Actions by the Government of Canada, Section V.II.D of this report.

<sup>70</sup> See: testimony of Mr. Tim Wilson before the House of Commons, Canada, Standing Committee on Finance, Evidence, May 14, 2009, p.25

<http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV3907136/FINAEV28-E.PDF>. See also: *Transparency, Balance and Choice: Canada's Credit and Debit Card Systems*, Report of The Standing Committee on Banking, Trade and Commerce, June 2009, pp.30-32, <http://parl.gc.ca/40/2/parlbus/commbus/senate/com-e/bank-e/rep-e/rep04Jun09-e.pdf>.

Fee Program	Visa Debit Interchange
Industry Program - Grocery	0.15% + \$0.05
Industry Program - Gas	0.15% + \$0.05
Performance Program – Tier 1	0.15% + \$0.05
Performance Program – Tier 2	0.15% + \$0.05
Recurring Programs	0.60%
Emerging Segments	0.30%
Electronic	0.25% + \$0.05
Standard	1.15%

Table 5 Visa Canada Consumer Debit Card Interchange Fees

Source: <http://www.visa.ca/en/aboutcan/mediacentre/interchange/pdf/April-2010-Interchange-Rates.pdf>

66. Visa defines its debit interchange fee categories and conditions in a manner that could result in a very significant number and value of transactions being subject to the higher levels of interchange (e.g., Emerging Segments, Electronic e.g., Internet, phone).<sup>71</sup>

<sup>71</sup> “Standard: Applies to transactions where the card is not present or the magnetic stripe or chip is not read electronically, for example, online purchases, telephone order transactions, carbon paper card imprints.  
 Electronic: Applies to transactions that are fully authorized electronically, where the card is present and where the magnetic stripe or chip is read. The cardholder will typically sign for the purchase or use a PIN to authorize the purchase, but this rate will also be available on Visa payWave™ transactions and transactions that do not require a signature per Visa’s No Signature Required program.  
 Industry Program: Applies to the electronic transactions of retailers that meet the requirements to be classified under specific industries. Currently, the gas and grocery industries are included in this program. At a minimum, 50% of a retail outlet’s annual sales must be in qualifying gas or grocery purchases for the outlet’s transactions to be eligible for this program.  
 Recurring payments: Applies to transactions that are processed on a recurring basis, where there is an agreement in place between the cardholder and the merchant to preauthorize the cardholder’s card periodically.  
 Emerging Segments: Applies to the transactions of merchants that meet the industry and transaction-size requirements of the program. Currently, these requirements are as follows:  
 Any transaction amount  
 • MCC 4900 - Utilities  
 • MCC 6513 - Real estate agents and managers—Rentals  
 • MCC 9311 - Tax payments  
 Transaction amounts equal to or greater than CA\$1,000.00  
 • MCC 8211 - Elementary and secondary schools  
 • MCC 8220 - Colleges, universities, professional schools, and junior colleges  
 • MCC 8351 – Child care services  
 Performance Program: Applies to the electronic transactions of retailers that meet specific criteria and that process large volumes of transactions. The current qualification criteria are:  
 Performance Program – Tier 1  
 • Minimum of \$2 billion in total net VisaNet retail sales volume in Canada  
 • Maximum fraud ratio of 0.07%\*  
 • Maximum chargeback ratio of 0.01%\*

67. Visa reported that the interchange rates listed above were lower than had been previously announced by Visa. In testimony before the Finance Committee, Mr. Tim Wilson, Head of Visa Canada, stated “*Our (Visa’s) interchange rates for Visa debit were reduced last year to reflect market feedback. They are now about half of what they would have been previously.*”<sup>72</sup> Visa’s announced reduction in its PIN debit interchange fees for Canada was most likely due to Interac’s successful ‘at-par’ PIN debit service and MasterCard’s announcement that there would be no interchange on Maestro transactions in Canada.
68. In addition to placing Visa debit on the same cards as Interac, Visa planned to implement a process that would push consumer debit transactions to Visa. Visa announced that if a Visa debit card was used at a chip capable terminal, the cardholder would be presented with the option to use Visa debit or Interac debit. If the cardholder selected Visa, the transaction would be processed as Visa debit. If the card was swiped on a magnetic stripe terminal, the transaction would be processed as an Interac transaction (presumably to reduce Visa’s risks for swiped card transactions).<sup>73</sup>
69. Visa also attempted to force acquirers to give preferential treatment to Visa debit. Moneris Solutions testified before the Finance Committee that Visa offered Moneris an incentive to develop Visa debit for merchants and that Moneris had not so far rolled out the

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Performance Program – Tier 2

- Minimum of \$850 million in total net VisaNet retail sales volume in Canada
- Maximum fraud ratio of 0.07%\*
- Maximum chargeback ratio of 0.01%\*

\*Fraud ratios will be based on the number of fraudulent transactions incurred by a merchant on Electronic transactions divided by their total Visa Electronic transactions. Chargeback ratios will be determined based on the number of chargebacks incurred by the merchant on Electronic transactions divided by their total number of Visa Electronic transactions

The qualification criteria for volume, fraud and chargeback ratios will be reviewed annually and may be adjusted annually by Visa Canada. They may also be expanded to include additional elements such as minimum transaction counts, compliance with specific risk management programs, etc. In addition, while eligibility is currently based on the retailer’s total Visa volume, please be advised that in the future Visa may create distinct Performance Program eligibility criteria for debit products and (separate from) credit products. See:

<http://www.visa.ca/en/aboutcan/mediacentre/interchange/pdf/April-2010-Interchange-Rates.pdf>

<sup>72</sup> Testimony of Visa, House of Commons Canada, Standing Committee on Finance, Evidence, May 14, 2009, p.18, <http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV3907136/FINAEV28-E.PDF>

<sup>73</sup> *Visa Debit, Introducing the next generation of debit*, <http://www.visa.ca>. Also see: testimony of Mr. Tim Wilson before the House of Commons, Canada, Standing Committee on Finance, Evidence, May 14, 2009, p.25 <http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV3907136/FINAEV28-E.PDF>

product because it is not comfortable with Visa's debit pricing.<sup>74</sup> TD Canada Trust testified before the Finance Committee that it was subject to considerable fines if it did not support Visa Debit.<sup>75</sup>

70. Visa's interchange rates for debit have not (to-date) attracted Canadian Visa issuers to issue Visa PIN debit cards for in-Canada debit transactions at the POS. On October 18, 2010 Canadian Imperial Bank of Commerce ("CIBC") announced it would start issuing debit cards with the Visa debit brand mark included on the card along with the Interac brand and that cardholders will be able to use Visa for debit transactions at the POS outside Canada and for online transactions.<sup>76</sup>

71. Visa and MasterCard HAC rules in Canada have not been used to force merchants to accept Visa's and MasterCard's debit cards.<sup>77</sup>

## VII.B. MASTERCARD PIN DEBIT IN CANADA

72. On November 20, 2009 MasterCard Canada announced it had been working with acquirers since late 2008 to facilitate expansion of its Maestro debit product in Canada. The announcement confirmed earlier reports that Maestro would be a PIN based debit product, that it would reside on the cardholder's present debit card together with Interac debit, and that it would be priced to acquirers at a flat fee without interchange.<sup>78</sup>

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<sup>74</sup> See: testimony of Mr. Jim Baumgartner, President and CEO of Moneris Solutions, House of Commons Canada, Standing Committee on Finance, Evidence, May 26, 2009, p.5, <http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV3925183/FINAEV30-E.PDF>

<sup>75</sup> See: testimony of Mr. Jeff van Duynhoven, President and CEO of TD Canada Trust Merchant Services, House of Commons Canada, Standing Committee on Finance, Evidence, May 26, 2009, p.5 <http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV3925183/FINAEV30-E.PDF>

<sup>76</sup> See: CIBC, Personal Banking, [http://www.cibc.ca/ca/features/cibc-advantage-card.html?WT.mc\\_id=IntROTADVCARD-E10](http://www.cibc.ca/ca/features/cibc-advantage-card.html?WT.mc_id=IntROTADVCARD-E10)

<sup>77</sup> Mr. Tim Wilson, Head of Visa Canada, testified before the House of Commons Finance Committee that Visa changed its rules so that retailers can select to not accept Visa debit without impacting acceptance of other Visa products. See: Testimony of Mr. Tim Wilson, Head of Visa Canada, House of Commons Canada, Standing Committee on Finance, Evidence, May 14, 2009, p.18, <http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV3907136/FINAEV28-E.PDF>. See also: Code of Conduct for the Credit and Debit card Industry in Canada, [http://www.fin.gc.ca/n10/data/10-049\\_1-eng.asp](http://www.fin.gc.ca/n10/data/10-049_1-eng.asp).

<sup>78</sup> *Backgrounder: MasterCard Maestro®*, [http://www.mastercard.com/ca/company/en/press/2009/11\\_20\\_Maestro.html](http://www.mastercard.com/ca/company/en/press/2009/11_20_Maestro.html). In testimony before the House of Commons, Standing Committee on Finance ("Standing Committee on Finance") Mr. Kevin Stanton, President of MasterCard Canada testified that "Maestro (Canada) has a fee of half a cent to merchants. No other fees are associated with that side of the equation. See: House of Commons Canada, Standing Committee on Finance, Evidence, May 14, 2009, p.3, <http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV3907136/FINAEV28-E.PDF>

73. MasterCard, when questioned about whether the zero interchange rate might be changed at a later date by “*your parent or associate company in the United States*” responded: “*I don’t see MasterCard debit as being appropriate for this market (Canada) because of the pricing environment. To answer your question, it is our strategy to remain at a lower flat fee than Interac.*”<sup>79</sup>
74. MasterCard informed merchants that in Canada the Maestro brand mark would appear on the back of select debit cards along with the Interac brand and that Maestro transactions originating in Canada would be processed via MasterCard’s network.<sup>80</sup>
75. MasterCard announced that debit transactions initiated with debit cards that contained both Maestro and Interac brands would be subject to “operational routing”.<sup>81</sup> The term “operational routing” meant that when a debit card is issued to a cardholder and contains both the Maestro and Interac brands, the issuer will decide how debit transactions are to be routed and will encode this routing information on the chip embedded in the debit card.
76. Even though MasterCard introduced Maestro with zero interchange and a switch fee that is presently lower than Interac’s PIN debit switch fee, Maestro has not to-date been implemented by a Canadian financial institution for domestic debit transactions.<sup>82</sup> Bank of Montreal includes the Maestro (MasterCard’s international PIN debit service) brand mark on some of its debit cards to facilitate use of the cards for debit transactions in locations where Maestro is accepted outside Canada.<sup>83</sup>

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<sup>79</sup> See: House of Commons Canada, Standing Committee on Finance, Evidence, May 14, 2009, p.8  
<http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV3907136/FINAEV28-E.PDF>

<sup>80</sup> See: *Welcome to Maestro, A Debit Solution from MasterCard* and *Maestro, fact Sheet for Merchants*,  
<http://www.mastercard.ca> . This statement also confirmed MasterCard planned to operate its PIN debit system outside the rules and payments clearing systems of the Canadian Payments Association.

<sup>81</sup> *Backgrounder: MasterCard Maestro®*,  
[http://www.mastercard.com/ca/companv/en/press/2009/11\\_20\\_Maestro.html](http://www.mastercard.com/ca/companv/en/press/2009/11_20_Maestro.html)

<sup>82</sup> MasterCard Canada testified before the Standing Senate Committee on Banking, Trade and Commerce, on April 22, 2009, that “MasterCard debit does not exist in Canada.” See: Proceedings of the Standing Senate Committee on Banking, Trade and Commerce, Issue 5 - Evidence, April 22, 2009,  
[http://www.parl.gc.ca/40/2/parlbus/commbus/senate/Com-e/bank-e/05eva-e.htm?Language=E&Parl=40&Ses=2&comm\\_id=3](http://www.parl.gc.ca/40/2/parlbus/commbus/senate/Com-e/bank-e/05eva-e.htm?Language=E&Parl=40&Ses=2&comm_id=3). See also testimony of MasterCard before House of Commons Canada, Standing Committee on Finance, Evidence, May 14, 2009, p.9,  
<http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV3907136/FINAEV28-E.PDF>

<sup>83</sup> See: *Banking with BMO is simple and convenient*, <http://bmo.com/home/personal/banking/evervdav/how-to-bank-bmo/debit-payment>

### VII.C. REACTIONS OF MERCHANTS, CONSUMERS AND OTHER PAYMENTS SYSTEM STAKEHOLDERS

77. Merchant organizations expressed concerns that Visa and MasterCard, by attaching their debit brands to the same bank debit cards as Interac and controlling or influencing the routing of debit transactions to their respective networks, would use their market power and rules to displace Interac debit transactions that are low cost to merchants. They were particularly concerned Visa would use its interchange offers to financial institutions to influence them to promote Visa debit rather than Interac debit.<sup>84</sup>
78. The Canadian merchants' 'StopStickingItToUs' coalition, in its submission to the Government of Canada hearings, stated "*Visa and MasterCard state that allowing their debit products in Canada will provide more competition. However this would be the same competition that Canada now experiences on the credit card side – competition for issuers by increasing payment costs to merchants, and consumers.*"<sup>85</sup>
79. The Government of Canada, Standing Senate Committee on Banking, Trade and Commerce in its June 2009 report 'Transparency, Balance and Choice: Canada's Credit and Debit Card Systems', agreed with the concerns expressed by merchants and others during its committee hearings, stating "*--- the Committee is concerned that competition among debit card payment systems could lead to higher costs for merchants and, eventually, higher retail prices for consumers. We know that interchange fees on debit cards issued under the Visa brand will be calculated on a combined flat fee and percentage basis that Visa admits may entail higher merchant costs than those associated with cards issued under the Interac and MasterCard brands. MasterCard points to the fact that its Maestro debit card is less expensive than Interac's debit card as proof that competition yields benefits. However, we are not convinced that this situation will endure, and we are concerned that competition between Interac and two well-financed and market-savvy competitors such as Visa and MasterCard will marginalize Interac, and either drive it out of business regardless of its governance structure or lead to a merger or acquisition that would have the effect of limiting competition in the debit card market to Visa and MasterCard. At that point, debit card*

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<sup>84</sup> Submission to the Senate Committee on Banking, Trade and Commerce, *A Merchant Perspective on Payment Systems in Canada*, April 23, 2009, p. 15.

<sup>85</sup> Submission to the Senate Committee on Banking, Trade and Commerce, *A Merchant Perspective on Payment Systems in Canada*, April 23, 2009, pp.14, 15.

*merchant fees would likely do what they have done elsewhere under these circumstances: they would rise.*<sup>86</sup>

#### **VII.D. ACTIONS BY THE GOVERNMENT OF CANADA**

80. In recognition of concerns expressed by merchants and others about the likely consequences of allowing Visa and MasterCard to implement their respective debit products in the Canadian market as had been announced by the card companies, the Government of Canada Standing Senate Banking Committee on Banking, Trade and Commerce commenced research and hearings in March 2009, and the House of Commons Standing Committee on Finance commenced additional hearings in May 2009.<sup>87</sup>
81. As an outcome of the hearings, the Government of Canada implemented a Code of Conduct for the Credit and Debit Card Industry in Canada, effective August 16, 2010. The purpose of the Code is to ensure that merchants are fully advised of the costs of accepting debit and credit cards, that merchants have flexibility to encourage consumers to choose the lowest cost payment option, and that merchants are allowed to choose which methods of payment they will accept.<sup>88</sup> The Canadian Minister of Finance warned the card organizations that if they did not follow provisions of the Code, legislative action would be pursued.
82. Key provisions of the Code pertaining to debit cards include:
- “Payment card network rules will ensure that merchants who accept credit card payments from a particular network will not be obligated to accept debit card payments from that same payment card network, and vice versa.” A merchant can choose to accept only credit or debit payments from a network without having to accept both.

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<sup>86</sup> See: *Transparency, Balance and Choice: Canada’s Credit and Debit Card Systems*, Report of The Standing Committee on Banking, Trade and Commerce, June 2009, p.31, <http://parl.gc.ca/40/2/parlbus/commbus/senate/com-e/bank-e/rep-e/rep04Jun09-e.pdf>

<sup>87</sup> Merchants, consumers associations, small business associations and the Canadian Payments Association all expressed concerns about Visa and MasterCard introducing their PIN debit services in Canada outside the rules and legislation applicable to payments systems in Canada. Many were particularly concerned Visa and MasterCard would ride on the success of Interac PIN debit and use their market power and rules to force debit transactions to be routed to Visa’s and MasterCard’s debit systems, thus displacing Interac PIN debit and increasing costs to merchants. Furthermore, Visa and MasterCard planned to implement their PIN debit products without giving merchants the option to decide if they wanted to accept the services from their customers.

<sup>88</sup> See: *Code of Conduct for the Credit and Debit card Industry in Canada*, [http://www.fin.gc.ca/n10/data/10-049\\_1-eng.asp](http://www.fin.gc.ca/n10/data/10-049_1-eng.asp)



- “Payment card network rules will ensure that merchants will be allowed to provide discounts for different methods of payment (e.g. cash, debit card, credit card). Merchants will also be allowed to provide differential discounts among different payment card networks. Discounts will be allowed for any payment method. As well, differential discounting will be permitted between payment card networks.”
- “Competing domestic applications from different networks shall not be offered on the same debit card. However, non-competing complementary domestic applications from different networks may exist on the same debit card. A debit card may contain multiple applications, such as PIN-based and contactless. A card may not have applications from more than one network to process each type of domestic transaction, such as point-of-sale, Internet, telephone, etc. This limitation does not apply to ABM or international transactions.”
- “Payment card networks will ensure that co-badged debit cards are equally branded. Payment card network rules shall ensure that the payment networks available on payment cards will be clearly indicated. Payment card networks will not include rules that require that issuers give preferential branding to their brand over others. To ensure equal branding, brand logos must be the same size, located on the same side of the card and both brand logos must be either in color or black and white.”
- “Payment card network rules will ensure that debit and credit card functions shall not co-reside on the same payment card. Debit and credit cards have very distinct characteristics, such as providing access to a deposit account or a credit card account. These accounts have specific provisions and fees attached to them. Given the specific features associated with debit and credit cards, and their corresponding accounts, such cards shall be issued as separate payment cards. Consumer confusion would be minimized by not allowing debit and credit card functions to co-reside on the same payment card.”
- “Payment card network rules will ensure that negative option acceptance is not allowed. If payment card networks introduce new products or services, merchants shall not be



obligated to accept those new products or services. Merchants must provide their express consent to accept the new products or services.”<sup>89</sup>

83. The Code prevents Visa and MasterCard from exploiting their market power to gain a foothold and eventually perhaps a leading position in debit in Canada, and thus position Visa and MasterCard to displace Interac debit and increase costs to merchants and consumers.
84. The Code has been adopted by Visa, MasterCard, Interac, American Express, card issuers and acquirers.

## VIII. CONCLUSIONS

85. The Interac PIN debit service has been a tremendous success in Canada, without interchange.
86. The business case for financial institutions in Canada to issue and promote the use of Interac debit cards was not dependent on revenue from interchange fees. Financial institutions set the interchange fee for Interac PIN debit at zero when the service was first introduced, it remains zero today, and Interac has no plans to change this very successful ‘at-par’ debit model.
87. If financial institutions in Canada had at any time seen a need for interchange in the debit system, they could have implemented interchange fees for Interac or issued Visa and MasterCard debit products, due to conditions such as the following.
- The governance of Interac is dominated by financial institutions and they had the power to introduce interchange for Interac debit.<sup>90</sup>
  - Interac debit issuers in Canada are also members of Visa and MasterCard.
  - Acquirers of Interac debit are also acquirers of Visa and MasterCard.
  - Issuers and acquirers were aware of Visa and MasterCard debit options and related interchange revenue possibilities.

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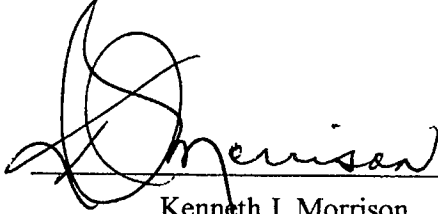
<sup>89</sup> Code of Conduct for the Credit and Debit card Industry in Canada, [http://www.fin.gc.ca/n10/data/10-049\\_1-eng.asp](http://www.fin.gc.ca/n10/data/10-049_1-eng.asp)

<sup>90</sup> During hearings before the Government of Canada, House of Commons, Standing Committee on Finance, Mr. Mark O’Connell, President and Chief Executive Officer, Interac Association testified that “Under the consent order (Consent Order approved by Competition Tribunal in 1997), a majority vote of the board could change that rate (the Interac zero interchange rate).” See: Evidence, Tuesday June 16, 2009, <http://www2.parl.gc.ca/content/hoc/Committee/402/FINA/Evidence/EV4000797/FINAEV37-E.PDF>

88. Although the Government of Canada issued a Code applicable to debit and credit card services in Canada that disallows competing debit brands from co-residing on the same debit card for domestic applications, financial institutions have flexibility to issue separate Visa debit cards (separate from Interac) if they wish to generate interchange revenue from POS debit transactions in Canada.<sup>91</sup> No financial institution has done this to-date.
89. If financial institutions in Canada had concerns about zero interchange for Interac debit, they could have objected to the Code issued by the government that among other provisions constrained Visa, MasterCard and their member financial institutions from using their market power to force Visa's and MasterCard's debit products on merchants and consumers. No financial institution objected.
90. During the hearings on debit and credit card matters before the Government of Canada Senate and House of Commons committees in 2009, and in initial submissions to the government appointed Payments Task Force, no financial institution or payment network justified reasons for interchange in debit card payment services.
91. The tremendous success of the Interac 'at-par' PIN debit service in Canada was undoubtedly a major factor in Visa's lower interchange rates for PIN debit in Canada and in MasterCard's decision to implement Maestro debit in Canada without interchange.

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<sup>91</sup> Visa offers financial institutions interchange fees if they implement Visa debit. See: Visa's schedule of PIN debit interchange in section VII.A of this report.



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Kenneth J. Morrison

Haliburton, Ontario, Canada

October 26, 2010

## **IX. APPENDIX A - CURRICULUM VITAE - KENNETH J. MORRISON**

### **CAREER SUMMARY**

I am president of FutureSolve Inc., a management consulting firm that specializes in payment systems and technology in the financial services and retailing industries.

Since starting the consulting business in 1993, I have advised on the design and operation of payment systems globally including in Canada, the United States, China, Malaysia, India, Indonesia, Thailand, Colombia, Argentina, Poland, the UK, and numerous other countries. I was retained by Retail Council of Canada, Canadian Life and Health Insurance Association and independent investment dealers to serve as the expert witness in the Canadian Bureau of Competition Policy case pertaining to shared ATM and POS debit services provided by the Interac Association. This case focused extensively on comparisons between payment systems in Canada and the United States. Since 1995, I have been retained by Retail Council of Canada to provide advice on payment systems and financial services, and I am currently its representative on the CPA Stakeholder Advisory Council. This involves tracking payments system developments and issues in Canada, the United States, and globally. I have been retained by a number of large insurance companies and retailers to advise on proprietary credit cards, debit cards, financial services legislation, electronic commerce, and services delivery networks. I also provide seminars and education programs in several countries, on technology, electronic commerce, payment systems, and information privacy.

Prior to 1993, I was an executive officer with Royal Bank of Canada, one of the largest financial institutions in North America and operating in more than fifty countries. My responsibilities during thirty-two years with Royal Bank included development and implementation of computer systems and banking procedures globally, management of payment systems, Automated Teller Machine (ATM) networks, payments system policies and standards, client (debit) cards, services delivery networks, retail banking strategy, quality of customer service, and banking operations.

I was a member of Canadian Bankers Association (CBA) and Canadian Payments Association (CPA) committees dealing with payment systems through more than twenty-five years, including during the period in which credit card, ATM and PIN debit card systems were implemented in Canada. I was a member of a CPA committee that developed processes and standards for secure Internet payments.

### **EDUCATION:**

Bachelor of Commerce, Concordia University, 1972

## **EMPLOYMENT HISTORY:**

**Royal Bank of Canada** – 1960 to 1993 including the following positions:

- 1960 – 1972 Various positions in branch banking and Head Office
- 1972 – 1975 Manager, Clearings Control and Cost Analysis
- 1975 – 1976 Assistant to the General Manager, Finance and Investments Division
- 1976 – 1979 Manager, Management Control Systems
- 1980 Assistant General Manager, Business Systems Development
- 1981 – 1985 Vice President, Systems Development
- 1985 – 1986 Vice President, Technology, Planning and Financial Management
- 1987 – 1988 Vice President, Information Technology Strategy
- 1988 – 1990 Vice President, Technology and Distribution Networks
- 1990 – 1992 Vice President, Network Planning and Automation
- 1992 – 1993 Vice President, Quality Service and Planning, Retail Banking Division

**FutureSolve Inc. (Previously Ken Morrison Consulting Inc.)**- 1993 to present

President of a privately held consulting firm that specializes in payment systems and technology in the financial services and retailing industries.

### Examples of assignments in area of payment systems

Retained from 1995 to the present to advise Retail Council of Canada and its members on payment systems and banking services, conduct various payments system surveys, and make representations to governments on payments/financial services legislation and policies.

Retained by numerous retailers to provide analysis of payment systems costs, evaluation of payment alternatives, issuing gift cards, and advice in negotiating banking service fees.

Retained by a global technology firm to conduct research on payments systems in all major countries, covering payment practices, strategies, legislation, technologies, structure of the industry, etc.

Retained to advise a large retail organization in Canada on business opportunities in financial and card services markets.

Retained by numerous organizations to develop and provide education programs in the areas of payment systems, card services, retail banking products and delivery networks, customer information systems, loyalty programs, e-commerce, and technology.

Retained to conduct research and develop a payments system strategy for Canadian Grocers

Retained by Retail Council of Canada, Canadian Life and Health Insurance Association and independent investment dealers to serve as the expert witness in the Canadian Bureau of

Competition Policy case pertaining to shared-network services (ATMs and POS debit cards at the point-of-sale) provided by the Interac Association.

Participated in an in-depth study of Canadian retailers' experiences with payment systems.

Retained to advise several eCommerce companies on financing alternatives, technology and marketing strategies.

Retained to advise an Internet grocery organization on wireless payment systems and to organize the provision of such services.

Retained to advise a major government Ministry on its long-term strategy for delivering services to citizens electronically.

Retained to advise on strategy and practices to expand direct deposit of government benefits payments.

Retained to provide research, analysis and expert testimony for a major debit card services antitrust case in the U.S.

Retained to advise a major agency in the Government of Canada, responsible for money laundering mitigation matters, on regulations and processes pertaining to the reporting and analysis of financial transactions.

Retained to advise a major communications and payment network services provider on its Canadian market strategy.

Retained to provide advice to the Government of Canada on acceptance of credit and debit cards as payment for government services, and on the tendering/acquisition of financial and payments services.

Retained to provide advice to the Province of Ontario on acceptance of credit and debit cards as payment for government services, and on the tendering/acquisition of financial and payments services.

Positions/assignments relating to banking and payments while employed with Royal Bank

1973 – 1992      Member of various Canadian Bankers Association (CBA) Clearing and Payment Systems Committees developing/approving strategies, policies and procedures pertaining to check clearing systems, POS debit cards, funds transfers, payments system risks, and roles of various payments system participants. As a member of these committees, I participated in extensive reviews and discussions re debit card systems in the United States and other countries.

1980 – 1992      Participated as a member of various CPA committees which included dealing with the policy issues of payments clearing and settlement, access to deposit accounts, security, standards, and other aspects of payments networks and services.

- 1980 – 1983 Member of ‘committee of banks’ responsible for planning and managing the development and implementation of the Visa Canadian Authorization Network.<sup>92</sup>
- 1981 – 1990 Responsible for systems development and technology functions at Royal Bank during the period when systems for providing ATM services, POS debit cards, electronic authorization of credit card transactions, and shared electronic network services were developed and implemented.
- 1983 – 1984 Member of Royal Bank management committee to study future of the financial services industry in Canada. This involved extensive review of how financial services were evolving in the United States.
- 1983 Participated in meetings of Canadian banks to develop the shared ATM network in Canada.
- 1983 – 1984 Chaired Royal Bank and Canadian Bankers Association committees to develop ‘Information Privacy’ policies.
- 1983 – 1988 Member of the Board of AST TransAct, a Royal Bank subsidiary company providing data processing and EFT/POS switching services in the U.K.
- 1984 – 1985 Participated in Federal Government Task Force on ‘Transborder Data Flow and Privacy’
- 1985 – 1989 Participated in the development and approval of Canadian Payments Association (CPA) Standard 020: “Standards Applicable to Cash Dispensing in Networks of Shared Automated Banking Machines”.
- 1985 – 1990 Participated in the development and approval of CPA Standard 021: “Standards and Guidelines Applicable to Electronic Funds Transfer at the Point-of-Sale” (PIN POS debit).
- 1989 – 1990 Chaired a CPA Committee, which included financial institution and retailer representatives, to discuss alternatives for POS debit card services at the point-of-sale. Discussions included on-line PIN versus signature POS debit, and comparisons with services in the United States, Europe and Australia.
- 1985 – 1986 Faculty member – Royal Bank Management and Technology education program. This involved developing and delivering education modules that drew extensively on financial services and payments experiences from other countries.
- 1985 – 1994 Participated in developing and implementing Royal Bank’s strategy and plans for POS debit card services at the point-of-sale.
- 1990 – 1991 Advisor to the Institute of Canadian Bankers on courses and texts for ‘Technology and Banking’ courses for chartered banks’ staff.

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<sup>92</sup> Shared on-line network for authorizing credit card transactions.

- 1990 – 1992 Responsible for ‘Network Planning and Automation’ in Royal Bank including developing strategy and policies for ATMs, expanding the network of ATMs, programs to increase customer use of ATMs, managing the marketing and operation of Sponsored Member services, and managing overall quality of service, costs and revenues associated with ATMs. Managed Royal Bank’s client card operations, including card design, cardholder agreements, card issuance, card utilization, and participated in developing strategy and plans for building customer loyalty in card-based electronic service environments. Also managed implementation of ATMs in other countries.
- 1992 Managed development and pilot launch of ‘Telephone Banking’ service.
- 1993 Participated in developing Royal Bank’s long-term strategy and plans for electronic delivery of consumer financial services, in which the client (POS debit) card was a key component.



**Industry Facts Concerning Debit Card Regulation Under Section 920**

**Stephen Craig Mott  
BetterBuyDesign**

**On Behalf of the Merchants Payments Coalition**

**Submitted To  
The Board of Governors of the Federal Reserve System  
Concerning Its Rulemaking Pursuant To  
Section 920 of the Electronic Fund Transfer Act**

**(REVISED)**

**October 29, 2010**

## TABLE OF CONTENTS

I.	INTRODUCTION AND SUMMARY OF CONCLUSIONS .....	1
II.	DEBIT CARD INDUSTRY BACKGROUND .....	2
	A. Origins of Debit Cards .....	2
	B. Early Growth of PIN Debit .....	3
	C. Signature Debit.....	5
	D. High Positive Interchange Pushes the Market Toward Signature Debit.....	6
	E. The Convergence of Signature and PIN Debit Interchange Rates .....	12
III.	DISCUSSION OF INDUSTRY FACTS RELEVANT TO RULEMAKINGS.....	16
	A. Banks Will Continue to Issue Debit Cards in a Mature Market Without Interchange.....	16
	<i>i. Banks Make Money on Debit Cards Without Interchange .....</i>	<i>16</i>
	<i>ii. Debit Cards Displace More Expensive Check and Cash Transactions .....</i>	<i>18</i>
	B. Debit Card Issuer Costs.....	19
	<i>i. General Costs Versus Authorization, Clearing and Settlement Costs.....</i>	<i>19</i>
	<i>ii. The Remaining Costs of Debit Card Issuance Are Subject to Wide Variations in Reporting and Cost Allocations .....</i>	<i>20</i>
	C. Industry Data on Fraud.....	24
	<i>i. Merchants Bear a Substantial Portion of the Fraud Costs .....</i>	<i>24</i>
	<i>ii. Issuers are Best Positioned to Police Fraud.....</i>	<i>33</i>
	<i>iii. Signature Versus PIN Debit Fraud .....</i>	<i>34</i>
	<i>iv. Fraud in the U.S. Payment System Compared to Other Jurisdictions.....</i>	<i>35</i>
	D. Visa/MasterCard Parallel Conduct in Interchange & Network Fees .....	35

## I. INTRODUCTION AND SUMMARY OF CONCLUSIONS<sup>1</sup>

1. I have been asked by counsel for the Merchants Payments Coalition to provide some historical background on the development of the debit market. I also have been asked to supply industry data on certain key issues that might be relevant to the Federal Reserve Board's (the "Board") analysis of the rulemakings and regulations that Congress has asked it to issue under Section 920 of the Electronic Fund Transfer Act. With regard to these issues, I offer the following conclusions:

- The incremental costs of authorizing, clearing and settling debit transactions should be limited to the processing associated with authorizations, *i.e.*, confirming whether the cardholder has sufficient funds to pay for the purchase; the processing associated with clearing, *i.e.*, delivering final transaction data to issuers for posting to the cardholder's account; and the processing associated with settling, *i.e.*, calculating fees and charges that apply to issuers and acquirers, and calculating the net financial position of issuers and acquirers after debit transactions are completed. These processing costs involved with electronically transmitting transaction data are readily identifiable. By contrast, many of the other costs that debit issuers incur are mixed together with other programs, or reflect inefficient outsourcing related to signature debit.
- The incremental costs of authorizing, clearing and settling PIN debit transactions — which occur in a single electronic message — are roughly \$0.0033.<sup>2</sup> The incremental costs of authorizing, clearing and settling signature debit transactions related to an issuer's DDA system are approximately \$0.0136.<sup>3</sup>
- Even before PCI DSS costs are taken into account, merchants absorb more of the debit card fraud costs than do issuers. The costs of PCI DSS compliance, alone, for merchants will soon exceed the total cost of payment card fraud in the U.S. To date, merchants have incurred at least \$10 billion in PCI DSS compliance and liability costs.<sup>4</sup>

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<sup>1</sup> All documents and deposition testimony referenced herein and preceded by "**Attachment \_\_\_**" are materials that were either unsealed by the Court in the *In re Visa Check/MasterMoney Antitrust Litigation*, No. 96-CV-5238 (E.D.N.Y.) (J. Gleeson), or are otherwise publicly available. All such materials are appended to this report. Appended as **Attachment 1** is a copy of my curriculum vitae.

<sup>2</sup> First Annapolis Consulting, "STAR CHEK® Direct Product Overview," Prepared for First Data, June 22, 2004, at 25.

<sup>3</sup> First Annapolis POS Debit Issuer Cost Study Comprehensive Report, Presented to First Data and STAR, Oct. 23, 2007, at 26, 28.

<sup>4</sup> *See infra*, ¶ 53.

- Much of these fraud costs borne by merchants, including PCI DSS and chargeback costs, could be eliminated by the implementation of better fraud prevention technologies.

## **II. DEBIT CARD INDUSTRY BACKGROUND**

### **A. Origins of Debit Cards**

2. Starting in the 1970s, banks began to allow their customers to use personal identification number (“PIN”) debit cards and automated teller machines (“ATMs”) to withdraw funds from their accounts, instead of cashing paper checks. Banks were motivated to offer ATM services in order to reduce their reliance on human tellers and to reduce the number of checks they would have to process. Regional ATM networks soon evolved, which accelerated the ubiquity of ATM services. The banks, using the regional ATM networks, then expanded the utility of the PIN debit system by allowing their consumers to use their debit cards to pay for merchandise at retail stores.

3. Several characteristics made PIN debit appealing to consumers, merchants and banks. Customers benefitted by reducing the amount of cash and checks they needed to carry. PIN debit lessened the need for merchants to process large amounts of cash. Banks eliminated float from checks by processing PIN debit transactions almost immediately, in a single electronic message (which authorized, cleared and settled the transactions instantaneously). Most importantly, banks deployed PIN debit to save money by eliminating the relatively high processing fees associated with paper checks, and they used the additional convenience of PIN debit to strengthen relations with their customers. These deeper relationships motivated customers to maintain higher balances, which banks could profitably loan out. In this way, the value of debit cards to banks vastly transcended the narrow economics associated with the cards. That remains true to this day.

4. Moreover, PIN debit offered banks, merchants and consumers significant security benefits. Because PIN debit required users to enter PINs to initiate the transaction, thieves could not easily use stolen cards to commit fraud. And because PIN debit transactions settled almost immediately, less opportunity existed for consumers to accidentally or intentionally empty their accounts before a given PIN debit transaction settled. This level of security afforded by PIN debit transactions was described by the former CEO of MasterCard as providing a “dramatic lift” over the security offered by signature debit.<sup>5</sup>

5. Because of the high security associated with PIN debit, banks typically have been able to issue PIN debit to the vast majority of their checking account holders.<sup>6</sup> As detailed more fully below, the incidence of fraud on signature debit transactions has historically been substantially higher than the incidence of fraud on PIN debit transactions.<sup>7</sup>

#### **B. Early Growth of PIN Debit**

6. The PIN debit networks worked with banks to promote the growth of debit in the 1970s and 1980s. By the early 1990s, roughly 15 years after PIN and signature debit simultaneously launched, PIN debit accounted for more than 60 percent of all debit transactions.<sup>8</sup>

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<sup>5</sup> **Attachment 2** (Deposition testimony of Alex “Pete” Hart, MasterCard, Aug. 4, 1999) at 249-250.

<sup>6</sup> **Attachment 3** (Maestro U.S.A., Inc. Board of Directors Agenda Item 13, Mar. 30, 1993, Debit Positioning Strategy) at MD0367-0439 (“Because of its extensive issuance potential to 100% of an institution’s checking account base, on-line [PIN] debit has the ability to maximize retail profitability and access to consumer deposit accounts. MasterCard believes that the issuance capabilities of on-line POS debit coupled with its attractiveness to the merchant community and its low-risk processing environment will make [on-line] POS debit a valuable payment option.”).

<sup>7</sup> **Attachment 4** (Deposition testimony of George Jeffers, Huntington National Bank, Nov. 8, 1999) at 108 (“there is an infinite amount of more risk involved with an off-line [signature debit] transaction than an on-line transaction”); **Attachment 5** (Deposition testimony of Arthur Kranzley, MasterCard, Feb. 22, 2000) at 61 (testifying that one of the reasons that offline debit had very limited issuance potential in the U.S. in the early 1990s was “because it worked on the MasterCard network, banks had to issue it carefully because of the exposure to risk of fraud ...”); **Attachment 6** (Deposition testimony of Linda Havenor, Visa, July 7, 1999) at 279 (testifying that offline debit presents greater risk to the issuer and greater risk to the cardholder).

<sup>8</sup> In 1993, PIN and signature debit accounted for 61.3 percent and 38.7 percent, respectively, of total debit purchase transactions in the United States. THE NILSON REPORT (ISSUE 564), Jan. 1994, at 6; THE NILSON REPORT (ISSUE 569), Apr. 1994, at 6-7.

Well into the 1990s, it was common for banks to link to numerous PIN debit networks.

7. To spread the availability of PIN debit, the PIN debit networks encouraged merchants to accept their PIN debit cards. They did this, in part, by subsidizing the costs that merchants incurred in installing PIN pads. In some situations, banks seeking to expand their PIN debit networks paid merchants a small fee for each PIN debit transaction — a practice known as “negative,” “reverse,” or “issuer-paid” interchange. In most situations, however, the PIN debit networks merely set interchange “at par,” offering no subsidy to either merchants or issuers. In fact, at-par pricing was the prevailing norm in the industry throughout the 1980s into the early 1990s.

8. Given its advantages, PIN debit quickly gained a broad level of popularity. Its popularity and reach were aided through the expansion of the regional PIN debit networks. Even Visa recognized that PIN debit was poised to continue to grow, and that it threatened Visa’s core business. In a June 1990 presentation to the Visa board, Visa’s consultant Andersen Consulting predicted the ultimate “demise” of signature debit if PIN debit was “uncontained.”<sup>9</sup> Andersen also predicted that, if “uncontained,” PIN debit would maintain its at-par interchange structure and thrive with that system.<sup>10</sup>

9. MasterCard also recognized the benefits of PIN debit, and planned to incorporate a PIN debit-centered strategy under its rubric. In the early 1990s, MasterCard worked with 12 leading regional PIN debit networks to create Maestro, MasterCard’s PIN debit network. In his October 1991 speech introducing Maestro, former MasterCard chief executive Pete Hart signaled MasterCard’s belief that PIN (online) debit was a superior product to signature (offline) debit,

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<sup>9</sup> **Attachment 7** (Financial Impact of Direct Debit Evolution, Product Development and Marketing Committee, Board of Directors, Visa U.S.A., Andersen Consulting, June 1990) at AND1018612.

<sup>10</sup> *Id.* at AND1018585, AND1018612.

and one to which MasterCard was committed. He stated:

We believe ... in the very simplest of terms at MasterCard ... that debit card should be an on-line business. ... So, we feel that an on-line system with positive identification today, most probably — by virtue of PIN — is the way to provide debit card services to virtually 100% of our deposit or transaction account customers.<sup>11</sup>

Indeed, MasterCard, at this time, planned to eliminate its offline debit program once Maestro gained acceptance.<sup>12</sup>

### C. Signature Debit

10. In 1975, another form of debit card was launched into the market, a product that came to be known as offline debit or signature debit. This form of debit “ran on the rails” of the Visa and MasterCard credit card networks. Rather than using a secure PIN to authorize transactions, this alternate debit system merely required a customer to authenticate his or her identity with a signature. Moreover, rather than authorize, clear and settle transactions in a single electronic message as PIN debit did, this system required two separate messages — the first for authorization and a second to clear and settle transactions. This process created float risks and additional costs for banks.<sup>13</sup>

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<sup>11</sup> **Attachment 8** (MasterCard International, Pete Hart’s Speech, Oct. 3, 1991) at MD2308-0264–MD2308-0265.

<sup>12</sup> **Attachment 5** (Deposition testimony of Arthur Kranzley, MasterCard, Feb. 22, 2000) at 175-176 (“We saw, even at this time, that Maestro would be our global debit program and that MasterCard [Signature] Debit would probably be phased out as there is more and more acceptance for Maestro.”).

<sup>13</sup> *Id.* at 58-59 (“The on-line program to us had a number of advantages to the off-line program .... It also was a PIN-based system so the cardholder was authenticated with each transaction. And the clearing and settlement occurred with the transaction so there wasn’t any float or potential fraud like we had on the off-line system.”). *See also Attachment 9* (Deposition testimony of Linda Gage, Visa, Apr. 27, 1999) at 45 (“The more quickly a transaction is settled, the fewer opportunities we have for disputes, for chargebacks, for fraud. So there is less cost in the system.”); **Attachment 10** (MasterCard Global Deposit Access and Maestro, New Ways to Pay, Oct. 30, 1996) at MD0972-0449 (“Online, real-time posting/clearing of funds virtually eliminates chargebacks; reduces costs & risks”); **Attachment 11** (Visa VCCII - Benefits to Merchants) at 1480653 (“Online, PIN-based transactions are more secure than dual-message (offline), signature-based transactions. Merchants benefit from online processing through lower fraud and chargeback rates. Visa’s support for online processing will expand usage and lower system risk.”); **Attachment 12** (Deposition testimony of Ronald Schmidt, Visa, Mar. 14, 2000) at 360 (“The off-line [debit product] is a higher cost product to the issuer” than the online product.).

11. Between its introduction in the 1970s and 1990, signature debit had limited success. Because a signature-based system introduced risks that were not associated with PIN debit, and because of the float of up to 14 days associated with the clearing and settlement process, banks only issued signature debit to their most creditworthy customers. Given these limitations, by 1990, signature debit cards were viewed as a niche product with, at best, a limited future. By contrast, the prevailing view in the industry was that PIN debit would remain the leading debit product in the United States. For example, according to one of Visa's consultants, if "uncontained," PIN debit would reach "6 billion transactions annually."<sup>14</sup> PIN debit was growing at an annual rate of over 40 percent, and Visa recognized it was poised to take off with or without Visa's participation.<sup>15</sup>

**D. High Positive Interchange Pushes the Market Toward Signature Debit**

12. Visa saw that PIN debit, with its at-par pricing model, posed a threat to its signature-based products, both debit and credit, and the interchange revenue that supported those products. According to Andersen Consulting, Visa's consultant, "there [was] a clear danger that Visa Debit and Credit transactions [would] be preempted by the lower regional [PIN debit] mark. This is ... [a] strong threat to Visa interchange income."<sup>16</sup> The interchange income that Visa thought was at risk was quite large — Andersen projected an annual reduction of \$813 million.<sup>17</sup>

13. As a result, Visa launched strategies to increase the interchange charged by the PIN debit networks and to push the debit market away from PIN debit and toward signature

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<sup>14</sup> **Attachment 7** (Financial Impact of Direct Debit Evolution, Product Development and Marketing Committee, Board of Directors, Visa U.S.A., Andersen Consulting, June 1990) at AND1018585.

<sup>15</sup> **Attachment 13** (Visa U.S.A. Inc. Special Meeting of the Board of Directors, Apr. 19, 1991) at 0024983.

<sup>16</sup> **Attachment 14** (Visa U.S.A. Debit Services Strategy, June 1990) at AND1018571.

<sup>17</sup> **Attachment 7** (Financial Impact of Direct Debit Evolution, Product Development and Marketing Committee, Board of Directors, Visa U.S.A., Andersen Consulting, June 1990) at AND1018611, AND1018616.



debit, notwithstanding its relative low levels of security. To make this happen, Visa leveraged its “honor all cards” (“HAC”) rules that forced merchants accepting ubiquitous Visa credit card transactions to accept Visa signature debit card transactions as well. The HAC rules ensured that merchants accepted signature debit transactions at credit card-like interchange rates: no merchant could refuse to accept Visa (or MasterCard) signature debit cards if it meant that they could no longer accept Visa (or MasterCard) credit cards as well.<sup>18</sup> And without the high interchange enabled by these rules, banks would not have had the incentive to issue signature debit and limit the growth of PIN debit.<sup>19</sup>

14. Spurred by the credit card-style interchange associated with signature debit, after years of languishing growth, Visa’s strategy began to motivate banks to issue the product in the early 1990s. As issuance of signature debit took hold, banks that had previously issued debit cards with the regional PIN debit marks on the front of the cards relegated those marks to the back of the cards, while simultaneously adding the Visa (or, in some cases, MasterCard) logo to the front of the cards.<sup>20</sup> Thus, cards that once only had PIN debit functionality, now had both signature and PIN debit functionality, and the PIN debit component was deliberately obscured.

15. The success of Visa’s signature debit-oriented strategy forced MasterCard to reverse course and parrot Visa, dealing another major blow to the growth of PIN debit. In March

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<sup>18</sup> See, e.g., **Attachment 15** (Deposition testimony of Stephen Hunter, Wal-Mart, Mar. 14, 2000) at 75-76 (testifying that because there is no ability for Wal-Mart to choose to accept credit without offline debit, Wal-Mart is forced to accept offline debit cards: “The alternative is that we don’t take credit, which is not a reasonable alternative.”).

<sup>19</sup> See, e.g., **Attachment 16** (MasterCard memorandum re: U.S. Debit Strategy, Oct. 20, 1994) at MD1287-0228 (“Given interchange fee and the broad acceptance of MasterCard and Visa, a bank can issue the [offline] debit product and generate significant incremental revenue virtually overnight. This trend has not benefited MasterCard. Initially having been positioned behind Maestro, we are now playing catch-up in off-line debit.”).

<sup>20</sup> See, e.g., **Attachment 17** (Deposition testimony of Stephen Cole, Cash Station, Dec. 2, 1999) at 35-36 (the “vast majority” of financial institutions issuing Cash Station cards issued them with the Cash Station logo on the front of the cards, until the popularity of Visa’s and MasterCard’s signature debit cards increased, “at which time in most cases the [Cash Station] logo was reverted to the back of the card”).

1994, MasterCard installed Gene Lockhart as CEO to replace Pete Hart, who had been committed to pushing Maestro PIN debit as MasterCard's lead debit strategy. After that time, MasterCard followed Visa's lead and pushed signature debit as its lead product, forcing merchants with its HAC rule to accept MasterCard signature debit transactions at the same rates they paid for MasterCard credit card transactions. In fact, these rates were the highest interchange rates at the time in the debit market. After 1994, MasterCard allowed Maestro to languish in the United States where it basically had no appreciable market share until very recently.<sup>21</sup>

16. With both Visa and MasterCard using HAC rules to support high signature debit interchange to compete for bank issuance, banks increasingly issued signature debit and took steps to limit the growth of PIN debit. Bank issuance of signature debit exploded between 1993 and 1998,<sup>22</sup> and many banks took steps to suppress PIN debit.<sup>23</sup> For example, some banks charged consumers a fee for PIN debit and not signature debit.<sup>24</sup> These practices have continued

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<sup>21</sup> **Attachment 18** (General Purpose Debit Card Market Purchase Volume Shares, 1995–2006) (reflecting a zero PIN debit market share (in terms of volume) for Maestro from 1995–2006); *see also* Steven C. Salop *et al.*, *Economic Analysis of Debit Card Regulation Under Section 920*, Oct. 27, 2010, at Exhibit 3 (PIN Debit Networks' Share of Debit Market - 2009) (indicating a 2.7 percent PIN debit share for Maestro in 2009).

<sup>22</sup> According to Visa, between 1994 and 1998, signature debit's share of the debit market increased 25 percent (from 41 to 66 percent) while PIN debit's share decreased 25 percent (from 59 to 34 percent). **Attachment 19** (Commerce Bank Deposit Access Products Update, Visa, July 15, 1999) at 1618020.

<sup>23</sup> Results of a 2002 survey "suggest[ed] that banks are in fact stepping up their promotions of signature-based debit and/or instituting penalty fees on Pin-based debit. Fifteen of the 50 debit card issuers to whom we spoke, or 30%, had some policy in place to discourage Pin-based debit." **Attachment 20** ("Concord EFS, Inc., Reducing Price Target from \$39 to \$30 Based on Debit Card Survey Findings," JMP Securities, July 24, 2002) at 2. Another 2002 survey of the-then top 250 debit card issuers found that approximately 20 percent "have instituted punitive policies that charge consumers a fee for PIN-entry" or other incentive programs to steer customers to signature debit). **Attachment 21** ("Sign on the Dotted Line: Are PIN-Debit Expectations Too High?," Jefferies & Company, June 4, 2002) at 4.

<sup>24</sup> *See, e.g.*, **Attachment 22** (PULSE Debit Issuer Survey: Cardholder Fees & Industry Outlook, Dove Consulting, Aug. 2, 2002) at 1, 7 (finding that 26 percent of the 50 financial institutions surveyed charge a PIN debit-only penalty fee, averaging \$0.50). According to Dove, imposing such penalties reduced online debit usage by 40 percent. *Id.* at 19. *See also* **Attachment 23** ("NYPIRG Survey Finds ATMs are Always Taking Money From Consumers," New York Public Interest Research Group, Apr. 9, 2002) at 3 (finding that 57 percent of the approximately 50 banks surveyed charge PIN debit penalty fees, averaging \$0.89); **Attachment 24** ("Debit-card

to this day. To cite two recent examples, Chevy Chase Bank (which was recently purchased by Capital One) charges cardholders \$0.50 for PIN debit transactions, whereas signature debit transactions are free.<sup>25</sup> Similarly, Connecticut-based Higher One, which specializes in financial products for students, charges students \$0.50 for PIN debit transactions, while charging nothing for signature debit transactions.<sup>26</sup>

17. Banks also use special promotions to encourage signature debit at the expense of PIN debit.<sup>27</sup> They adopt rewards programs such as air miles, cash rebates and prize sweepstakes for which only signature debit transactions qualify, and PIN debit is excluded (*e.g.*, “Skip the PIN, Sign and Win!”<sup>28</sup>). For example, Wells Fargo, one of the largest debit issuers in the United States, provides bonus rewards points on “Check Card” purchases, but only if the transaction is completed via signature debit.<sup>29</sup> Regions Bank similarly offers cardholders a statement credit if

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users Stuck with new PIN fees,” ConsumerReports.org, June 2002) at 1 (finding that 5 of the then-10 largest debit card issuers charge PIN debit penalty fees, ranging from \$0.25 to \$1.50); **Attachment 25** (“Issuers Add PIN Fee In Hopes Of Getting More Signature Use,” ATM & Debit News, May 9, 2002) (finding that 11 of the 27 financial institutions surveyed charge PIN debit penalty fees, ranging from \$0.25 to \$1.50).

<sup>25</sup> **Attachment 26** (Chevy Chase Bank Schedule of Fees – Personal Accounts).

<sup>26</sup> **Attachment 27** (Higher One website, “Additional Fee-Based Services,” <https://ivcone.higheroneaccount.com/info/outadditionalfees.jsp>) (“Instead of entering your Personal Identification Number (PIN) at checkout, choose ‘credit’ and sign the receipt to avoid the PIN fee.”).

<sup>27</sup> Dove Consulting’s 2002 survey found that 56 percent of the banks it surveyed sponsor offline-only promotions. **Attachment 22** (PULSE Debit Issuer Survey: Cardholder Fees & Industry Outlook, Dove Consulting, Aug. 2, 2002) at 24.

<sup>28</sup> **Attachment 28** (“Commerce Bank Launches Skip the PIN, Sign and Win Sweepstakes for Third Consecutive Year,” Business Wire, Apr. 9, 2002); *see also* **Attachment 29** (CDC Federal Credit Union website, “Skip the Pin and win \$500 cash!”, [http://www.cdcfcu.com/asp/general\\_19.asp](http://www.cdcfcu.com/asp/general_19.asp)) (“From now until October 31, 2010, use your CDC FCU VISA debit card to make purchases, select ‘credit’ and sign to authenticate. If you are immediately prompted for your PIN, select ‘cancel’ and choose ‘credit’ to sign for your purchase. By doing this, you will be automatically entered into our Skip the Pin and Win contest!”); **Attachment 30** (First National Bank Texas website, “Skip the Pin Sign & Win Sweepstakes ...,” <http://www.1stnb.com/en/specials/sweepstakes/sweepswinners.php>).

<sup>29</sup> **Attachment 31** (Wells Fargo website, “How do Wells Fargo Check Cards work?,” <https://www.wellsfargo.com/checkcard/manage/howitworks>) (“You must press the ‘Credit’ button and sign for your purchases if you wish to earn rewards points in one of the optional Rewards programs.”). *See also* **Attachment 32** (JPMorgan Chase website, “Chase Debit Cards – Chase Continental Airlines Debit Card,” [https://www.chase.com/index.jsp?pg\\_name=ccpmapp/individuals/debit\\_cards/page/continental\\_airlines](https://www.chase.com/index.jsp?pg_name=ccpmapp/individuals/debit_cards/page/continental_airlines)) (“Qualifying purchases [for Chase Continental Airlines miles] include all debit card purchases made without using a PIN. ... If asked ‘Debit or Credit,’ always select ‘CREDIT’ and sign for the purchase.”); **Attachment 33** (US Bank

they make a certain number of signature debit transactions.<sup>30</sup> Many banks instruct cardholders to always sign for their debit purchases or press the “Credit” button to make a signature debit transaction at the merchant terminal.<sup>31</sup>

18. JPMorgan Chase recently went so far as to encourage consumers (in a customer mailer) to avoid PIN debit because “you won’t have to enter your PIN in public,”<sup>32</sup> even though the fraud associated with shoulder surfing (when someone steals your PIN by looking over your shoulder) pales in comparison to the fraud risks associated with signature debit. John Fennell, an executive of New York Community Bank, explained the \$1.50 charge assessed by his bank for each PIN debit transaction: “We are trying to encourage people to use debit cards the way they are supposed to be used, not with a PIN . . . . We want everybody to use them as credit cards.”<sup>33</sup>

19. Signature debit also has managed to completely monopolize Internet transactions, even though its lack of security over the Internet creates serious issues, and even though 79 percent of consumers surveyed in 2009 by Javelin Strategy & Research said that they would feel

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website, “Check Card FAQs,” <http://www.usbank.com/en/checkcards/questions.cfm>) (“Only non-PIN transactions earn rewards and are protected by the U.S. Bank Zero Liability Policy.”); **Attachment 34** (USAA Bank website, “Free Checking,” [https://www.usaa.com/inet/ent\\_utils/McStaticPages?key=no\\_fee\\_checking\\_main](https://www.usaa.com/inet/ent_utils/McStaticPages?key=no_fee_checking_main)) (“Select ‘credit’ at checkout; PIN-based purchases do not earn points.”); **Attachment 35** (Citibank website, “Citibank®/AAdvantage® Debit Card,” <https://online.citibank.com/US/JRS/pands/detail.do?ID=AAdvantageCard>) (“To earn AAdvantage® miles, you must press Credit when making purchases.”).

<sup>30</sup> **Attachment 36** (Regions Bank mailer).

<sup>31</sup> **Attachment 37** (Bank Atlantic website, “Debit/ATM Card FAQs,” <http://www.bankatlantic.com/FAQ/Debit-ATMCardFAQs/default.html#q07>) (“At merchants that accept Debit MasterCard, you should always press ‘CREDIT’.”); **Attachment 38** (B&K Bank website, “Debit & Credit Cards,” <https://www.bkbank.com/personal-cards.htm>) (“Always select ‘CREDIT’ and SIGN: It’s the best practice for debit use.”); **Attachment 39** (First American Bank website, “Debit/ATM Card FAQs,” <https://www.fabt.com/FAQ-debit-atm.html#6>) (“You should always press ‘CREDIT’ at any merchant that accepts our Visa Debit card.”).

<sup>32</sup> **Attachment 40** (“Counterintuitive Pitch for Higher-Fee Debit Category: JPMorgan Chase tells customers signatures are safer than PINs,” *AMERICAN BANKER*, Apr. 21, 2010).

<sup>33</sup> **Attachment 41** (Heike Wipperfurth, “Banks Sock NYers with Debit Fees: More Institutions Quietly Charge for PIN-based Buys; No End in Sight,” *CRAIN’S N.Y. BUS.*, May 20, 2002). *See also* **Attachment 42** (First Union CheckCard Two Year Risk Assessment) at 6 (“First Union is combating the growth of on-line [debit] in several ways . . . The strategy is to build a preference for always signing the receipt versus entering a PIN.”).

more comfortable using a PIN for their Internet purchases.<sup>34</sup> In the past decade, several attempts have been made to bring PIN debit to the Internet in the U.S., and none of them have gained traction because the banks have wanted to protect the card-not-present interchange rates they get from signature debit transactions over the web. Examples include Acculynk, which is currently struggling to get traction, HomeATM, and PIN-equivalent systems such as NACHA's Secure Vault Payments, which redirect the consumer's browser to his/her online bank for authentication and authorization.<sup>35</sup> After zero liability was implemented in 2000,<sup>36</sup> consumers could repudiate Internet transactions with impunity and shift the cost of those transactions — “friendly fraud” to the industry — onto the merchant. In fact, some estimates assert that as many as 66 percent of the chargebacks that merchants suffer for card-not-present transactions involve situations in which the transaction was valid and properly processed, but was either made by a family member or friend without permission or knowledge, or was simply rejected by the cardholder who changed his/her mind or who set out to game the system. Based on zero liability, signature debit has been marketed to consumers as having better “protection” than PIN debit, where the cardholder is responsible for the transaction (except in cases of merchant fraud or non-performance).<sup>37</sup>

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<sup>34</sup> **Attachment 43** (“Pulse Introduces PIN Debit for E-commerce Transactions,” News Release, July 14, 2010, <http://www.acculynk.com/us/press/PULSE%20Internet%20PIN%20Debit%20News%20Release.pdf>).

<sup>35</sup> The Interac PIN debit system in Canada uses a process similar to Secure Vault to facilitate direct debit transactions over the Internet.

<sup>36</sup> Visa and MasterCard initially adopted limitations on consumer liability in 1997, whereby consumer responsibility for losses related to offline debit fraud was zero only if the consumer reported the loss within two days of discovery, and \$50 if the loss was reported after two days. Beginning in 2000, Visa and MasterCard changed that liability to zero, regardless of when the consumer reported the fraud.

<sup>37</sup> Regulation E, 12 CFR 205.6, governs cardholder liability on PIN-based debit transactions.

20. With PIN-based alternatives suppressed, Visa reported in 2005 that Visa signature debit card transactions exceeded Visa credit card transactions over the Internet.<sup>38</sup>

21. These tactics have succeeded over the years in limiting the growth of PIN debit. In 1993, when Visa and MasterCard began promoting their signature debit programs, PIN debit accounted for roughly 60 percent of all debit transactions. By 1998, signature debit accounted for roughly 60 percent of debit transactions, almost precisely the mirror image of five years earlier.<sup>39</sup> And in 2001, Visa had a 78 percent share of the signature debit segment, and a 56 percent share of the market as a whole.<sup>40</sup> Today, signature debit is still the leading form of debit in the United States, and Visa's share of debit is now 66 percent.<sup>41</sup>

#### **E. The Convergence of Signature and PIN Debit Interchange Rates**

22. Visa also set out to drive up PIN debit interchange under the higher signature debit interchange umbrella that prevailed. First, in 1991, Visa bought one of the leading PIN debit networks, Interlink, which at the time accounted for almost 60 percent of all PIN debit transactions, and about 31 percent of all point of sale debit transactions.<sup>42</sup> Immediately upon making that purchase, Visa increased Interlink debit interchange from at-par to 45 basis points.

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<sup>38</sup> **Attachment 44** (“Visa Reports That Debit Transactions Exceed Credit Volume On The Web,” ATM & Debit News, July 14, 2005).

<sup>39</sup> See Steven C. Salop *et al.*, *Economic Analysis of Debit Card Regulation Under Section 920*, Oct. 27, 2010, at Exhibit 6 (Relative Share of PIN and Signature Debit - 1991–2009). Also, in 1998, Visa introduced a new product, Visa Check Card II, which provided both PIN debit and signature debit options. While issuance of the card was minimal, and has all but disappeared today, it charged exorbitant interchange fees. This high interchange led to significant price increases by the regional PIN debit networks. As one Visa strategy document made clear, this is exactly what Visa planned: “Pricing to protect ‘the floor.’ Defending value of on-line transaction. ... Even if product is never successful, ‘you have earned your spurs’ (regional networks will increase cost).” **Attachment 45** (Visa handwritten notes) at 1625777. These PIN debit price increases diminished merchants’ incentives to install PIN pads, thus helping to further entrench signature debit.

<sup>40</sup> **Attachment 18** (General Purpose Debit Card Market Purchase Volume Shares, 1995–2006).

<sup>41</sup> See Steven C. Salop *et al.*, *Economic Analysis of Debit Card Regulation Under Section 920*, Oct. 27, 2010, at Exhibit 2 (Debit Card Market Shares Based on Purchase Transactions and Dollar Volumes - 2009) (In 2009, signature debit accounted for 67 percent of total debit transactions, while Visa debit (signature and Interlink combined) accounted for 66 percent of total debit transactions).

<sup>42</sup> THE NILSON REPORT (ISSUE 523), May 1992, at 4-5; THE NILSON REPORT (ISSUE 525), June 1992, at 8.

This change was unprecedented; at the time, all of the competing PIN debit networks either were at par or had reverse interchange.<sup>43</sup>

23. Throughout the 1990s, Visa kept Interlink's rates higher than those of any other PIN debit network.<sup>44</sup> Then, beginning in 1999, Visa began raising those rates even higher to close the gap between PIN and signature debit rates. For small non-supermarkets,<sup>45</sup> Visa raised Interlink rates in 1999, 2002, 2005, 2009 and 2010. In each instance, the price increase rendered Interlink as the highest-priced PIN debit network, and the 2010 increase converged Interlink with signature debit rates. Visa raised the Interlink rates charged to the largest non-supermarket merchants in 1999, 2005 and 2010, and each increase rendered Interlink the highest-priced PIN debit network. The same can be said about Interlink's supermarket rates. For small supermarkets, Interlink raised its rates in 1999, 2002, 2005, 2008 and 2010. Each increase left Interlink as the highest-priced PIN debit network, and the 2010 increase converged Interlink and signature debit rates. Interlink rates charged to the largest supermarkets were increased in 1999, 2002, 2005 and 2010. Interlink's rates charged to the largest supermarkets are currently higher than comparable rates set by the competing PIN debit networks.<sup>46</sup>

24. Competing PIN debit networks raised their interchange rates under the umbrella created by Visa in order to retain the business of issuers. Merchants had little choice but to

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<sup>43</sup> **Attachment 46** (PIN Debit Network Interchange Fees, 1992 to 1999).

<sup>44</sup> **Attachment 47** (Visa document entitled "POS Debit Market 1992–2000") at 1571729 (referencing "Interlink's higher interchange" relative to "Non-Interlink" PIN debit networks for 1991–1997).

<sup>45</sup> According to Interlink's 2010 interchange fee schedule, small merchants are defined as any merchant whose Interlink volume was less than 17.5 million transactions or \$650 million in the 12-month period ending September 30, 2009. These small merchants pay the Interlink "Standard" interchange fee rate. According to the same fee schedule, the largest merchants are defined as any merchant whose Interlink volume was greater than 88 million transactions and \$4 billion in the 12-month period ending September 30, 2009. These largest merchants pay the Interlink "Tier 1" interchange fee rate.

<sup>46</sup> See Steven C. Salop *et al.*, *Economic Analysis of Debit Card Regulation Under Section 920*, Oct. 27, 2010, at Exhibit 1a-1d (Interchange Fee For Selected Debit Networks, 1990–2010).

accept these price increases because if they refused to accept Interlink or its competitors in the PIN debit segment, the transaction would default to the more expensive signature debit product.<sup>47</sup> These price increases resulted in a market-wide effective interchange increase of 234 percent between 1998 and 2006.<sup>48</sup> And since 2006, PIN debit interchange fees have continued to increase dramatically. By 2010, for many retail categories, signature and PIN debit interchange rates were virtually the same.<sup>49</sup>

25. Visa was able to drive this movement to increase PIN debit interchange rates, in large part, because of its ability to enter into exclusive and near-exclusive issuance deals with banks that resulted in a large percentage of debit cards in the marketplace bearing Interlink as the only PIN debit option. By 2004, Visa had exclusive (or near-exclusive) debit deals with virtually all of the major debit issuing banks, totaling hundreds of banks.<sup>50</sup> These deals both expressly obligated banks to issue all of their signature debit cards as Visa cards and effectively obligated banks to route all or most of their PIN debit transactions over Visa's Interlink network. To entice banks to issue Interlink on an exclusive (or near-exclusive) basis, Visa offered banks large volume-based rebates from the fees and assessments that these issuers paid Visa as well as substantial upfront "marketing" payments.

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<sup>47</sup> In September 2001, a handful of merchants, including Wal-Mart, Publix Supermarkets, Walgreens and Racetrac Petroleum, publicly announced their intention to drop Interlink to counter a price increase it was planning to implement the following month. As a result, Interlink delayed its price increase until March 2002. This is the only example of merchant resistance to the huge increases in online debit interchange rates in the past two decades that I can recall. And all of those merchants continue to accept Interlink, notwithstanding its ongoing rate increases.

<sup>48</sup> **Attachment 48** (Weighted Average PIN Debit Interchange Fees, 1998–2006).

<sup>49</sup> See Steven C. Salop *et al.*, *Economic Analysis of Debit Card Regulation Under Section 920*, Oct. 27, 2010, at Exhibit 1a-1d (Interchange Fee For Selected Debit Networks, 1990–2010).

<sup>50</sup> **Attachment 49** (*United States v. Visa U.S.A. Inc.*, No. 98 Civ. 7076 (BSJ), 2007 WL 1741885, at \*1 (S.D.N.Y. June 15, 2007)) ("By early 2004, Visa [who at the time commanded 80% of the offline debit market] had renewed long-term contracts with most of its member banks, essentially locking up 89% of the volume of its top 100 debit issuers."). Many of these deals were broad-based dedication agreements that covered both credit cards and debit cards.



26. This strategy changed the debit market between 2001 and 2006. During this time frame, Visa entered into exclusive or near-exclusive deals with numerous large issuers.<sup>51</sup> In 2001, Interlink's share of PIN debit was 10 percent, smaller than STAR's 55 percent.<sup>52</sup> By 2006, after Visa had entered into exclusive or quasi-exclusive deals with a number of major banks, Interlink's 39-percent share exceeded STAR's 32-percent share.<sup>53</sup> At the same time, with Interlink as the leading PIN debit network (accounting for nearly 40 percent of PIN debit volume), Visa's share of the total debit market had increased to 63 percent.<sup>54</sup>

27. The proliferation of deals that resulted in Interlink being the exclusive or primary PIN debit network option on many debit cards has enhanced and cemented Visa's ability to increase PIN debit pricing without losing merchant acceptance. With other PIN debit marks removed, merchants have little or no choice but to accept whatever price Interlink forces them to pay. They cannot route transactions to a cheaper PIN debit network. And if they reject Interlink, they will merely move the transaction to Visa's even more expensive signature debit network.

28. Today, Interlink is by far the leading PIN debit network.<sup>55</sup> The extent to which it dominates the market is apparent from the merchant data that has been collected for this submission. That data shows that large merchants with sophisticated programs that route PIN transactions away from Interlink in virtually all cases still receive approximately 42 percent of their debit volume as Interlink transactions. Given the sophistication of this steering program,

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<sup>51</sup> **Attachment 49** (*United States v. Visa U.S.A. Inc.*, 2007 WL 1741885) at \*1.

<sup>52</sup> **Attachment 18** (General Purpose Debit Card Market Purchase Volume Shares, 1995–2006).

<sup>53</sup> *Id.*

<sup>54</sup> *Id.*

<sup>55</sup> See Steven C. Salop *et al.*, *Economic Analysis of Debit Card Regulation Under Section 920*, Oct. 27, 2010, at Exhibit 3 (PIN Debit Networks' Share of Debit Market - 2009) (indicating that Interlink's 13.8 percent share (in terms of transactions) of total debit in 2009 was greater than the combined debit share of the next three-largest PIN debit networks (STAR – 6.1 percent, PULSE – 4.2 percent, and Maestro – 2.4 percent)).

this result can be treated as a proxy for the percentage of PIN-capable debit cards that bear only Interlink functionality. This shows that hundreds of millions of debit cards in the market today have no PIN debit alternative to Interlink. As such, roughly 56 percent of Visa signature debit cards bear only Interlink as the PIN debit option on the card.<sup>56</sup>

### III. DISCUSSION OF INDUSTRY FACTS RELEVANT TO RULEMAKINGS

#### A. Banks Will Continue to Issue Debit Cards in a Mature Market Without Interchange

##### *i. Banks Make Money on Debit Cards Without Interchange*

29. Debit cards are a core convenience that banks provide to consumers. Many bankers view the debit card as an access device with the demand deposit account (“DDA”) being the true product.<sup>57</sup> Without interchange, debit cards provide numerous benefits to banks that will continue to justify their issuance post-regulation. These benefits include: (i) displacing more costly cash and check transactions;<sup>58</sup> (ii) motivating cardholders to maintain greater balances, which banks can then lend;<sup>59</sup> and (iii) helping the bank to cross-sell other lucrative services such

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<sup>56</sup> It is also worth noting that approximately 13 percent of debit cards bear only PIN debit functionality and 7 percent are signature-only, with the latter cards concentrated in the Midwest, particularly Minnesota.

<sup>57</sup> See, e.g., **Attachment 17** (Deposition testimony of Stephen Cole, Cash Station, Dec. 2, 1999) at 159 (Financial institutions view “[t]he credit card [as] a product unto itself; a debit card is generally not viewed that way. It is an access device to another set of products ....”).

<sup>58</sup> **Attachment 22** (PULSE Debit Issuer Survey: Cardholder Fees & Industry Outlook, Dove Consulting, Aug. 2, 2002) at 27 (“Our philosophy around PIN debit is that, even without making money off of it, it saves us money because it’s one less check that we need to process.”); **Attachment 50** (Deposition testimony of Dale Dooley, Shazam, Inc., Sept. 22, 1999) at 85-86 (testifying that from the beginning, banks wanted to utilize online debit cards to eliminate the expense of paper checks, *i.e.*, “to begin working towards an electronic delivery system to eliminate the need to process paper and courier those checks around”); **Attachment 51** (Visa Deposit Access Products, Nov. 1995) at 0740771 (“shifting even only a small percentage of these cash and check payments to deposit access cards adds up to a very large opportunity in terms of potential transactions”).

<sup>59</sup> **Attachment 5** (Deposition testimony of Arthur Kranzley, MasterCard, Feb. 22, 2000) at 77-78 (testifying that the prevailing view of U.S. banks in the early 1990s was that online debit would increase “the revenues associated with the account” by encouraging account retention, attracting new accounts, increasing account usage, and motivating consumers to maintain higher checking account balances).

as credit cards, mortgages and home equity lines of credit.<sup>60</sup> It is worth noting that DDAs constitute a major portion of the profitability in retail banking, with some consultants estimating that 87-90 percent of bank profits are derived from this core relationship.<sup>61</sup>

30. Moreover, debit cards enhance the “stickiness” of the cardholder’s relationship with his or her bank. As Visa stated in a circular on its debit program, debit cards “[s]trengthen the checking account relationship ... [by] enhanc[ing] the value of checking account services by building customer loyalty and protecting core deposits.”<sup>62</sup> Once consumers use their debit cards with regularity, the frequent interactions with their banks open up cross-selling opportunities that dramatically reduce the typically-high cost (*e.g.*, \$125 for credit cards) of acquiring new customers.

31. I anticipate that the banks would argue that interchange in some form is necessary to give them incentives to issue debit cards. This is false and it is belied by statements that bankers and payment card executives have made over the years.<sup>63</sup> I have reviewed testimony

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<sup>60</sup> **Attachment 52** (Deposition testimony of John P. Danforth, Ph.D., Visa expert, May 5, 2000) at 332-333 (“[T]he availability of debit cards, off-line debit cards, in [financial institutions’] product arsenal has enhanced their ability to deepen relationships with their customers and to attract new customers ... to give them multiple service offerings and to increase the likelihood that the customer will retain the relationship with that institution over a prolonged period of time. ... I’ve seen instances where bankers have attempted to cross-sell a wide range of services, including mortgage loans, consumer loans, lines of credit, off-line debit cards, brokerage services.”); **Attachment 53** (Visa memorandum from Bill Stewart to Sandy English re: “Merchant Issues Surrounding Debit Cards,” Apr. 25, 1997) at 1153385 (stating that “[t]he debit card is meant to enhance an established relationship with a DDA customer”).

<sup>61</sup> Data from First Manhattan Consulting Group (among drivers of consumer profits, 87 percent derives from core deposits (checking, savings, MMDA, CDs); among drivers of small business profits, 90 percent derives from core deposits); *see also* **Attachment 54** (MasterCard memorandum from Jason L. Rodgers to Brantley Orrell re: “Car Rental Debit Acceptance,” Mar. 3, 1997) at MD1060-0601 (stating that banks will “increase DDA accounts by almost any means. Not to issue a debit card on request would be contrary to their mission.”).

<sup>62</sup> **Attachment 55** (“The Strength & Growth of Check Cards: A Client Perspective,” Visa Advertising Supplement to American Banker) at 0496044; *see also* **Attachment 5** (Deposition testimony of Arthur Kranzley, MasterCard, Feb. 22, 2000) at 270-271 (“Banks were very interested in building customer loyalty to their deposit accounts[,] in acquiring new customers for their accounts and retaining their customers longer which increases profitability because the longer you retain a customer, the more profitable.”).

<sup>63</sup> It is worth noting that even TCF Financial Bank, which has filed a lawsuit complaining about the potential for the regulations to result in “below-cost pricing,” admitted on an analyst call that it will continue to issue debit cards post-regulation regardless of what interchange rates it is permitted under the regulations to recover.

from the public *Visa Check* record and note the following testimony that conflicts with the positions that bankers are taking today:

- “Point of sale debit cards would be issued because, if nothing else, for the reason they were originally issued. They were issued as ATM cards. Again, it’s not about — certainly initially it was, and I believe still primarily remains, that it’s about an access, providing remote access, convenient access to the consumer’s account, not driven primarily by the revenues associated with the card.”<sup>64</sup>
- “Interchange was a component of revenue for [a bank’s] point of sale debit program, but the majority of the profitability was based on the use of the account.”<sup>65</sup>
- “[T]here is more to issuing a product to a customer than just a particular return on a particular product and as I believe I stated earlier, that this added convenience and value to our overall debit card and our DDA account by giving customers access to merchants.”<sup>66</sup>
- “I view the customer relationship, and gaining a greater share of it, as the primary driver of profitability. Therefore, I believe you should view adding functionality to the debit card in the context of what it means to deepen the bank’s relationship with the customer. . . . [and] if you want to pump up your profits, do a better job of tying your debit card strategy to your overall retail marketing approach.”<sup>67</sup>

ii. *Debit Cards Displace More Expensive Check and Cash Transactions*

32. Lastly, debit cards replace cash and check transactions that are more costly to the issuer.<sup>68</sup> For example, a 2002 PULSE issuer survey disclosed that all of the issuers surveyed

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<sup>64</sup> **Attachment 56** (Deposition testimony of Steven VanFleet, MasterCard, Nov. 24, 1999) at 394.

<sup>65</sup> **Attachment 5** (Deposition testimony of Arthur Kranzley, MasterCard, Feb. 22, 2000) at 272; *see also id.* at 77-78 (testifying that the prevailing view of U.S. banks in the early 1990s was that online debit would increase “the revenues associated with the account” by encouraging account retention, attracting new accounts, increasing account usage, and motivating consumers to maintain higher checking account balances).

<sup>66</sup> **Attachment 57** (Deposition testimony of Thomas Sladowski, Chase Manhattan Bank, Jan. 28, 2000) at 154.

<sup>67</sup> **Attachment 58** (Expert Report of Kenneth J. Morrison, Apr. 4, 2000, *In re Visa Check/MasterMoney Antitrust Litigation*, No. 96-CV-5238 (E.D.N.Y.) (J. Gleeson)) at ¶ 29 (citing statement of Robert Hill, Mellon Bank).

<sup>68</sup> **Attachment 59** (Statement of Russell W. Schrader, Senior Counsel and Vice President, Visa U.S.A. Inc., Hearing on Debit Card Issues, Subcommittee on Financial Institutions and Consumer Credit Committee on Banking and Financial Services, Sept. 24 1997) at 2 (“Consumers are attracted to Visa debit cards as a replacement for cash and checks.”); **Attachment 60** (Untitled Visa document) at 0468600 (“Check Cards Are Used to Displace Cash and Checks”); **Attachment 61** (Letter from Susan B. Forman, Visa Director of Corporate Communications, to Kristen Strand, May 1, 1997) at 0331563 (“Debit cards are not meant to replace credit cards, but to serve as a convenient and secure new payment alternative to cash and checks.”); **Attachment 62** (S.J. Diamond, “For What it’s Worth:

expressed a preference for debit card transactions over checks.<sup>69</sup>

## **B. Debit Card Issuer Costs**

### *i. General Costs Versus Authorization, Clearing and Settlement Costs*

33. The costs that can be most easily identified for virtually all issuers are the costs of authorizing, clearing and settling debit cards transactions. Authorization is the process of confirming, by electronic message, whether the cardholder has sufficient funds to pay for the purchase. Clearing involves delivering final transaction data that the issuers can post to the cardholders account, and calculating the fees and charges that should apply to issuers and acquirers. Settlement involves the final calculation of the net financial position of issuers and acquirers. With PIN debit, all of this is accomplished in a single message whereas, with signature debit, this process is split into two messages: the first message concerns the authorization and the second clears and settles the transaction.

34. These processing costs are well known in the industry, as processing is the backbone of the industry and the costs have declined significantly over time. Moreover, these costs do not vary significantly by issuer, as significant economies of scale are reached by most of the debit card issuers, particularly those that have more than \$10 billion in assets.

35. The incremental cost of authorizing PIN debit transactions (with automatic clearing and settlement in a single message) was approximately \$0.0033 in 2004.<sup>70</sup> The incremental cost of authorizing, clearing and settling dual-message signature debit transactions

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Debit Cards Pay Off — And Do it Really Fast,” LOS ANGELES TIMES, Apr. 22, 1985) (debit cards are “more ‘cost efficient’ (i.e., cheaper) than tellers or check processing.”).

<sup>69</sup> **Attachment 22** (PULSE Debit Issuer Survey: Cardholder Fees & Industry Outlook, Dove Consulting, Aug. 2, 2002) at 27.

<sup>70</sup> First Annapolis Consulting, “STAR CHEK® Direct Product Overview” Prepared for First Data, June 22, 2004, at 25.

was approximately \$0.0136 in 2007.<sup>71</sup> Both sources for these costs refer to other “card processing costs” related to the transactions, but the amounts indicated are likely limited to the pure costs of authorization, clearing and settlement that are experienced by issuers.

36. Other sources corroborate these figures. For example, First Data processes an estimated 55 percent of signature debit transactions in the United States. At its scale, it typically charges larger clients no more than a penny for authorization and no more than slightly over a penny for clearing and settlement. Assuming a gross margin of 30 percent, that would put the marginal cost of a signature debit transaction at \$0.015.

37. The incremental cost of ACH debit also is about \$0.023.<sup>72</sup>

ii. *The Remaining Costs of Debit Card Issuance Are Subject to Wide Variations in Reporting and Cost Allocations*

38. As noted above, aside from authorization, clearing and settlement, debit card issuers incur the following costs:

- Network connectivity: the costs of connecting to various networks;
- Network fees and assessments: the fees and assessments charged by the networks that issuers participate in;
- Fraud processing and monitoring: the costs of fraud processing and monitoring, including transaction-based risk management and fraud detection expenses associated with fraud monitoring systems, such as neural networks, and risk management expenses such as lost/stolen reporting costs;
- Back-office support: the costs of claims handling, adjustments, disputes and chargeback processing;
- Customer service and card services: the costs of customer support from call centers, and expenses for card issuance, production and fulfillment;

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<sup>71</sup> First Annapolis POS Debit Issuer Cost Study Comprehensive Report, Oct. 23, 2007, at 26, 28. This is consistent with the fact that the First Annapolis survey shows that, on a total cost basis, PIN debit costs are 50 percent lower than signature debit costs. *Id.* at 23.

<sup>72</sup> **Attachment 63** (Global Concepts Inc., “A Prognosis & Prescription for the ACH Business,” NACHA Payments 2006, May 9, 2006) at 10.

- Net losses: the costs of all losses charged off by the bank for fraud, chargebacks and bad “credit” for signature debit issuers; and
- Compliance: the costs of complying with legal and regulatory regimes related to issuers’ programs, including network and PCI DSS compliance.<sup>73</sup>

39. Some of these costs, including network fees and assessments, can be readily isolated and tracked with some accuracy. Certain other costs are fixed costs, including back-office costs, customer service costs and compliance costs. The remaining costs that issuers typically incur are rife with potential reporting inaccuracies related to cost accounting and allocation systems that vary widely by issuer. And some of them reflect inefficiencies that signature debit issuers, which predominately outsource the processing of these transactions, have been willing to incur, in large part, because of the high interchange and overdraft fees they receive on those programs that have substantially exceeded the excessive costs that some of these programs incur.

40. Fraud processing and monitoring costs, particularly for signature debit issuers, cannot be isolated without a rigorous allocation that differentiates between the costs properly allocable to signature debit versus credit for issuers that issue both products.<sup>74</sup> These costs vary widely by bank. In this regard, fraud prevention technology, such as neural networks that are used to identify potentially suspicious transactions, normally operate on both signature debit and credit card transactions. Because fraud on credit cards is usually higher than fraud on signature debit cards, this differential must be taken into account with the allocation.<sup>75</sup> Moreover, these

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<sup>73</sup> Rewards and marketing support costs are not included in this list.

<sup>74</sup> Many of the largest debit issuers, including JPMorgan Chase, Bank of America, Wells Fargo and US Bank, issue both credit and debit cards.

<sup>75</sup> Network connectivity costs for many banks also should be allocated between credit card and signature debit for issuers that issue both and for PIN debit and ATM functionality.

costs can vary considerably by bank, especially because the underwriting decisions of banks vary widely and can influence the need for fraud prevention investments as well as the application of business rules, which are discussed below. As First Annapolis observed in its 2007 study of debit issuer costs, there is “[g]reat variability in both signature and PIN costs ... among the participants.”<sup>76</sup> Notably, First Annapolis observed that “PIN-POS debit costs are lower than signature debit for every survey participant and by an average of 102%.”<sup>77</sup>

41. As for the inefficiencies that many signature debit issuers incur, signature debit issuers often outsource their processing and pay high fees for that service. Those fees include services connected to account holds and overdrafts (issues created by the float risks of signature debit), as well as practices discussed below that enhance those risks to generate profits via overdraft fees for banks. Moreover, these costs almost certainly include additional services, such as chargebacks and other service costs that are significantly more expensive than those costs are with PIN debit.

42. With PIN debit, issuers usually decline authorization requests if the cardholder has insufficient funds in his or her DDA.

43. With signature debit, however, because those transactions often take 1-3 days to clear and settle for most transactions (as recently as 2005, 77 percent of Visa signature debit transactions took up to 2 or 3 days to complete),<sup>78</sup> there is an inherent risk that some transactions will result in overdrafts. This risk is enhanced by the fact that cardholders typically do not understand that their accounts are not reduced immediately for signature debit transactions.

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<sup>76</sup> First Annapolis POS Debit Issuer Cost Study Comprehensive Report, Oct. 23, 2007, at 31.

<sup>77</sup> *Id.*

<sup>78</sup> **Attachment 64** (Adam Frisch and Stephen Stout, “Visa 101: Overview of a Payments Company,” UBS Investment Research, June 15, 2005) at 50, 52.



44. Some issuers receive training from outsourcers on how to manipulate their DDA debit posting process in order to maximize the potential for obtaining overdraft fees — *e.g.*, by clearing larger transactions such as mortgage payments earlier in the day, or by bunching smaller transactions at the end of the day, leaving cardholders little or no opportunity to replenish their accounts. One top-40 bank (in terms of assets) manipulated its DDA debit posting over a six-month period, increasing overdrafts from 48 percent of total signature debit revenue to more than 66 percent.<sup>79</sup> FDIC banks generate 41 percent of their overdrafts from debit cards.<sup>80</sup> Bank of America recently reported that 60 percent of its DDA overdrafts were the result of signature debit activity.<sup>81</sup> I have estimated that overdrafts comprise as much as 50 percent of industry signature debit revenue — in effect as much as interchange. More importantly, studies have shown that bank gross margins on overdrafts are 94 percent.<sup>82</sup>

45. I have seen statements by banks in public filings about their anticipated interchange post-regulation. From these statements, one can estimate the costs that these banks think they will be permitted to recover as interchange after the regulations go into effect. According to Bank of America's pronouncements, it believes it likely will be able to recover between \$0.10-\$0.18 under the regulations.<sup>83</sup> Those costs are obviously not limited to the processing costs associated with authorization, clearing and settlement. They likely include additional costs, including network connections and fees, fraud prevention and risk management

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<sup>79</sup> Signature Debit NSF Analysis, Bank Client of BetterBuyDesign.

<sup>80</sup> **Attachment 65** (Kathy Chu, "Bank of America to deny debit card overdrafts," USA TODAY, Mar. 10, 2010, [http://www.usatoday.com/money/industries/banking/2010-03-10-bankoverdraft10\\_ST\\_N.htm](http://www.usatoday.com/money/industries/banking/2010-03-10-bankoverdraft10_ST_N.htm)).

<sup>81</sup> **Attachment 66** (Andrew Martin, "Bank of America to End Debit Overdraft Fees, THE NEW YORK TIMES, Mar. 9, 2010, <http://www.nytimes.com/2010/03/10/your-money/credit-and-debit-cards/10overdraft.html>).

<sup>82</sup> According to data from Celent.

<sup>83</sup> **Attachment 67** (Bank of America Investor Fact Book, Mid Year 2010, <http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9NjI0Mjd8Q2hpbGRJRjRD0tMXxUeXBIPtM=&t=1>) at p. 45.

costs, card production and operation costs, DDA posting and NSF decisioning and customer service expenses (mostly related to signature debit chargeback costs). TCF, for its part, predicts that the interchange fee it can recover will be 26 basis points.<sup>84</sup> Once again, this implies a view that it will recover costs well in excess of authorization, clearing and settlement, including all of the categories that Bank of America apparently believes it will recover.

### C. Industry Data on Fraud

#### i. Merchants Bear a Substantial Portion of the Fraud Costs

46. In a 2010 analysis of fraud in the payments business, Rick Sullivan of the Federal Reserve Bank of Kansas City concluded that issuers bear 59 percent of fraud costs, with merchants picking up the remaining 41 percent.<sup>85</sup> According to Sullivan's analysis, issuers lost slightly more than \$2 billion in fraud losses in 2006 and merchants lost \$1.4 billion. Notably, this analysis was not limited to debit card fraud, although his appendix provides data sufficient to determine that issuer and merchant fraud losses for *debit card* transactions at the point of sale and over the Internet were about equal in 2006.<sup>86</sup> While the Sullivan paper provides a good threshold discussion of the issues associated with fraud, it provides only a first step towards understanding the relative burdens that issuers and merchants bear with respect to fraud in the U.S. payment system. As Sullivan acknowledges, because the data are incomplete, the Sullivan

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<sup>84</sup> **Attachment 68** (*TCF National Bank v. Bernanke*, No. 10-4149 (D.S.D. filed Oct. 12, 2010)) at ¶ 101.

<sup>85</sup> **Attachment 69** (Richard J. Sullivan, *The Changing Nature of U.S. Card Payment Fraud: Industry and Public Policy Options*, Federal Reserve Bank of Kansas City, Economic Review, Second Quarter 2010, <http://www.kansascityfed.org/Publicat/Econrev/pdf/10q2Sullivan.pdf>) at 112-113.

<sup>86</sup> According to the appendix, issuers incurred debit card fraud losses of \$365 million, which was comprised of \$336 million in signature debit losses and \$28 million in PIN debit losses. The appendix calculates that merchants incurred debit card fraud losses of \$233 million for card-present transactions, but it does not report a separate measure of debit card fraud losses for card-not-present (*i.e.*, Internet) transactions — rather it reports a combined debit card and credit card fraud loss of \$900 million for card-not-present transactions. If just 16 percent of these combined losses were attributable to signature debit, a metric that is less than signature debit's general percentage of the overall volumes, then merchants and issuers would have incurred identical losses (\$365 million) for debit card transactions in 2006.

paper did not fully account for the massive and soaring costs of PCI DSS compliance and liability for merchants and, therefore, it likely understates the extent to which merchants bear the costs of fraud in the U.S payment system.

47. For card-not-present transactions, merchants — not issuers — bear virtually all of the fraud risk. And for Internet transactions, the level of fraud is significantly higher than in card-present transactions. These two factors, combined with a dramatically increasing share of signature debit volume being transacted over the Internet year after year, mean that merchants are bearing an ever-greater share of debit card fraud. To demonstrate this effect, I have updated the analysis that Rick Sullivan did, using the fraud rates he reports in his appendix along with 2009 debit card transaction volumes and a recent measure of signature debit usage over the Internet. The updated analysis shows that issuer debit card fraud losses were \$499 million in 2009, while merchant debit card fraud losses were significantly higher — \$689 million.<sup>87</sup> These higher merchant debit card fraud losses do not even include the tremendous amount of PCI DSS costs that merchants have incurred.

48. In 2009, Aite Group interviewed 30 industry risk managers about their fraud and chargebacks, and concluded that total fraud was \$8.6 billion for the U.S.<sup>88</sup> Other studies (*e.g.*, Mercator Advisory Group and LexisNexis) have much higher estimates of merchant costs<sup>89</sup> —

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<sup>87</sup> Issuers suffered \$499 million in debit fraud losses (\$457 million in signature debit fraud losses and \$42 million in PIN debit fraud losses), whereas merchants suffered \$689 million in debit fraud losses (\$245 million in card-present and \$395 million in card-not-present signature debit fraud losses, and \$49 million in PIN debit fraud losses). 2009 debit card volumes for this analysis were pulled from The Nilson Report. According to the 2009 Debit Issuer Study, 9 percent of signature debit transaction volume occurred over the Internet in 2008. **Attachment 81** (2009 Debit Issuer Study, Tony Hayes *et al.*, BAI Payments Live, Virtual Conference & Expo, Oct. 21-22, 2009) at 7.

<sup>88</sup> **Attachment 70** (“Card Fraud in the United States: The Case for Encryption,” Aite Group, LLC, 2010, <http://www.aitegroup.com/Reports/ReportDetail.aspx?recordItemID=625>).

<sup>89</sup> *See, e.g.*, **Attachment 71** (*Credit Card Issuer Fraud Management*, Report Highlights, Mercator Advisory Group, Dec. 2008, [http://www.sas.com/news/analysts/mercator\\_fraud\\_1208.pdf](http://www.sas.com/news/analysts/mercator_fraud_1208.pdf)) at 7 (Figure 4) (reporting potential U.S. credit card-related fraud losses in 2007 at likely \$16 billion and counting); **Attachment 72** (*2010 LexisNexis True Cost of Fraud Study*, <http://solutions.lexisnexis.com/forms/EM10Retail2010TCFWebinarFall42302>) at 8 (“The true

something Rick Sullivan agrees needs to be studied and understood better, given that “lack of coordination in the payments industry has impeded security improvements.”<sup>90</sup> I estimate that issuer costs for fraud were \$2.4 billion in 2009.<sup>91</sup> In my view, merchant costs and losses were probably much higher, in large part, because of the soaring costs of PCI DSS compliance and liability.

49. The PCI DSS compliance program imposes enormous costs, and the network fees and fines regarding data breaches impose punitive liabilities on merchants. The PCI DSS standards were created by the five major card brands (Visa, MasterCard, American Express, Discover and JCB) to protect the magnetic stripe system against fraud by imposing stringent data security requirements on all participants in the system, particularly merchants (even though merchants account for well less than half of the data breaches in the system). To accept payment cards, merchants must be certified as “PCI DSS-compliant,” and that requires a certification that the merchant does not store or transmit any payment card information in-the-clear. To obtain the appropriate certification, merchants must hire a Qualified Security Assessor (“QSA”) who assesses whether the merchant’s systems, including its terminals, servers and data centers, are compliant. Merchants must undergo this process and bear additional monitoring, auditing and recertification costs on an annual basis.

50. In addition, if a breach occurs at a merchant location, even if the merchant has been previously deemed compliant, the merchant is immediately determined to be non-compliant and will be exposed to fines and liabilities that likely exceed the reissuance and fraud costs

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cost of fraud for retail merchants in 2010 is estimated at approximately \$139 billion.”). In my interview with Rick Sullivan for his paper, we discussed both of these reports and potential flaws in their methodologies.

<sup>90</sup> **Attachment 69** (Richard J. Sullivan, *The Changing Nature of U.S. Card Payment Fraud: Industry and Public Policy Options*, Federal Reserve Bank of Kansas City, Economic Review, Second Quarter 2010) at 121.

<sup>91</sup> Of the \$6.89 billion in global fraud reported by The Nilson Report for 2009, I assume 35 percent, or \$2.41 billion, was attributable to the United States. THE NILSON REPORT (ISSUE 951), June 2010, at 8.

associated with the breach.<sup>92</sup> This stems from the fact that if a breach occurs, the merchant must pay all reissuance costs, as well as cover the estimated increase in fraud in the area of the breach — an estimate that likely exceeds the actual increase in fraud.<sup>93</sup> Merchants must pay operational costs for issuer replacement of compromised cards at a standard rate of \$1.00 per card.<sup>94</sup> For large breaches involving more than 10,000 compromised cards, the merchant must pay fines to Visa and MasterCard and fraud reimbursements to issuers that could be in the millions.<sup>95</sup> To make matters even worse, with some of the merchant breaches of which I am aware, the merchant was using software that had been deemed PCI DSS-compliant by Visa, MasterCard or the processor.

51. Moreover, merchants have no practical ability to challenge any of the subjective determinations of the potential fraud associated with the breach because the networks and issuers have designed the system to avoid any direct contractual relationship with the merchant. Networks can unilaterally assert that certain fraud losses suffered by issuers are possibly the result of a data breach at a given merchant, requiring that merchant to pay substantial fraud-related fines and assessments without the network having to offer any evidence at all supporting the assertion (typically the network bases its determination on certain “algorithms” of its own

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<sup>92</sup> The problems with this system can be highlighted by the fact that after the TJX breach, which was prominently reported, the payment networks and acquirers did not warn merchants about the nature of the attack. To make matters worse, the software that was used by TJX that was exposed to this attack was reported to be in compliance in 2008. Because of these failures, I am aware of large merchants being exposed to breaches, including breaches that were caused by their processor’s failure to become compliant.

<sup>93</sup> **Attachment 73** (“Updated Account Data Compromise Recovery (ADCR) Frequently Asked Questions,” Visa, Mar. 19, 2008, [http://www.rbsworldpay.us/247/pci\\_docs/ADCR\\_FAQs.pdf](http://www.rbsworldpay.us/247/pci_docs/ADCR_FAQs.pdf)). If a data breach includes more than 10,000 cards, Visa’s ADCR program will apply and, under this program, merchants are assessed penalties based on the difference between “normal” incidence of fraud in the area in question and the higher fraud that may be caused by the compromised accounts. Visa caps this exposure at 2-5 percent of the merchant’s total Visa volume, a threshold that exposes the merchant to costs that easily could exceed the fraud at issue.

<sup>94</sup> *Id.* at 6.

<sup>95</sup> TJX paid an estimated \$250 million for the breach that occurred in its compliant system.

design). Further, under the terms of most merchant contracts, these fines and assessments can be seized from the merchant's escrow account without any advance notice to the merchant. As the CIO of a major retailer testified to Congress last year, the ultimate result is that "retailers pay the costs of the fraudulent transactions, either through chargebacks or credit card company imposed fines and penalties. All of this arises from rules that initially grew from a card monopolist that we have no choice but to do business with, or risk the loss of a large portion of our business."<sup>96</sup>

52. In May 2008, an industry consultant estimated that the cost of just getting merchants "compliant" (which, as noted, means nothing if a breach occurs) might approach \$5.5 billion.<sup>97</sup>

53. This figure represents the upfront costs of compliance, however. A recent survey of 33 members of the Merchant Advisory Group trade association indicated that since PCI DSS compliance began, they had paid a total of \$1.29 billion in PCI DSS costs, including fines and liability assessments to compensate issuers.<sup>98</sup> Extrapolating this figure across the merchant population, as a whole, results in an estimated \$10 billion in PCI DSS costs to date in terms of compliance and liability expenditures. This is corroborated by estimates derived from merchant data compiled to assist the Board in its rulemakings.<sup>99</sup> Using a similar methodology, but with a

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<sup>96</sup> **Attachment 74** (Written Testimony of Michael Jones [of Michaels Stores, Inc.] Before the Emerging Threats, Cybersecurity, and Science and Technology Subcommittee, Mar. 31, 2009, <http://www.homeland.house.gov/SiteDocuments/20090331142012-77196.pdf>) at 8.

<sup>97</sup> **Attachment 75** ("A Deeper Dive into the Cost of PCI Compliance," Payments News, May 16, 2008, <http://www.paymentsnews.com/2008/05/more-on-the-cos.html>).

<sup>98</sup> **Attachment 76** (POS Terminal Survey Results, Merchant Advisory Group, Oct. 2010) at 9.

<sup>99</sup> Some of these costs come from investing in interim solutions, such as end-to-end encryption and tokenization to reduce a merchant's exposure to PCI DSS issues. End-to-end encryption involves disguising card credentials via an encrypting algorithm secured by keys that enable only trusted parties (*e.g.*, issuers) to decrypt the transmission to identify and access the transaction account. Typically, this encryption is done on the card, via a computer chip, so that the credentials are never exposed all the way through to the issuer authorization. Tokenization involves the conversion of the card credentials, usually at the moment of the receipt of the credentials, and the secure transposition into an unidentifiable token for subsequent processing. This token is usually passed to a trusted third

more specific assessment of fines and liabilities, the annual cost of PCI DSS compliance and fines will exceed the total bank cost of payment card fraud in the United States.

54. One large merchant that compiled data for this submission spent 41 basis points on PCI DSS compliance per dollar of general purpose card volume from 2007–2009.

55. If merchants choose to purchase insurance against their exposure to PCI DSS fines, assuming such insurance is even available to them in the market, there are substantial costs and the coverage is not comprehensive and, thus, merchants remain exposed to liability.

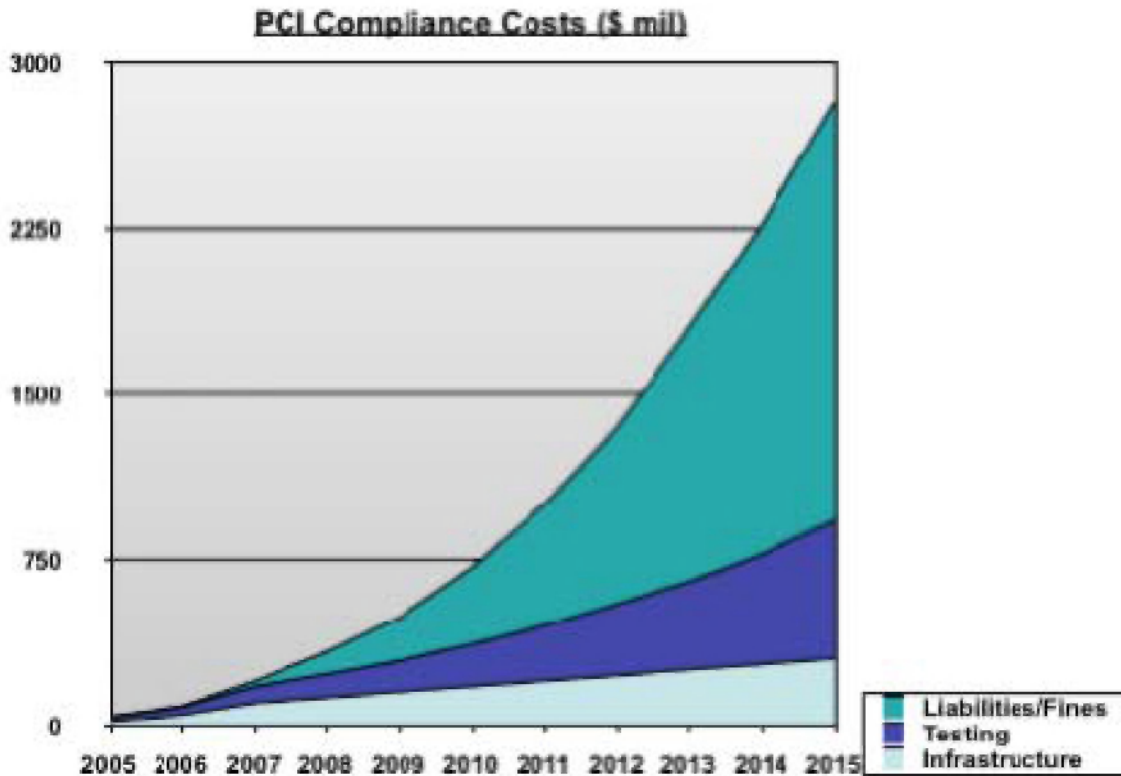
56. The PCI DSS system also is contributing to the overall suppression of PIN debit in the United States. I understand that a recent upgrade to the PCI DSS requirements for PIN entry devices (PCI-PED, Version 2.0) is estimated by some sources to impose up to \$20,000 per-store compliance costs on some merchant venues. This cost will likely have a tremendous chilling effect on the installation of PIN pads.

57. If the magnetic stripe system were replaced with an authentication technique that did not require the transmission of cardholder data over the Internet, virtually all of these costs would be unnecessary. In my view, it is particularly punitive to require merchants to absorb the costs of data breaches that are principally caused by issuers' unwillingness to adopt more secure systems.

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party that identifies the account and performs the authorization in the normal way — but with no further exposure with the merchant beyond the initial conversion.

58. Below is a chart that shows that the cost of PCI DSS compliance and liabilities will soon exceed the fraud in the system.<sup>100</sup>



59. The chargeback system also imposes additional costs on merchants. Before discussing those costs, a word about the limited payment “guarantee” that the networks provide to merchants is in order. To start, that guarantee is virtually non-existent for card-not-present merchants, including Internet, pay-at-the-pump and mail order/telephone order merchants. In fact, the networks charge those merchants for services such as the Address Verification System or the use of ZIP code verification that many fuel dispensers utilize. The “guarantee” is not much better for brick and mortar merchants. To position themselves to re-present (or reverse)

<sup>100</sup> BetterBuyDesign estimates based on industry rates and experiences for Tier 1-4 merchants. (Tier 1 merchants process more than 6 million transactions; Tier 2 (1-6 million); Tier 3 (20,000-1 million); and Tier 4 (below 20,000). Tiers 3 and 4 are self-assessed regimes, whereas Tiers 1 and 2 require external validation.)



chargebacks — which typically require the merchant to reproduce the signed sales slip to prove that an attempt was made at the point of sale to authenticate the cardholder — merchants must invest in cumbersome electronic signature-capture technology. In the alternative, they can implement even more cumbersome back-office procedures to store and maintain signatures on paper slips. Or they can outsource this function to processors. All of this is expensive. On top of that, merchants are charged fees for every chargeback they try to re-present and they pay additional fees if they fail to reverse the chargebacks. Moreover, issuers have shifted the risks associated with defective magnetic stripe cards that need to be manually entered — transactions that are often inherently more fraud-prone — by making it hard for merchants to challenge chargebacks associated with those cards.<sup>101</sup> One merchant reported that up to a third of those manually-entered transactions were fraudulent. Notably, merchants cannot reject such transactions at the point of sale without violating Visa’s and MasterCard’s HAC rules.

60. In many cases, the chargeback fees (as much as \$25–\$35 for large merchants, and over \$100 for small Internet merchants) exceed the value of the transaction, eliminating the merchants’ incentives to contest the chargeback.<sup>102</sup> This disincentive is compounded by the 1-percent chargeback threshold that Internet merchants must maintain. To maintain this threshold and avoid onerous fines, such merchants often “eat” 1-2 percent of potential chargebacks. As a result, legitimate transactions are almost certainly turned away. A CyberSource survey reported

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<sup>101</sup> In those instances, the merchant is required to obtain a manual imprint of the card and store the paper signature, even if the merchant has a signature data capture system. That imposes additional costs and burdens, including burdens associated with the PCI DSS rules that require the merchant to keep the paper signatures locked up and securely maintained.

<sup>102</sup> A First Annapolis acquirer survey found that the percentage of acquirers that charge chargeback fees in excess of \$20 tripled between 2001–2007. **Attachment 77** (Charles Marc Abbey, “The Threat to Price Stability in the Small Merchant Market,” DIGITAL TRANSACTIONS, June 2008, <http://www.digitaltransactions.net/files/0608acq.doc>) at 16.

that Internet merchants spent 0.3 percent of their total sales on fraud protection expenses.<sup>103</sup>

61. The CyberSource survey also reported that Internet merchants challenge only about 50 percent of the chargebacks they receive, and they win less than half of the time when they do.<sup>104</sup>

62. Lastly, on top of these costs, one should add the costs of interchange — particularly the costs of signature debit interchange, which merchants likely never would have paid had they had a choice, and which reflect issuers' decisions to push a product that is much more prone to fraud because of the high interchange associated with it. These costs came to approximately \$40 billion in 2007–2009.<sup>105</sup>

63. With that background in mind, a complete distillation of merchant expenditures on fraud in the United States must include the following:

- PCI DSS costs — \$10 billion to date (and escalating)<sup>106</sup>
- Chargeback costs — likely in excess of \$2 billion over the past three years<sup>107</sup>
- Fraud prevention costs
- Customer service costs
- Lost transactions<sup>108</sup>

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<sup>103</sup> **Attachment 78** (Jane Adler, “Checking the Chargeback Scourge,” DIGITAL TRANSACTIONS, June 2010, <http://www.digitaltransactions.net/files/DigitalTransactionsJune2010.pdf>) at 34.

<sup>104</sup> *Id.* at 36 (chart).

<sup>105</sup> This estimate is based on the debit volumes reported in The Nilson Report for the 2007–2009 period (Issues 879, 902, 914, 924, 938 and 942), and the average effective interchange fee rates for PIN and signature debit that were identified by debit issuer surveys conducted on behalf of the PULSE/Discover network. **Attachment 79** (Executive Summary, 2010 Debit Issuer Study, Discover) at 14; **Attachment 80** (“An Update on Trends in the Debit Card Market,” Julia S. Cheney, Federal Reserve Bank of Philadelphia, June 2007, <http://www.phil.frb.org/payment-cards-center/publications/discussion-papers/2007/D2007JuneUpdateDebitCardMarketTrends.pdf>) at 6 (citing interchange fee data from the First Annapolis 2007 Debit Issuer Study).

<sup>106</sup> *See supra*, ¶ 53.

<sup>107</sup> *See supra*, n.87.

*ii. Issuers are Best Positioned to Police Fraud*

64. Issuing banks have the most tools at their disposal to combat fraud. There are several reasons for this:

- At the outset, the issuer chooses the authentication technology.
- Issuers also underwrite the issuance decision in the first place, whereas merchants do not have that ability.
- Issuing banks have access to the entire history of a debit card, and of the bank account associated with that card. Therefore, issuing banks are best positioned to see trends like spending patterns on a given card, or with respect to a given account, across a multitude of merchants — rather than just use at a single merchant. Merchants, who only see the environment in which a transaction is made, simply do not have the same depth or breadth of an account relationship from which they can do comprehensive risk assessments when a transaction is made. In fact, in the physical world, merchants can do little more than train clerks to look for forged signatures, an exercise that provides little value and would achieve nothing other than to slow down the point of sale at some expense to merchants. Notably, Visa’s Operating Regulations prohibit merchants from insisting on additional identification at the point of sale if the customer does not want to produce it.<sup>109</sup>
- Issuing banks have access to a wider range of cards and bank accounts than merchants. This is especially true for the dozen or so largest issuing banks that account for most of the debit issuance in the United States. Because issuing banks have access to such a wide range of accounts, and a wide range of activity in financial services generally, they can again use their data to look for cardholder and account behaviors and trends that merchants have no ability to track.
- The PCI DSS rules reinforce merchants’ inability to effectively screen against fraud. These rules strictly prohibit merchants from storing any debit (or credit) card account information except as tokenized and/or encrypted. As a result, merchants cannot easily maintain or check databases of suspicious cards that may be associated with fraudulent activity. Issuers are not similarly restricted, and this is another reason why they are much better positioned than merchants to combat fraud.

65. Networks, by comparison, are much less well-positioned than issuers to police fraud. They lack the data and cardholder history that issuers have, and their systems are

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<sup>108</sup> As noted, this is particularly an issue for Internet merchants that need to keep their chargebacks below 1 percent to avoid onerous Visa and MasterCard fines. Such merchants often turn away legitimate transactions that are potentially suspicious in order to avoid chargebacks and stay under the thresholds.

<sup>109</sup> If the card is unsigned, the regulations do permit a request for identification.

comparatively rudimentary. And most medium and large-sized banks rely on their own systems to manage fraud.

66. Even though they are best positioned to address fraud, issuers appear to lack motivation or incentives to implement effective remedies. Three examples illustrate the problem. First, the 2007 First Annapolis Debit Issuer Study demonstrates a wide variety of levels of success in combating fraud, but with no particular relationship to the types or amounts of investment.<sup>110</sup> This is indicative of the fact that issuers lack strong incentives to police fraud — in large part because of the interchange system that more than makes up for the charge-off expenses to issuers. Second, the CyberSource online fraud surveys consistently show the need for merchants to deploy a growing array of fraud prevention measures year-by-year, and CyberSource rates their effectiveness. Among the least effective of those measures has been the issuer-driven association efforts with 3-D Secure (Verified by Visa and SecureCode) — despite the almost exclusive focus the banking industry has provided to this secondary authentication method. Third, at the FS-ISAC (Financial Services Information Security and Analysis Center) conference in May 2010, a senior security officer at a top-3 bank was heard to say, “banks are really no safer than the average business down the street.” The complication, he later stated, was the extensive use of account credentials and individually-identifying information, which often are transmitted in the clear, but wind up utilized in setting up new accounts.

*iii. Signature Versus PIN Debit Fraud*

67. Signature debit transactions are much more prone to fraud than are PIN debit transactions. According to one study, for example, the average net loss per card in 2008 was

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<sup>110</sup> First Annapolis POS Debit Issuer Cost Study Comprehensive Report, Oct. 23, 2007, at 43-46.

\$0.15 for PIN debit and \$1.81 for signature debit.<sup>111</sup> Between 2008 and 2009, fraud rates increased by 43 percent for signature debit, but only 24 percent for PIN debit.<sup>112</sup> According to the Sullivan paper, in 2006, signature debit card fraud losses for issuers were 5.1 basis points of purchase volume compared to less than 1 basis point for PIN debit.<sup>113</sup> In other words, by this measure, signature debit is six times more susceptible to fraud than PIN debit.

*iv. Fraud in the U.S. Payment System Compared to Other Jurisdictions*

68. The Sullivan paper concluded that:

[T]he United States has a higher card fraud loss rate than Australia, France, Spain, and the UK. International differences are due to a number of factors, including underlying card payment technology and security standards. For the United States, important factors that lead to a relatively high fraud loss rate include a comparatively weak approval process for debit and credit card transactions and a highly developed Internet economy.<sup>114</sup>

**D. Visa/MasterCard Parallel Conduct in Interchange & Network Fees**

69. Visa and MasterCard have a history of parallel conduct with respect to interchange going back over the past twenty years. From the 1990s, examples include parallel rate increases regarding: (i) supermarket rates in 1994; (ii) automated fuel dispenser rates in 1996; (iii) the lowest supermarket and non-supermarket rates in 1998; and (iv) non-supermarket rates in 1999.<sup>115</sup> Since 2000, Visa and MasterCard's lockstep conduct in interchange included

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<sup>111</sup> **Attachment 81** (2009 Debit Issuer Study, Tony Hayes *et al.*, BAI Payments Live, Virtual Conference & Expo, Oct. 21-22, 2009) at 12.

<sup>112</sup> **Attachment 79** (Executive Summary, 2010 Debit Issuer Study, Discover) at 25.

<sup>113</sup> **Attachment 69** (Richard J. Sullivan, *The Changing Nature of U.S. Card Payment Fraud: Industry and Public Policy Options*, Federal Reserve Bank of Kansas City, Economic Review, Second Quarter 2010) at 113 (Table 2). A more recent measure of issuer debit card fraud is reported in the 2010 Debit Issuer Study, which shows that signature debit is over seven times more susceptible to fraud than PIN debit. **Attachment 79** (Executive Summary, 2010 Debit Issuer Study, Discover) at 25.

<sup>114</sup> *Id.* at 115.

<sup>115</sup> **Attachment 82** sets forth a schedule of Visa and MasterCard interchange rates for 1990–1999. In April 1992, Visa and MasterCard's interchange rates for supermarkets were both 1.0 percent, and lowest rates for non-supermarkets were 1.25 and 1.30 percent, respectively. In April 1994, Visa and MasterCard increased their

continuing their practice of synchronized, biannual (April and October) interchange announcements with extremely similar rates, including the introduction of new tiers for premium cards and rewards cards, as well as tiers specially designed for merchant categories such as quick service restaurants.

70. After MasterCard (in 2006) and Visa (in 2008) went public, the pattern of acting in lockstep on interchange continued unabated. There have been no significant changes to their interchange tiers, as the rate structure has remained intact. In addition, as the schedule below shows, Visa and MasterCard also have synched up their network fees to acquirers (which are passed along to merchants). For example, in April 2009, MasterCard replaced its “Access Fee” of \$0.005 with a larger “Network Access and Brand Usage (‘NABU’) Fee” of \$0.0185. Less than three months later, Visa replaced its Access Fee of \$0.005 with a larger “Authorization Processing Fee” of \$0.0195.<sup>116</sup>

71. In recent years, particularly since they went public, MasterCard and Visa have added numerous network fees that are ultimately paid by merchants, and constitute another form of compensation to issuers and their networks.

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supermarket rates to 1.10 percent. MasterCard increased its lowest rate for non-supermarkets to 1.31 percent in April 1996, and to 1.32 percent in April 1997. In April 1996, Visa and MasterCard initiated a special interchange rate of 1.35 percent plus 5 cents for transactions using automated fuel dispensers. In April 1998, Visa and MasterCard increased their supermarket rates to 1.15 percent, and increased their lowest non-supermarket rates to 1.31 and 1.38 percent, respectively. In April 1999, Visa and MasterCard increased their lowest non-supermarket rates to 1.38 percent plus 5 cents, and 1.36 percent plus 10 cents, respectively. Visa also raised its supermarket rates to 1.20 percent.

<sup>116</sup> **Attachment 83** (“Higher Fees Could be Rainmakers for the Bank Card Networks,” DIGITAL TRANSACTIONS, Mar. 17, 2009, <http://www.digitaltransactions.net/newsstory.cfm?newsid=2118>).

72. Currently, Visa and MasterCard directly (or indirectly via acquirers) charge the following network fees to merchants:<sup>117</sup>

Network	Network Fee Type	2010	Effective Date
Visa	U.S. Acquirer Service Fee/Assessment Fee	0.11%	7/1/10 (increase)
MasterCard	Acquirer Brand Volume Fee/Assessment Fee	0.11%	4/16/10 (increase)
Visa	Acquirer Authorization Processing Fee	\$0.0195	7/1/09 (new/ replaces \$0.005 Access Fee)
MasterCard	Network Access and Brand Usage (NABU) Fee	\$0.0185	4/17/09 (new/ replaces \$0.005 Access Fee)
Visa	Base II Fee	\$0.0019 <sup>1</sup>	7/1/09 (increase)
MasterCard	Settlement Fee	\$0.0019 <sup>1</sup>	7/1/09 (increase)
Visa	Account Verification Service (AVS) Fee/Zero Dollar Verification Fee	\$0.025	2/1/09 (new)
MasterCard	Address Verification Fee (Card Present/Card-Not-Present)	\$0.005–\$0.0075	10/1/10 (split into two rates)
Visa	International Acquiring Fee (IAF)	0.45% <sup>1</sup>	10/17/09 (new)
MasterCard	Acquirer Program Support Fee	0.55%	10/17/09 (increase)
Visa	International Service Assessment (ISA) Fee	0.40%	4/1/08 (new)
MasterCard	Acquirer Cross-Border Assessment Fee	0.40%–0.80%	10/17/09 (increase)
Visa	Merchant Direct Exchange Connection Fee	\$0.0015–\$0.0045 <sup>1</sup>	
Visa	Risk Identification Fee	\$0.001 <sup>1</sup>	
Visa	Unmatched Authorization Fee/Misuse of Authorization Fee	\$0.045	7/1/09 (new)
Visa	Zero Floor Limit Fee	\$0.10	7/1/09 (new)

<sup>1</sup> 2009 figures (data for 2010 not readily available).

<sup>117</sup> This table is compiled from Digital Transactions and other industry publications and processor interviews, and is a sample of acquirer fees, most of which were introduced and/or increased and/or renamed since MasterCard and Visa went public. These types of fees are nearly always passed through to merchants.

  
Stephen Craig Mott

Stamford, Connecticut

October 29, 2010



**Economic Analysis of Debit Card Regulation Under Section 920**

**Steven C. Salop  
Georgetown University Law Center**

**Craig Romaine  
Serge Moresi  
Steve Kletter  
Yianis Sarafidis  
Charles River Associates**

**On Behalf of the Merchants Payments Coalition**

**Submitted To  
The Board of Governors of the Federal Reserve System  
Concerning Its Rulemaking Pursuant To  
Section 920 of the Electronic Fund Transfer Act**

**October 27, 2010**

# Economic Analysis of Debit Card Regulation Under Section 920

## Table of Contents

I.	Introduction and Executive Summary	1
II.	Overarching Regulatory Principles	5
	A. Efficient Cost-Allocation	5
	B. Minimal Market Intrusion	6
	C. Minimal Costs of Administration	7
	D. Consumer Welfare Goal of Regulation	7
III.	Debit Network Market Structure	8
	A. Evolution of the Debit Card Market in the U.S.	8
	B. Debit Network Market Structure	10
	C. Network Market Power	12
	1. Merchant-Side Market Power	14
	2. Network Competition for Issuers and the Impact on Interchange Fees	17
	3. Conclusions and the Implications for Regulation	20
IV.	Standards for Debit Interchange Fees	22
	A. The Presumptive Standard Should be At-Par Interchange	22
	B. Interchange Flowing from Merchants to Issuers is Not Necessary for a Viable and Successful Debit System	23
	1. Bank Incentives to Issue Debit At-Par	23
	2. At-Par Interac Debit System in Canada	24
	3. At-Par Check Clearing System	26
	C. API Has Significant Market Benefits	26
	1. Direct Consumer Price Benefits	27
	2. Elimination of Regressive Tax on Cash and Check Customers	31
	3. Consumer Benefits from Increased Merchant Acceptance of Debit Cards	32
	4. Reduced Issuer Incentives to Inefficiently Promote Signature Debit	33
	5. Prevention of Exercise of Network Market Power	36
	D. An API System Would Have Significant Regulatory Administrative Benefits, Relative to Cost-Based Interchange Fees	36
	E. Rebutting the At-Par Presumption	37
	F. Interchange Fee Cost-Basis	38
	1. Market Power of Networks over Merchants Calls for Tightly Circumscribed Standards	40
	2. Cost Basis Should Be Narrowly Defined	41
	G. Network Circumvention of API Standard with Unregulated Credit Cards	42
	H. Potential Criticisms of the API Standard	44
V.	Interchange Fee Fraud Adjustment	46
	A. Current System Encourages the More Fraud-Prone Technology	46
	B. API Promotes Fraud Cost Avoidance	48
VI.	Regulation of Network Fees	51

A.	Market Power Implies the Need for Strong Regulation of Network Fees to Avoid Issuer Subsidization and Circumvention of the Interchange Fee Regulation	51
B.	It is Economically Reasonable to Levy Network Fees Solely on Issuers	53
VII.	Regulation of Network Exclusivity and Routing Rules	55
A.	Network Market Power Calls for Strong Regulation with Greater Merchant Control	55
B.	Network Exclusivity Standards Should Provide Choice for Merchants	56
1.	Prohibition on Network Inducements to Issuers to Favor Their Network	56
2.	Minimum of Two Signature and Two PIN Debit Networks on Dual Function Cards	58
C.	Routing Rules Should Ensure Merchant Control	60
VIII.	Conclusions	61

ATTACHMENT 1: Exhibits

ATTACHMENT 2: Technical Appendix

ATTACHMENT 3: Author Biographies

## I. INTRODUCTION AND EXECUTIVE SUMMARY

1. We have been asked by counsel for the Merchants Payments Coalition (MPC) to provide economic analysis relevant to the regulatory proceedings concerning the implementation of Section 920 of the Electronic Fund Transfer Act. We have specifically been asked to provide economic analysis concerning the debit card market in the United States and to provide an economic framework for the Federal Reserve Board (the “Board”) to consider as it embarks on the rulemakings and regulations that are mandated by Section 920. Our professional biographies and curricula vitae are shown in Attachment 3.<sup>1</sup>

2. Our conclusions are guided by our analysis of the debit card market. The debit card market is a two-sided market in which the networks fundamentally interact with issuers on one side and merchants on the other. (Acquiring banks serve a role as a processing intermediary between merchants and the networks.) In two-sided markets, networks with market power may be able to exercise substantial market power over one side of the market but be able to exercise less (if any) market power over the other side of the market. It also means that regulatory actions must be evaluated in terms of their impact on both sides of the market, and how consumer welfare and efficiency are affected as a result.

3. The debit card market today is dominated by Visa and MasterCard. These two firms have a collective debit market share of over 80% of all debit transactions. This is comprised of Visa’s signature debit network (about 50% of all debit transactions), Visa’s Interlink PIN debit network (about 15%), and MasterCard’s combined signature and PIN debit networks (about 17%).<sup>2</sup> Visa and MasterCard each have the ability to exercise substantial market power over merchants.

4. At the same time, Visa, MasterCard and other debit networks compete for issuers to issue cards that run on their respective networks. The fact that Visa and MasterCard have market power over merchants, but compete for issuers, implies that they have strong incentives to exploit their market power over merchants in order to subsidize issuers. This dynamic has

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<sup>1</sup> Attachment 1 contains the Exhibits referred to in this report. Attachment 2 is a Technical Appendix.

<sup>2</sup> MasterCard does not separately report volumes for its signature debit network and its PIN debit network (also known as Maestro). Exhibits to this report present various data on shares and fees that we have collected from various public sources and merchants. We anticipate that the Board may have obtained more exact data on these and other data matters from the issuers and the networks.

resulted in high interchange fees that are paid by merchants and received by issuers. Other PIN debit networks similarly also have incentives to raise their interchange fees in order to be able to compete for issuers, despite lesser market power. One reason that merchants continue to accept the cards of those smaller networks is that rejecting them sometimes would cause these transactions to migrate to even higher cost Visa and MasterCard networks. In this sense, the PIN debit networks price under the Visa and MasterCard pricing umbrella. For these reasons, the Board cannot solely rely on free market forces—that is, competition among debit card networks for merchants—to maintain reasonable interchange or network fees.

5. Network competition for issuers and the exercise of market power over merchants have resulted in high interchange fees on merchants that cause consumer harm. The high interchange fees raise the merchant discounts charged by acquiring banks to merchants. These higher discounts raise the costs of all the competing merchants who accept these cards, which in turn results in these fees being passed through to consumers in the form of higher merchandise prices. This merchant-side pass-through rate is likely to be very high. Economic studies of the analogous price impact of sales taxes have found cost pass-through rates approaching 100%, or even more. At the same time, we have seen no evidence that issuers pass through to debit card users such a large fraction of the interchange fees they receive. Visa itself suggests that the pass-through rate for credit cards is less than 100%. Thus, eliminating or reducing the interchange fee likely will provide consumers with net welfare benefits from lower retail prices. Lower interchange fees also will increase merchant acceptance of debit (primarily PIN debit), which will further benefit consumers who prefer using debit cards.

6. Our analysis is guided by several economic principles of regulation. First, regulations should allocate cost efficiently. In order to align incentives, regulations should place the cost on the party that can best reduce or eliminate the cost. Second, because regulation is costly and potentially market-distorting, regulations should intrude into the market as minimally as possible while achieving the desired regulatory goals. Wherever possible, the regulations should rely on competition. Regulations also sometimes can facilitate a market process by which competition can eventually replace regulation. Third, regulations should be designed to minimize the administrative costs of regulation, which includes both the costs imposed on the regulated firms as well as the costs of the regulatory agencies. Finally, the overarching goal of the regulation of competition and market power should be focused on consumer welfare (i.e., consumer benefits),

an objective that also incorporates the importance of economic efficiency. This is consistent with Senator Durbin’s statement that the legislation will “prevent the giant credit card companies from using anti-competitive practices,” as consumer welfare has long been the goal of antitrust enforcement. We describe the regulations that satisfy these principles as *economically reasonable* regulations.

7. In light of these regulatory principles and our analysis of the debit card market, our conclusions with regard to the regulatory proceedings concerning the implementation of Section 920 are as follows:

- a. The most economically reasonable way to satisfy the mandate for debit interchange fees that are reasonable and not disproportional to issuers’ costs is to adopt a presumptive standard of at-par interchange (“API”). Under this standard, there would be a strong regulatory presumption that interchange should be at-par for all debit card networks. API has significant consumer welfare and regulatory policy benefits.
- b. If a network or issuer wishes to deviate from at-par interchange, it would have to bear a heavy burden of proof that a non-zero interchange fee would clearly lead to likely consumer benefits, relative to API. We are skeptical that networks or issuers normally would be able to make this showing, in light of the likely consumer benefits of API. However, if a network or issuer can carry its burden, then a positive interchange fee in principle might be economically reasonable.
- c. For situations where a positive interchange fee is economically reasonable, the issuer would be able to recover a proportion of its costs. The Board would set a standard for the level of any positive interchange fee to ensure that it is not disproportional to the issuers’ costs. In determining the relevant cost basis, it is economically reasonable to base the maximum interchange fee on the issuer’s incremental costs of processing (i.e., authorizing, clearing and settling – and not including fraud or marketing costs) debit transactions, *relative to the incremental costs to the issuer of the cash and checks that consumers would use otherwise*. If the transactional costs of debit cards are less than the comparable costs of these alternatives, issuers’ incentives to promote debit cards will be sufficiently maintained, in light of the consumer benefits of API. However, if the issuer’s transactional costs of debit exceed its costs of the alternative

payment instruments, a positive interchange fee could allow the issuer to recover some or all of the difference, as a proportion of the issuer's costs.

- d. API will give both merchants and issuers incentives to reduce fraud, as each side will have incentives to reduce the fraud costs that it bears, and issuers will not be able to use the interchange fee to transfer some of the higher fraud costs of signature debit onto merchants. As we will discuss below, the current structure of interchange fees gives issuers perverse incentives to promote signature debit over PIN debit, even though signature debit is more prone to fraud. API will eliminate such incentives and, as a result, an interchange fee adjustment for fraud likely is not necessary. However, temporary deviations from API may be useful to spur adoption of a superior, new fraud-reducing debit technology.
- e. The most economically reasonable way to ensure that debit networks do not use their network fees to circumvent the interchange fee regulation or to subsidize issuers in violation of the statute is to permit networks to charge network fees solely to issuers, but not to merchants (or acquiring banks). This allocation places the cost on issuers, who are better situated to reduce the costs. The issuer chooses which networks the cards will be able to run on. Because networks compete vigorously for issuers, they will have strong incentives to keep network fees to issuers low. However, if the Board elects not to eliminate network fees on merchants, it would be economically appropriate to implement a hard cap on the type and amount of the network fees that can be levied on merchants.
- f. The network exclusivity regulations should ensure that merchants have at least two unaffiliated network choices for each type of debit transaction (i.e., signature and PIN) supported by a card. By having at least two networks of each type, merchants will have a routing choice, even if the consumer has a preference over the type of debit transaction and even if the merchant does not have a PIN pad. We also recommend that the routing rules ensure that merchants have the ability to choose the routing of a debit transaction among the networks available on each card. This will provide networks with the incentive to provide merchants with high quality service.

g. In order to ensure merchants' ability to control routing, networks should be prohibited from impeding merchants' ability to route to competing networks by, among other things, compensating issuers to favor their networks over another, as discussed in Section 920. Issuers also should be prohibited from steering depositors to a particular network with differential fees or rewards, as those practices also can inhibit merchants' ability to route transactions.

8. The remainder of this Report is organized as follows. Section II sets out several key economic principles of regulation underlying our analysis. Section III analyzes the ability to exercise market power over merchants by Visa and MasterCard and the way in which other PIN debit networks have incentives to set interchange at high rates under the pricing umbrella of the two dominant networks. This discussion contrasts the network market power over merchants and network competition for issuers. Section IV analyzes the at-par interchange fee standard and discusses its benefits. Section V discusses the fraud adjustment rulemaking. Section VI analyzes the network fee regulations. Section VII analyzes network exclusivity and routing rules. Section VIII concludes.

## **II. OVERARCHING REGULATORY PRINCIPLES**

9. Our economic analysis of the Board's rulemakings under the statute is based on four economic principles of regulation. These are that: (a) regulation should allocate costs to the party that can best reduce or eliminate those costs; (b) regulation should intrude as little as possible on competitive market forces; (c) regulation should be designed to impose as little administrative costs as possible on the firms being regulated, as well as on the regulatory agencies; and (d) regulation of competition and market power should be formulated to maximize consumer welfare.

### **A. Efficient Cost-Allocation**

10. In evaluating standards for regulation of debit interchange fees, we place considerable emphasis on a core economic principle: it is efficient to place the cost on the party that can best



reduce or eliminate the cost. If the party that can reduce or eliminate the cost does not bear the cost, then it obviously will have no incentive to do so, and as a result, costs will be higher.<sup>3</sup>

11. This principle has fundamental implications for debit card regulatory policies. For example, it suggests that network fees should be placed on the debit card issuer, not the merchants. The card issuer chooses the set of networks over which its cards run, so it should be given the incentive to choose the lowest cost networks consistent with the needed quality. Because networks compete for issuers, this allocation will spur networks to reduce their fees and their costs, in order to obtain more business from issuers.

### **B. Minimal Market Intrusion**

12. Although regulation is often necessary, regulation is costly and has the potential to distort market outcomes. This has two implications. First, it is useful to regulate as minimally as possible and rely on competition as much as possible. Second, where feasible, it is useful to design regulations that set out a path by which competition eventually can replace regulation. Regulations sometimes can be designed to jump-start competition. In this way, the need for regulation could be eliminated after competition becomes firmly established.

13. For example, this principle suggests the substantial competitive benefits of allocating all network fees to issuers because networks compete for issuers. The principle also suggests requiring issuers to offer multiple debit networks for each type of authorization (signature and PIN) they choose to offer, while allowing the merchant to control the routing. This requirement could facilitate more effective competition among debit card networks, which could reduce network market power over merchants. As a result, there may be less need over time for the regulation of network fees and of interchange fees paid by merchants, once competition becomes effective on both sides of the market. Of course, in light of the long history of the exercise of network market power here, regulation will certainly be necessary for some significant period of time before competition might be effective in eliminating the need for interchange fee regulation.

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<sup>3</sup> This core economic principle is perhaps best illustrated by the classic inefficiency of cost-plus contracts. By immunizing the seller from profit reductions flowing from having higher costs, the seller loses the incentive to control its costs. A fixed price contract (or a contract that escalates when accurate proxies for uncontrollable costs rise) would maintain much stronger incentives for cost-reduction. For a classic case of an inaccurate proxy, see *Aluminum Co. of America v. Essex Group, Inc.*, 499 F.Supp. 53 (W.D.Pa.1980).

### **C. Minimal Costs of Administration**

14. Regulation inflicts administrative costs on the regulated firm as well as the regulatory agencies. For example, cost-based price regulation requires that the regulatory agency collect extensive cost information from the market participants. This cost information must be audited and processed by the regulatory agency. If costs (or approaches to allocating joint costs) differ across the firms, as they do in this industry, the agency must aggregate the information from various issuers and networks in a consistent way in order to determine the cost-basis for the regulations. Costs also must be monitored continuously over time and the regulated prices updated to reflect current conditions, in order to avoid market distortions. Market competition studies also must be carried out. All of this is costly to the regulatory agency, regulated firms, other industry participants, and consumer advocates.

15. For example, the principle of minimizing administrative costs is satisfied by at-par interchange. At-par interchange eliminates the need to gather information on the costs of issuers and merchants. Allocating the network fees to issuers also could reduce or eliminate the need for network fee regulation because network competition for issuers will substitute for price regulation.

### **D. Consumer Welfare Goal of Regulation**

16. The provisions of Section 920 focus on network competition, the ability to exercise market power over merchants by some debit card networks, and the effect of this market power on network competition. In his statement regarding the Durbin Amendment, Senator Durbin said the amendment “will prevent the giant credit card companies from using anti-competitive practices.”<sup>4</sup> The primary goal of U.S. antitrust law is the maximization of consumer welfare (i.e., consumer benefits) by preventing anticompetitive conduct. As the Supreme Court has formulated the standard, antitrust is a “consumer welfare prescription.”<sup>5</sup> This consumer welfare goal encompasses a concern for economic efficiency (i.e., aggregate economic welfare), and the

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<sup>4</sup> Durbin Statement on His Debit Card Swipe Fee Amendment, May 13, 2010, at <http://durbin.senate.gov/showRelease.cfm?releaseId=324958>. A recent paper by Federal Reserve Bank of Boston economists regarding transfers from non-card users to credit card users of interchange fees uses a consumer welfare standard for policy analysis. See Scott Schuh, Oz Shy, and Joanna Stavins, “Who Gains and Who Loses from Credit Card Payments? Theory and Calibrations,” Consumer Payments Research Center, Public Policy Discussion Paper No. 10-03, August 31, 2010.

<sup>5</sup> *Reiter v Sonotone Corp.*, 442 U.S. 330 (1979).

two performance measures usually reinforce one another.<sup>6</sup> Production efficiency also furthers the goal of consumer welfare maximization. However, if aggregate and consumer welfare do come into potential conflict, the consumer welfare goal takes primacy in antitrust.<sup>7</sup>

17. The objective of benefiting consumers would imply that the Board should mandate the debit interchange fees that likely would benefit consumers the most. As discussed below, our analysis suggests that at-par interchange likely leads to greater consumer welfare benefits than would an interchange fee that flows from merchants to issuers.

### **III. DEBIT NETWORK MARKET STRUCTURE**

18. The regulations prescribed by the Board should be informed by the history of debit networks in the U.S. The legacy of this history is a market characterized by both the ability to exercise market power over merchants by the major debit networks (Visa and MasterCard) and by network competition for issuers. These factors have led to high interchange fees paid by merchants to issuers. This analysis has important ramifications for regulatory design.

#### **A. Evolution of the Debit Card Market in the U.S.**

19. Debit cards are a means for demand deposit account (DDA) holders to access their DDA. Consumers also access their DDA by using paper checks, withdrawing cash from a bank teller or ATM, or drafting from their DDA using the ACH system.

20. There are two primary forms of debit in the U.S. One is signature-based, in which the cardholder's signature is usually (but not always) obtained at the time of the transaction. The other is PIN-based, in which the cardholder enters a 4-digit personal identification number (PIN) to authenticate the cardholder.

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<sup>6</sup> In technical economic terms, consumer welfare equals consumer surplus, and aggregate economic welfare equals the sum of consumer and producer surplus. Thus, aggregate welfare directly includes the profits of banks and merchants, whereas consumer welfare does not.

<sup>7</sup> For example, the Supreme Court often makes the point that antitrust law is focused on protecting competition, not competitors. This conflicts with an aggregate welfare (pure economic efficiency) standard, which would give the same weight to competitor welfare as to consumer welfare. Antitrust law also would prevent a monopolist from engaging in exclusionary conduct against entrants, whose entry would reduce prices, even if the entrants have higher costs than the monopolist. Antitrust law also would prevent a merger to monopoly that would raise price, even if the monopolist would reduce its costs somewhat in the process. See Steven C. Salop, "Question: What is the Real and Proper Antitrust Welfare Standard? Answer: The *True* Consumer Welfare Standard," *Loyola Consumer Law Review*, Vol. 22:3, 2010; Robert H. Lande, "Chicago's False Foundation: Wealth Transfers (Not Just Efficiency) Should Guide Antitrust," *Antitrust Law Journal*, Vol. 58, n. 27, 1989.

21. PIN debit networks originated as an extension of what used to be ATM-only networks. The ATM networks formed in various regional clusters around the country and they lowered bank costs by saving on teller costs and the costs of handling cash and paper checks. The regional ATM networks gradually began to extend their functionality to the point of sale, starting with supermarkets in the late 1970s, and gas stations in the 1980s. They did so without interchange as most of the regional networks set their interchange rates at par. Some networks implemented “reverse” interchange fees that flowed from the issuer to the merchant.<sup>8</sup> As discussed below, this pricing system remained intact until the early-to-mid 1990s.

22. Consolidation of these regional PIN ATM/debit networks began in earnest in the late 1980s, and some PIN-based ATM/Debit networks achieved national reach by the early 1990s. Consolidation continued through the 1990s and 2000s. Today there are still approximately 15 PIN debit networks, the largest being Interlink (owned by Visa), Star (owned by First Data Corp.), PULSE (owned by Discover), and NYCE (owned by FIS).

23. Visa introduced signature debit in around 1975. In 1982, it also acquired Plus, an ATM-only network. MasterCard introduced a signature debit product, which it initially called MasterCard II, around 1980. Both Visa and MasterCard initially set the interchange fee on their signature debit products at the same rate that was set for their corresponding credit card products. In 1993, Visa created a distinct interchange tier for signature debit which applied only to certain qualifying transactions. This rate was sometimes slightly lower or slightly higher than the prevailing credit card rates at Visa, depending on the size of the transactions. MasterCard maintained identical credit and signature debit fees until 2003, when it was required by the *In Re Visa Check* antitrust settlement to lower its signature debit interchange rates.<sup>9</sup> For most of the 1990s, Visa and MasterCard’s signature debit interchange rates were several times higher than PIN debit interchange. (See Exhibit 1.)<sup>10</sup>

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<sup>8</sup> See “Going Against the Acquirer-Paid Fee Grain,” *Bank Network News*, July 12, 1993; “Score One for the Issuers,” *Credit Card Management*, April 1994. As recently as 2000, one PIN debit network, Shazam, still had zero interchange.

<sup>9</sup> The *In Re Visa Check/MasterMoney Antitrust Litigation* (“*In Re Visa Check*”) challenged the practice of both Visa and MasterCard to require merchants that wanted to accept Visa and MasterCard’s credit card products to also accept their signature debit products under their Honor All Cards rules. The lawsuit was filed in 1996 and settled on the eve of trial for over \$3 billion in past damages, an interim reduction in signature debit interchange rates and injunctive relief that required Visa and MasterCard to rescind their Honor All Cards rules that tied debit to credit.

<sup>10</sup> All of the Exhibits referred to in this report can be found in Attachment 1.

24. Visa and MasterCard spurred the growth of their signature debit cards by forcing merchants who accepted their credit cards also to accept their high-priced signature debit cards. This tying arrangement was implemented through their respective “Honor All Cards” operating rules that were attacked as antitrust law violations in the *In Re: Visa Check* antitrust case. The high interchange associated with Visa and MasterCard’s signature debit products gave banks the incentive to issue and encourage the use of signature debit over PIN debit.

25. This dynamic put pressure on the at-par system that had prevailed at the regional networks. In 1990, Visa bought Interlink, which was then the leading PIN debit network, and raised its interchange fee from at-par to 45 basis points.<sup>11</sup> This increase was the first of numerous price increases in PIN debit, led by Interlink, that over time has narrowed the gap between signature debit and PIN debit rates. Today, the gap between signature debit and PIN debit rates has been greatly reduced and in some cases eliminated. (See Exhibit 1.)

## **B. Debit Network Market Structure**

26. While there are numerous debit card networks in the U.S., the various networks owned by Visa and MasterCard account for about 83% of all debit transactions.<sup>12</sup> Signature debit accounts for about 67% of total debit transaction volume, and PIN debit accounts for about 33%.<sup>13</sup> Visa and MasterCard account for virtually 100% of the signature debit transaction volume.<sup>14</sup> Within signature debit, Visa accounts for roughly 74% and MasterCard 26%. Visa’s signature debit network accounts for 50% of total debit volume and MasterCard accounts for about 17%. On the PIN debit side, the largest network is Interlink, which is owned by Visa, and which accounts for about 15% of total debit volume. Overall, Visa’s two networks account for about 66% of total debit volume. The remaining PIN debit networks collectively account for about 17% of total debit volume, a share which has fallen from over 30% just a few years ago. These debit network shares are shown in Exhibits 2 and 4.

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<sup>11</sup> See “Interlink Pricing Debuts On the National POS Stage,” *Bank Network News*, November 12, 1991.

<sup>12</sup> As indicated earlier, we anticipate that the Board may have collected more precise data from issuers and networks on this and other data matters.

<sup>13</sup> In these figures, the signature debit share includes MasterCard’s PIN debit transactions, which MasterCard does not report separately from its signature debit transactions. Thus, the figures in the text slightly overstate signature debit share and slightly understate PIN debit share.

<sup>14</sup> Discover is a recent entrant but it accounts for a negligible volume.

27. Volume data for each of the PIN debit networks are no longer reported in public sources to our knowledge. In 2006, the last year for which this data was reported, Interlink was the largest PIN debit network. After Interlink, Star was the next largest PIN debit network, followed by NYCE and PULSE. Several large national retailers have provided data to us on their debit transactions for 2009. Using these data to calculate the percent of PIN debit transactions accounted for by each PIN debit network, we have calculated the following shares of all debit transactions: Interlink (14%), Star (6%), PULSE (4%), Maestro (2%), and NYCE (2%). The remaining networks (Accel, Shazam, Credit Union 24, Jeanie, AFFN, Alaska Option, and NetWorks) have a collective share of about 5%. See Exhibit 3.

28. Visa and MasterCard's combined share of debit volume has been increasing in recent years. Exhibit 4 shows how Visa and MasterCard's share of debit has grown over time. Exhibit 1 shows how debit interchange fees have changed over time.

29. We anticipate that the Board may have obtained precise information on network market shares from issuers. Steven Mott, an industry expert who has also been retained by the MPC, has estimated that about 87 percent of all debit cards are configured to make transactions over either Visa's or MasterCard's signature debit networks.<sup>15</sup> Overall, it has been reported that about 66% of all cards include Visa signature debit, 21% include MasterCard signature debit.<sup>16</sup>

30. Issuers decide which and how many networks to which they connect their debit cards. Most banks issue signature debit to a subset of their DDA base and those cards sometimes (but not always) also have PIN debit functionality. Visa has maintained a rule that does not permit other brands to co-reside on its signature debit cards, and thus issuers typically have offered only one signature brand on the card.<sup>17</sup> Most issuers provide PIN debit functionality to all or most of their DDAs, whereas signature debit has been typically issued to a subset of the DDAs. In the 1990s, issuers often linked their debit cards to numerous PIN debit networks, in part to make

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<sup>15</sup> Steven Craig Mott, "Industry Facts Concerning Debit Card Regulation Under Section 920," submitted to the Board concurrently with this report ("Mott Report"), ¶ 28 note 56 (13% of all debit cards are PIN-only). Also, see "New Comprehensive PULSE Debit Industry Study Reveals Continued Growth in Debit Card Market," PULSE news release, February 28, 2007, p. 1 (indicating that 86% of debit cards are signature-capable).

<sup>16</sup> *The Nilson Report*, No. 942 (February 2010).

<sup>17</sup> See, for example, Visa International Operating Regulations, April 1, 2010, ID#: 010410-010410-0006300 ("Competitive Marks—U.S. Region: No U.S. member may use the marks of the American Express Company, MasterCard International (including Maestro), Morgan Stanley Dean Witter & Co., or the subsidiaries or affiliates of these entities on Visa Cards.").

their cards functional outside the geographic region served by any particular PIN debit network.<sup>18</sup> Since 1999, that has changed substantially as Visa has entered into contractual arrangements with certain issuers that mandate that Interlink be their exclusive PIN debit network or which incentivize exclusivity via volume commitments that are pegged to incentives such as reduced fees.<sup>19</sup>

31. As a result, there are many debit cards in circulation today that bear only the Visa (signature debit) and Interlink (PIN debit) logos on the card. While the number of such cards is not reported by Visa or in publicly available sources, we have calculated a rough estimate from data collected by one large merchant. This national retail chain accepts PIN debit transactions of 11 different networks, one of which is Interlink. This merchant directs its processor to route PIN debit transactions according to the merchant's preferences. The merchant puts Interlink at the bottom of its network priority routing list, meaning that it directs its processor to route a PIN debit transaction to any alternative (i.e., less expensive) PIN debit option that might be available, and to route to Interlink only if there is no other option available. As a result, if a PIN debit transaction for this merchant is routed over Interlink, Interlink is likely the only PIN debit network on the card. Thus, Interlink's share of this merchant's PIN debit transactions can serve as an estimate of the fraction of PIN debit cards that are exclusively Interlink. In 2001, this share was 9%, and the share has been increasing in recent years, rising from 37% in 2007, 40% in 2008, and 42% in 2009.<sup>20</sup> This 42% share likely implies well over 100 million PIN debit cards that work exclusively on Interlink.<sup>21</sup>

### **C. Network Market Power**

32. Debit cards allow a bank's depositors to use their cards to make purchases at merchants. Debit card networks have the economic function of linking multiple bank card issuers and

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<sup>18</sup> Mott Report, ¶ 6-8.

<sup>19</sup> Mott Report, ¶ 23-27.

<sup>20</sup> These figures are based on data provided to us by one large national retail merchant.

<sup>21</sup> There are about 507 million signature and prepaid debit cards. (*The Nilson Report*, Issue No. 942) It may be that this figure includes about 139 million cards that are prepaid debit cards without PIN functionality. (*The Nilson Report*, Issue Nos. 947 and 949) Since roughly 13% of debit cards are PIN only, and another 7% are signature only, there are roughly 393 million total debit cards in the U.S. with PIN functionality. If 42% of those debit cards are connected to Interlink as the exclusive PIN debit network, then there are roughly 165 million Interlink exclusive cards. As noted above, the Board may have collected more exact data itself.

multiple merchants. In this sense, debit card networks operate in a two-sided market with merchants on one side and issuers on the other. (The acquiring banks act as intermediaries that link the merchants to the networks.)

33. In a two-sided market, a network with market power potentially can exercise its market power over parties on either or both sides of the transaction.<sup>22</sup> For a number of reasons, the Visa and MasterCard networks have the ability to exercise substantial market power over merchants, but generally compete for issuers.<sup>23</sup> The competing PIN debit networks lack Visa and MasterCard's market power.<sup>24</sup> Nevertheless they are able to set high interchange fees under the price umbrella established by Visa and MasterCard.

34. The increasing interchange rates associated with PIN debit illustrate how network market power over merchants has been used to fund network competition for issuers. Competition for issuers has created the incentives for the networks to continually raise interchange rates for merchants. This asymmetry—that is, significant market power over merchants and competition for issuers—has important implications for the analysis of interchange regulation.<sup>25</sup>

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<sup>22</sup> See, for example, Mark Armstrong, "Competition in Two-Sided Markets," *Rand Journal of Economics*, Vol. 37, Issue 3, Autumn 2006. The idea that a party with market power may have differential ability to exercise that market power over different parties is not novel. As stressed in the newly released Horizontal Merger Guidelines, sellers in single-sided markets that involve price discrimination often have market power over some customers but not others. See U.S. Department of Justice and Federal Trade Commission, *Horizontal Merger Guidelines*, August 19, 2010, Section 3. In two-sided markets, parties on one side of the market may have more alternatives than parties on the other side. For example, a monopoly newspaper in a town may have the ability to exercise market power over local advertisers, but it may lack the ability to exercise market power on the subscription side because most local readers may be satisfied with a national newspaper. But, local advertisers may be unable to advertise cost-effectively in a national newspaper.

<sup>23</sup> Merchants face substantial practical impediments to implementing surcharges on debit transactions on high cost networks and discounts on debit transactions on low cost networks, and issuers' cost pass-through rates likely are less than 100%. As a result, the interchange fee is not "neutralized" by corresponding changes in merchandise prices and bank debit fees.

<sup>24</sup> Even MasterCard, with its historically quite small share accounted for by its Maestro PIN debit network, has raised PIN debit pricing in recent years while at the same time growing Maestro's share. Based on data provided to us by several large merchants, Maestro's share of PIN debit transactions increased from 6 to 10% from 2008 to 2009. During that same period, Maestro increased its interchange fees by 20%.

<sup>25</sup> Other commentators also have noted that this asymmetry leads to higher interchange fees. For example, see Dennis W. Carlton, "Externalities in Payment Card Networks: Theory and Evidence, Commentary," *The Changing Retail Payments Landscape: What Role for Central Banks*, proceedings of a conference held at the Federal Reserve Bank of Kansas City, November 9-10, 2009, pp. 127-128 ("...it is possible that competition may not work very well among different card systems in benefiting all consumers, both cash and credit card users. The card systems compete to obtain issuing banks and card customers by increasing interchange fees.").



## 1. Merchant-Side Market Power

35. Visa and MasterCard have the ability to exercise significant market power over merchants with respect to the acceptance of debit cards by raising their interchange fees, which then are passed on to retailers by the acquiring banks. They own and operate the only two significant signature debit networks and Visa's signature debit network accounts for about 50% of all debit transactions and 47% of the dollar volume. MasterCard's share of signature debit volume is about 26%. Visa and MasterCard together account for about 83% of debit transaction volume and 82% of dollar volume, and 87% of cards carry their networks. (See Exhibit 2.) A significant number of debit cards have only signature debit functionality, and this number is increasing with the proliferation of selective authorization cards, such as health care flexible spending account cards, that bear only Visa or MasterCard functionality.<sup>26</sup> Moreover, as discussed earlier, throughout the past decade an increasing number of the dual functional cards (signature and PIN) have only Visa signature and Interlink PIN functionality on the card. An estimated 89% of debit cards with Interlink functionality have no other PIN debit networks on the card. See Exhibit 5. As discussed above, this likely amounts to well over 100 million cards with PIN debit functionality limited to Interlink.<sup>27</sup>

36. Against this industry backdrop, merchants have strong economic incentives to accept cards that operate on Visa and MasterCard's debit networks. Hundreds of millions of consumers carry Visa and MasterCard debit cards and they use them with increasing frequency. While the cost to the merchant of accepting debit (including the merchant discount, which reflects the interchange fee) currently is high, the merchant's overall profit on the sale is typically larger than that cost. Thus, losing the sale would be costlier to the merchant than accepting debit and paying the high interchange fee. Because the Visa and MasterCard networks aggregate a large collection of issuers, and therefore hundreds of millions of cardholders, an individual merchant would fear that its failure to accept their debit networks raises the risk of significant lost sales to other merchants that do accept the cards. This gives Visa and MasterCard the ability to exercise significant market power over most merchants.

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<sup>26</sup> Mott Report, ¶ 28 note 56 (7% of debit cards are signature-only). Notably, MasterCard has a leading position with respect to these cards, a fact that contributes to its market power in debit. The fact that there are many signature-only debit cards in large part explains why major merchants that aggressively steer users to PIN debit continue to get increasing signature debit volumes every year.

<sup>27</sup> See note 21, *supra*.

37. This situation describes a classic prisoner's dilemma, and is a primary mechanism by which Visa and MasterCard have market power over merchants.<sup>28</sup> As explained by the prisoner's dilemma, if all the competing stores were to stop accepting the network's cards in a coordinated way, they would be better off because the fees exceed the cost-savings from using the network's cards. However, in the absence of coordination, no individual store would have the incentive to stop accepting the network's cards.

38. Board economists have also noted this prisoner's dilemma facing merchants.

“[T]he incentives underlying merchants' card acceptance decisions in the theoretical models tend, all else equal, to support interchange fees that are higher than the social optimum. In such a situation, merchant fees will be inefficiently high and card use fees will be inefficiently low (or card rewards will be inefficiently high), leading to excessive card use. The economic theory literature has emphasized two closely related reasons why merchants may be willing to accept cards with inefficiently high merchant fees. First, by increasing a merchant's 'quality of service,' card acceptance makes a merchant more attractive to consumers, leading to an increase in sales volume. The merchant will take into account this private benefit when he or she evaluates the costs and benefits of card acceptance. To the extent that this increase in sales represents a diversion of transactions away from other merchants that do not accept cards, without any increase in aggregate sales, the private benefit to the merchant from its decision to accept cards will exceed the social benefit. As a result, the merchant will be willing to pay an inefficiently high merchant discount. Second, as long as some merchants are willing to accept cards despite an inefficiently high merchant discount, others will feel compelled to do so in order to avoid losing business. Thus, even if merchant discounts are high enough that merchants as a whole would be better off rejecting cards, they may nonetheless all choose

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<sup>28</sup> For example, see Dixit, Avinash K., and Barry J. Nalebuff., *Thinking Strategically: The Competitive Edge in Business, Politics, and Everyday Life*. New York: W. W. Norton & Co, 1991, Chapter 1, Section 3, pp. 11-14 and Chapter 4, pp. 89-95. This prisoner's dilemma structure also has been raised in the context of the Federal Communications Commission regulations regarding fees paid by cable and satellite TV distributors to the TV broadcast networks. See Michael Katz, Jonathan Orszag and Theresa Sullivan, "An Economic Analysis of Consumer Harm from the Current Retransmission Consent Regime" (2009), a study commissioned by the National Cable & Telecommunications Association, DIRECTV, and DISH Network (found at [www.americantelevisionalliance.org](http://www.americantelevisionalliance.org)).

to accept cards because no single merchant would find it profitable to unilaterally reject them.”<sup>29</sup>

39. The debit networks owned by Visa and MasterCard have the ability to exercise substantial market power over merchants. First, because Visa has exclusivity rules against MasterCard and other networks with respect to the brands co-residing on signature debit cards, most issuers have offered only one signature debit network.<sup>30</sup> Second, Visa has entered into exclusivity contracts with some large issuers that make Interlink their only PIN-debit network, which eliminates the ability of merchants to route to other PIN debit networks when customers use those cards. Third, if a merchant does not accept Interlink as a result of its high fees, many of the transactions would simply default to the even higher-cost Visa signature debit network instead.

40. In contrast, the smaller competing PIN debit networks lack the substantial market power that the Visa and MasterCard networks possess. Many debit cards with PIN debit functionality carry multiple PIN networks as well as signature debit functionality. As a result, the risk of lost sales is much lower with the competing PIN networks than it is for Visa and MasterCard. However, because the other networks linked to the card are often Visa and MasterCard networks that carry high interchange fees, and because the smaller networks are competing for issuers, they have the incentive to raise their interchange fees up to a level close to the fees of Visa and MasterCard.<sup>31</sup> Merchants nonetheless continue to accept these PIN debit networks for several reasons. First, this avoids the inability to complete transactions when one network suffers an outage. Second, not every issuer includes every network on the cards, so transactions may be lost. Third, the interchange fees and network fees of competing PIN debit networks are generally lower than the fees associated with Visa’s and MasterCard’s networks. As a result, those networks may retain some ability to exercise market power over merchants, albeit less than Visa and MasterCard.

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<sup>29</sup> See Robin A. Prager, Mark D. Manuszak, Elizabeth K. Kiser, and Ron Borzekowski, “Interchange Fees and Payment Card Networks: Economics, Industry Developments, and Policy Issues,” Federal Reserve Board, Washington DC, May 2009, p. 21-22.

<sup>30</sup> See note 17, *supra*.

<sup>31</sup> In this sense, the signature debit networks provide an interchange fee “umbrella” over the PIN debit networks.

41. As suggested by the competitive situation facing PIN debit networks, there could be network competition for merchants if the market structure were different. For example, suppose that every issuer offered every network on all of its cards and neither the issuer nor the network hindered the merchant's choice of routing transactions over the network with the lowest cost. In this scenario, competition among debit networks could eliminate networks' ability to exercise market power over merchants.<sup>32</sup> A merchant's non-acceptance of one network's cards would not cause it to lose any incremental sales because the transaction simply could be routed over another network. As a result, the fear of losing merchant acceptance would give the networks incentives to reduce their fees (and provide higher quality, such as improved network system availability and transaction response times) in order to maintain or increase acceptance and usage.

42. The networks' bargaining leverage over merchants obviously also would be much weaker if each individual network bargained with all merchants collectively, or if large independent processors negotiated on behalf of the merchants they service. This would reduce or eliminate the merchants' coordination problem. The bargaining leverage of each side also would be different if individualized interchange fees were negotiated bilaterally between each individual bank issuer and each individual merchant. It also would be weaker if there were no impediments on merchants' ability and incentives to surcharge (discount) transactions on particular debit card networks. However, the debit market has none of these features at present.

## **2. Network Competition for Issuers and the Impact on Interchange Fees**

43. While Visa and MasterCard have the ability to exercise substantial market power over merchants, they (and the other PIN networks) generally compete for card issuers. This competition reflects their lack of power over issuers. Issuers can and do choose which networks to offer on their cards and have a greater ability to substitute because merchants accept multiple networks.<sup>33</sup> This issuer choice leads to competition among networks for the issuers' business.

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<sup>32</sup> This assumes that Visa and MasterCard would not expressly or tacitly coordinate their interchange fees. The fees of those networks have moved in close parallel in the past. See Exhibit 1.

<sup>33</sup> The merchants who provided data to us report that they all accept both Visa and MasterCard signature debit, and they accept, on average, 12 different PIN debit networks (the range is from 9 to 14).

44. The ability of issuers to substitute among networks, coupled with individual merchants' very limited incentives to stop accepting any debit networks, has profound implications for the networks' incentives to set interchange and network fees. The networks have the incentive to compete for issuers by setting high interchange fees that flow from merchants to issuers. Networks also pay issuers for participation and exclusivity.<sup>34</sup> This competition for issuers leads the networks to act in the interests of the issuers, not the merchants.<sup>35</sup> To the extent that networks can collect supra-competitive fees from merchants, the issuers will gain a large share of the profits as a result of this competition for issuers. This is classic rent-seeking behavior by the networks.<sup>36</sup>

45. This network competition for issuers has led to increasing PIN debit interchange fees over time, even by the smaller networks. As noted earlier, up until about the early 1990s, the PIN debit networks had either no interchange (at-par), or had interchange that flowed from the issuer to the acquiring bank (reverse interchange). PIN debit reduced the issuers' costs by reducing the cost of consumer cash withdrawals via ATM or bank tellers, or the costs of processing paper checks, and thus was viable without interchange. In the early 1990s, PIN debit accounted for nearly 60% of all debit. (See Exhibit 6.)

46. Beginning with Visa's increase in the Interlink interchange fee in 1992, PIN debit interchange fees have risen over time. As a result of multiple increases since the early 1990s, Visa has more than tripled the Interlink interchange fee. In doing so, Visa typically led the interchange increases that then triggered increases throughout the PIN debit industry, for reasons discussed below. As a result, even small debit networks charge high interchange fees. For

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<sup>34</sup> Visa and MasterCard have a long history of paying substantial up-front cash bonuses, as well as ongoing marketing funds and discounts on network fees in order to induce issuers to issue their signature and PIN debit cards. In many such cases, the issuer has agreed to exclusivity. Other networks have also entered into similar arrangements with issuers. (See "Exclusive Network Pacts for PIN Debit Gain Favor," *American Banker*, September 28, 2007 (<http://www.allbusiness.com/banking-finance/banking-lending-credit-services-payment/11997114-1.html>.) Most recently, the three largest PIN debit networks other than Interlink and Maestro have recently instituted interchange fee programs under which "loyal" issuers receive a higher interchange fee. (See "Star Ushers in New Rates, with Interchange Spiffs for Some Issuers," *Digital Transactions*, January 12, 2010, and [www.vantagecard.com/price/interchange05.html](http://www.vantagecard.com/price/interchange05.html).)

<sup>35</sup> Until a few years ago, Visa and MasterCard were associations that were governed by and operated on behalf of their member issuing banks. Other major PIN debit networks were owned by issuing banks.

<sup>36</sup> See Alan Frankel and Allan Shampine, "The Economic Effects of Interchange Fees," *Antitrust Law Journal*, Vol. 73, No. 3, 2006. For the classic articles, see also G. Tullock, "The Welfare Costs of Tariffs, Monopolies and Theft," *Western Economic Journal*, 1967; and, R. A. Posner, "The Social Cost of Monopoly and Regulation," *Journal of Political Economy*, 1975.

example, for a \$40 standard non-supermarket transaction at a small merchant, the interchange fee for a Visa signature debit transaction is currently 145 basis points, MasterCard signature debit is 143 basis points. The same transaction on the Interlink network would be 145 basis points as well. For other PIN debit networks, the interchange fee would be: Maestro (128bp), Accel (125bp), Star (123bp), NYCE (120bp), PULSE (118bp), Credit Union 24 (113bp), Shazam (113bp), AFFN (95bp), and Alaska Option (48bp). See Exhibit 7.

47. This dynamic also has slowed the deployment of PIN pads and the growth of PIN debit, rather than driving increased PIN debit usage. Higher PIN debit interchange fees by Interlink and the smaller networks reduces merchants' incentives to install PIN pads to accept PIN debit, *ceteris paribus*. Indeed, some issuers offer only Interlink PIN debit, which is priced the highest. Moreover, high signature debit fees have led some issuers to offer rewards to depositors to use signature debit and/or to "tax" depositors that use PIN debit networks. Some other issuers have disseminated deceptive claims that PIN debit is a less secure payment method that increases the likelihood of fraud. This conduct has reduced consumer usage of PIN debit. As a result of this conduct and the rising PIN debit fees, merchant incentives to add PIN pads as a cost-saving strategy are significantly lessened.

48. The significance of this effect is suggested from a comparison of PIN debit acceptance in Canada and the United States. A 2006 Bank of Canada survey reported that 93% of Canadian merchants accept Interac PIN debit, almost the same as the 92% that accept credit cards.<sup>37</sup> In contrast, the penetration of PIN debit in the U.S. is much lower, approximately 30% of the acceptance of Visa and MasterCard credit cards.<sup>38</sup> The Canadian debit market has always been based on an at par system, which provided merchants with substantial incentives to install PIN pads. Unlike their U.S. counterparts, Canadian banks have not taken steps to suppress PIN debit

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<sup>37</sup> Kenneth J. Morrison, "The Canadian Experience with PIN Debit," submitted to the Board concurrently with this report ("Morrison Report"), ¶ 31.

<sup>38</sup> This is based on figures that were reported in *The Nilson Report* prior to 2007, before the reporting of these figures was discontinued. From 2002 to 2006, the percentage of merchants' outlets accepting Visa and MasterCard that also accepted PIN debit was about 30%. *The Nilson Report*, Issue Nos. 879 (May 2007), 856 (May 2006), 833 (May 2005), 809 (April 2004), 785 (April 2003).

to push consumers to the less secure signature debit product. These differences help explain why PIN debit penetration in Canada vastly exceeds that of the U.S.<sup>39</sup>

### 3. Conclusions and the Implications for Regulation

49. The structure of the debit network market has led to a perverse situation whereby the exercise of market power over merchants and competition for issuers among debit networks likely leads to consumer harm. When debit networks raise their interchange fee, they gain issuance and cardholders, but they do not lose merchant acceptance. This gives the networks incentives to raise interchange fees. As summarized by Board economists:

“In most markets, an increase in the level of competition among firms generates downward pressure on prices; however, this is not necessarily true for interchange fees. In general, competition among payment networks is unlikely to exert downward pressure on interchange fees because the networks tend to focus their competitive efforts on getting their card to be the favored card of a consumer.”<sup>40</sup>

50. This interchange-driven competition for issuers harms consumers on balance. The consumer harm derives from the fact that merchants likely fully pass-through higher interchange fee costs to their customers in the form of higher merchandise prices, whereas issuers likely pass through only a fraction of interchange fee revenue to their cardholders, as discussed in more detail below. Thus, consumers are harmed more by interchange fees that flow from merchants to issuers than they likely gain back from debit card issuers in the form of higher rewards or reduced fees. Moreover, the consumers that are harmed include those who do not even pay with debit cards, but rather with cash. To the extent that these customers are more likely to be lower income, this “tax” is regressive.<sup>41</sup> Consumers who pay with cards issued under certain Federal benefits programs such as Supplemental Nutrition Assistance Program (SNAP) are also harmed.<sup>42</sup> Like consumers who pay with cash, they are likely to be lower income. In addition,

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<sup>39</sup> It is worth noting that PIN debit is accepted in Canada at many merchant categories that Visa, MasterCard and the banks have along asserted are not well suited to PIN debit. These categories include the Internet, restaurants, and T&E merchants, such as hotels, airlines and car rentals. Morrison Report, ¶¶ 22 and 32-33.

<sup>40</sup> See Prager, et al, *supra* note 29, p. 4.

<sup>41</sup> See note 74, *infra*.

<sup>42</sup> We understand that acceptance of these EBT cards have a very low cost to merchants, and bear no interchange fee.

interchange fees also reduce merchant acceptance of PIN debit cards in general, which further harms consumers who gain benefits from using debit cards.

51. This analysis of the exercise of debit network market power over merchants and competition for issuers has important implications for the regulation of both interchange fees and network fees. First, this analysis makes it clear that the Board cannot simply rely on market forces to lead to reasonable interchange fees. Because of their power over merchants, Visa and MasterCard have the ability and the incentive to set high interchange and network fees that harm consumers. Competition for issuers gives all the networks the incentive to use the interchange fee to transfer money from merchants to issuers.

52. Second, this analysis explains why it is economically reasonable for the Board to mandate that the current system of interchange fees be replaced with a rebuttable standard of at-par interchange. For a number of reasons discussed in detail below, that policy likely would lead to higher consumer welfare and a better functioning regulatory system.

53. Third, the same analysis applies to network fees. The networks have the power and incentive to set high network fees to merchants. The network then could retain the fees as profits, or they could use these fees to finance higher payments to issuers. In this sense, interchange fees and network fees levied on merchants can serve as substitutes for the network.

54. Fourth, this ability and incentive to use network fees to tax merchants and use the proceeds to subsidize issuers also means that the regulations must pay special care to prevent the circumvention of the interchange fee regulation with excessive network fees. Indeed, Section 920 explicitly recognizes this potential and mandates that network fees may not be used to circumvent the restrictions or subsidize issuers.

55. Fifth, the strong incentives of networks to compete for issuers also implies that it is economically reasonable to allocate all network fees to issuers rather than merchants. Because issuers have the ability to substitute among networks, networks have substantially less (if any) ability to exercise market power over issuers by levying high network fees. This allocation of network fees solely to issuers also may reduce the administrative burden on regulators to control these fees. In contrast, because the networks have market power over merchants, they have the ability to set excessive merchant fees. As a result, preventing the exercise of that market power over merchants must rely on the efforts of regulatory agencies to set and enforce effective fee



ceilings, not competitive market forces. However, if the Board elects not to eliminate network fees on merchants, it nevertheless needs to prevent networks from exercising market power over merchants to raise merchant network fees as a circumvention of Section 920. In that circumstance, it would be economically appropriate to set a maximum fee cap at a low level on the network fees that can be levied on merchants.

#### **IV. STANDARDS FOR DEBIT INTERCHANGE FEES**

56. In this section, we analyze the regulatory standard for debit interchange fees.

##### **A. The Presumptive Standard Should be At-Par Interchange**

57. Section 920 requires the Board to set standards for debit card interchange fees that are “reasonable and proportional to the cost incurred by the issuer with respect to the transaction.” This is consistent with a presumptive *at-par interchange* (“API”) standard. Under this standard, there would be a strong regulatory presumption that interchange should be at-par for all debit card networks, whereby neither issuers nor merchants would be subsidized by either a positive or negative interchange fee. Instead, all debit transactions on all networks would be interchanged between merchants and regulated issuers at par.

58. If a network or issuer wishes to deviate from at-par interchange, it would have to bear a heavy burden of proof that a non-zero interchange fee would clearly benefit consumers (i.e., lead to a likely increase in consumer welfare). If the network or issuer carries this burden, it would be entitled to recover a proportion of its debit transactions costs in the form of a positive interchange fee. Exempt issuers would not be subject to this presumptive API standard.

59. In the remainder of this section, we discuss a number of reasons that this presumptive API standard is the most economically reasonable fee standard. We also explain why there is no economic support on balance for an interchange fee that flows from merchants to issuers, rather than a fee that flows in the opposite direction, or at-par interchange. We also discuss how the presumptive API standard might be rebutted by particular networks or issuers and how interchange fees should be set in proportion to the issuer’s costs when the presumption of API is successfully rebutted. We also discuss policies to deter circumvention of the interchange fee regulations. We also address potential criticisms of the presumptive API standard.

## **B. Interchange Flowing from Merchants to Issuers is Not Necessary for a Viable and Successful Debit System**

60. A subsidy to issuers is not necessary for the debit networks to remain viable. Debit has long been a mature payment system in the U.S. Banks provide debit cards to their DDA customers to reduce costs and provide them an important and increasingly critical convenience. Debit networks can function efficiently and successfully without interchange flowing from merchants to issuers.

### **1. Bank Incentives to Issue Debit At-Par**

61. Even without an interchange fee, banks have incentives to continue issuing debit cards to their depositors and to continue encouraging customers to use debit cards instead of cash and checks.

62. First, banks' incremental transactional costs for debit transactions are likely lower than their cost for cash and checks, which debit transactions tend to replace in some proportion.<sup>43</sup> There does not appear to be any disagreement that issuers' costs are reduced when depositors use debit to replace checks.<sup>44</sup> We understand that issuers' costs are also reduced when the use of debit expands by replacing cash and checks in normal proportion. Consumer usage of debit cards reduces banks' need for costly tellers, as well as consumer usage of ATMs.<sup>45</sup> On-us ATM withdrawals involve the incremental costs of re-stocking the ATMs with cash, whereas foreign ATM withdrawals involve interchange fees paid to ATM owners. Thus, banks likely reduce their overall transactional costs by issuing debit cards and by having their customers use them

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<sup>43</sup> Empirical studies have shown that debit substitutes primarily for cash and checks. See Ron Borzekowski and Elizabeth K. Kiser, "The Choice at the Checkout: Quantifying Demand across Payment Instruments," *International Journal of Industrial Organization*, 26 (2008), pp. 889–902; Ron Borzekowski, Elizabeth K. Kiser and Shaista Ahmed, "Consumers' Use of Debit Cards: Patterns, Preferences, and Price Response," *Journal of Money, Credit and Banking*, Vol. 40, No. 1 (February 2008), pp. 149-172.

<sup>44</sup> For example, see *Debit Issuer Survey: Cardholder Fees & Industry Outlook*, Dove Consulting/PULSE, August 2, 2002 ("All issuers agree that debit purchases are preferable to paper check transactions."; quoting a bank, "Our philosophy around PIN debit is that, even without making money off of it, it saves us money because it's one less check that we need to process."; "It is more cost effective to use either debit method than to use checks.").

<sup>45</sup> *TCF National Bank v. Ben S. Bernanke, et al*, Complaint filed in U.S. District Court (District of South Dakota), October 12, 2010 ("TCF Complaint"), ¶51 ("As for TCF, over the last 15 years, the average number of checks written each month per account dropped from 19 to 6, as average per account debit swipes soared from zero to 22 per month. Cash withdrawal also dropped as debit became easier and ATM usage dropped too.") and ¶52 ("[R]etailers began allowing debit purchasers to get 'cash back', further reducing ATM and teller traffic.").

instead of the cash and check alternatives. Electronic transactions are inherently less expensive than transactions that involve paper.

63. Second, debit cards offer valuable convenience benefits at the point of sale to consumers, including the ability to get cash-back at the point of sale on PIN debit transactions.<sup>46</sup> As a result, banks attract more depositors and those depositors may carry higher average balances if the bank offers debit cards at a reasonable cost.<sup>47</sup> Debit cards deepen the banks' relationships with their customers, enabling them to cross-sell other lucrative services, such as credit cards, card fraud protection policies, mortgages and home equity lines of credit.<sup>48</sup>

## 2. At-Par Interac Debit System in Canada

64. The Interac PIN debit network in Canada has operated viably and successfully with at-par interchange for its entire existence.<sup>49</sup> Not only has the Interac network been viable, debit usage has historically been far higher in Canada than in the U.S.<sup>50</sup> As discussed earlier, there is also greater merchant acceptance of debit in Canada, including in card-not-present environments. Despite the at-par interchange, two large Canadian issuers—Bank of Montreal and Scotiabank—offer rewards programs with their debit card programs.<sup>51</sup>

65. Because Interac is a PIN-based debit network, fraud rates and fraud costs are much lower than in the U.S. Debit fraud on the Interac system in Canada is reported to be less than one-tenth

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<sup>46</sup> Bank of America, Discussion with the Federal Reserve, September 17, 2010, p. 4 (explaining reasons that consumers prefer debit); JPMorgan Chase, Federal Reserve Board—Debit Card Discussion Document, August 4, 2010, p. 9 (explaining reasons that consumers prefer debit).

<sup>47</sup> TCF Complaint, ¶7 (“Nor can TCF drop its debit service—TCF’s customers expect and demand that their checking accounts include this service. TCF is left with no choice but to continue to provide debit cards at no cost to its customers.”), ¶34 (“Today, a debit card is a necessary component of any checking account.”), ¶47 (“Today, one cannot separate out the debit service from a checking account; more fundamentally, a bank cannot sell a checking account without including a debit card service and, without checking accounts, a bank cannot operate its branch system. Simply put... checking accounts are where most Americans put their paychecks today, and debit cards are a necessary component of those accounts.”), ¶109 (“As a preliminary matter, TCF recognized that curtailing debit services is not a realistic option for TCF or any other regulated bank.”).

<sup>48</sup> Evidence that debit enhances the value to consumers and banks of the DDA relationship is discussed more fully in the Mott Report at ¶¶ 29-32.

<sup>49</sup> The debit system in Canada is discussed in detail in the Morrison Report.

<sup>50</sup> After languishing behind Canada throughout the 1990s and most of the 2000s, debit usage in the U.S. has only recently caught up with Canada.

<sup>51</sup> See <http://www.bmo.ca/home/personal/banking/airmiles/how-to-collect?nav=left>. and [http://www.scotiabank.com/cda/content/0\\_1608.CID13474\\_LIDen.00.html](http://www.scotiabank.com/cda/content/0_1608.CID13474_LIDen.00.html). Also, see Morrison Report, ¶ 44.

of one basis point, compared to estimates in the U.S. ranging from eight-tenths of a basis point for PIN debit and 5 to 8 basis points for signature debit.<sup>52</sup> Interac has successfully funded most of its operations with a network switch fee that is less than one cent per transaction.<sup>53</sup>

66. Interac has also fostered innovation in Canada. Since 2005, the Interac issuers have offered a direct on-line debit product by which consumers can make purchases funded by their checking accounts. Interac also is moving more quickly to a Chip & PIN (“C&P”) system than are U.S. networks. Banks in Canada piloted chip debit cards in 2008. Chip cards and terminals are now being rolled out in Canada. Interac has set a deadline for complete migration to chip debit cards of December 31, 2012 for ATMs, and December 31, 2015 for point-of-sale.<sup>54</sup> In contrast, the U.S. industry is still debating whether and how it will implement C&P.<sup>55</sup>

67. MasterCard introduced its PIN debit product, Maestro, to the Canadian debit market in 2008 with at par interchange.<sup>56</sup> Visa also has entered the Canadian debit market with a very low interchange fee.<sup>57</sup> While the extent to which banks will issue these new debit products in Canada remains unclear, we understand that Interac does not intend to abandon its at par pricing system to compete for issuance against Visa and MasterCard.<sup>58</sup>

68. Canada is not the only example of the successful application of API for debit cards. According to 2006 data collected by Dennis Carlton, “...in seven of the eight countries with the highest debit card usage per capita there is no interchange fee.” Those seven countries are Canada, New Zealand, Iceland, Norway, Finland, Denmark, and the Netherlands. As Carlton observes, this casts “...empirical doubt on the proposition that interchange fees are necessary to

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<sup>52</sup> See Section IV.B.2, below.

<sup>53</sup> Morrison Report, ¶ 25.

<sup>54</sup> Morrison Report, ¶¶ 59-63.

<sup>55</sup> See <http://www.interac.ca/merchants/chip.php>.

<sup>56</sup> See <http://www.newswire.ca/en/releases/archive/February2010/12/c9502.html>.

<sup>57</sup> Visa offers a PIN debit product, Interlink, in Canada with a positive interchange fee, but much lower than its corresponding product in the U.S. See Morrison Report, ¶ 65 and Table 5.

<sup>58</sup> Morrison Report, ¶ 86.

stimulate usage through promotional activity and cross subsidy from the merchant side of the market to the consumer side.”<sup>59</sup>

### **3. At-Par Check Clearing System**

69. Debit and checks are substitutes for depositors. Despite some differences, checks and debit are both ancillary parts of the depository relationship, as ways of accessing the assets in the account. Checks have cleared at par at least since the Federal Reserve Act of 1913 authorized the Federal Reserve System to function as a clearing house for member banks to clear checks at par. Both depository banks and merchants bear costs of handling checks. But no interchange has been necessary either to induce banks to issue paper checks to their depositors or to induce merchants to accept checks as payment. Banks have cleared check transactions for their depositors for about a century without demanding a financial subsidy from merchants in order to do so. Each side pays its own costs. And, checks have enjoyed widespread use as a successful means of payment. In fact, many banks offer free checking because the ability to write paper checks, like the ability to access funds with a debit card, is a convenience that motivates the consumer to maintain higher balances and possibly purchase other services from the bank.

70. At-par check clearing also extends to so-called “electronic” checks (i.e., where a merchant uses check conversion or a bank uses check truncation in order to convert a paper check into an electronic transaction), and to ACH transactions.

71. We are not recommending that the Board should adopt API because debit is a type of electronic check. Instead, we are recommending the presumptive API standard for debit for the various policy reasons expressed throughout this report. At-par interchange of checks provides further evidence to counter claims that API will somehow cause issuers to stop issuing debit cards.

### **C. API Has Significant Market Benefits**

72. API has a number of important market benefits. API would lead to a likely increase in consumer welfare, both in the form of lower net payment costs and increased merchant

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<sup>59</sup> Dennis W. Carlton, “Externalities in Payment Card Networks: Theory and Evidence, Commentary,” *The Changing Retail Payments Landscape: What Role for Central Banks*, proceedings of a conference held at the Federal Reserve Bank of Kansas City, November 9-10, 2009, pp. 129-130 and Chart 1 therein.

acceptance of PIN debit. It also would eliminate the regressive tax on cash and check users, who tend to be lower income on average. API also would improve issuer incentives to prefer low-cost PIN debit networks by forcing networks to compete on the efficiencies of their operations rather than on their ability to set higher interchange fees. API also would help to prevent the exercise of network market power over merchants. These benefits explain why the presumptive API standard is economically reasonable and why there should be a heavy burden placed on issuers or networks that wish to deviate from API.

### **1. Direct Consumer Price Benefits**

73. The API system is economically reasonable because it likely will benefit consumers as a whole by reducing retail prices by more than it would increase debit card usage fees or reduce debit card rewards. As demonstrated below, the evidence shows that merchants are likely to pass through to customers more of their lower costs from lower interchange revenues (by reducing retail prices) than issuers are likely to pass through in the form of higher cardholder fees (or reduced cardholder rewards). As discussed below, the API system also would benefit consumers by increasing merchant acceptance of PIN debit cards.

74. This issue has been recognized by economists at the Board.

“In terms of equity, interchange fees and associated transaction fees can generate transfers among non-card users, card users, merchants, and banks that increase the welfare of some parties while reducing the welfare of others. For example, high interchange fees could support low transaction fees (or high rewards) for cardholders, thereby potentially making card users better off. However, if the net effect of card acceptance is to increase merchant costs (that is, if card acceptance fees exceed any reduction in merchants’ transaction costs due to card acceptance), and if merchants do not set prices that vary by payment method, then merchant acceptance of cards could lead to higher retail prices for all consumers, including those who pay with alternative methods and receive none of the direct benefits associated with card use.”<sup>60</sup>

75. Empirical studies suggest that the merchant pass-through rate would be very high. When the interchange fee is increased, the acquiring banks pass on the increase to merchants in the

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<sup>60</sup> Prager, et al, *supra* note 29, p. 8 (footnotes omitted).

form of higher merchant discounts, which raises the retailers' variable costs in the same way as a sales tax does. A number of econometric studies have estimated the extent to which merchants pass through changes in costs from state and local sales tax rates. The interchange fee acts like a general sales tax in retail sectors in which competing merchants accept debit cards.

76. These econometric studies have estimated that pass-through rates are very high, perhaps even 100% (or more) once the market adjusts.<sup>61</sup> For example, Poterba (1996) estimates retail pass-through rates from changes in state and local taxes for clothing and personal care items using data from the period 1947-1977. He finds that retail prices increase by the amount of the sales tax (i.e., 100% pass-through rate).<sup>62</sup> In a related study, Besley and Rosen (1999) also estimate pass-through rates from changes in sales taxes.<sup>63</sup> They use a more recent dataset that spans the period 1982-1990 and focus on a variety of several specific products. For some products they find pass-through rates of 100%, whereas for other products they find pass-through rates in excess of 100%.<sup>64</sup> Kenkel (2005) and Sung, Hu and Keeler (1994) provide further evidence for pass-through rates in excess of 100% from studying, respectively, the effects of the 2002 Alaska state tax increase on alcohol and the 1989 California tax increase on cigarettes.<sup>65</sup>

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<sup>61</sup> Some commentators have suggested that merchants in Australia did not pass through their savings when credit card interchange fees were reduced. However, as observed by the Reserve Bank of Australia, "No concrete evidence has been presented to the Board regarding the pass-through of these savings, although this is not surprising as the effect is difficult to isolate. The Bank had previously estimated that the cost savings would be likely to lead to the CPI being around 0.1 to 0.2 percentage points lower than would otherwise be the case over the longer term (all else constant). It is very difficult to detect this against a background where other costs are changing by much larger amounts and the CPI is increasing by around 2½ per cent per year on average. Despite the difficulties of measurement, the Board's judgment remains that the bulk of these savings have been, or will eventually be, passed through into savings to consumers." (Reform of Australia's Payments Systems Preliminary Conclusions of the 2007/08 Review, April 2008, p. 22-23)

<sup>62</sup> James M. Poterba, "Retail Price Reactions to Changes in State and Local Sales Taxes," *National Tax Journal*, Vol. 49, No. 2, June 1996.

<sup>63</sup> Timothy J. Besley and Harvey S. Rosen, "Sales Taxes and Prices: An Empirical Analysis," *National Tax Journal*, Vol. 52, No. 2, June 1999.

<sup>64</sup> Pass-through rates in excess of 100% are not inconsistent with economic principles. If a firm has market power and faces a constant elasticity demand curve, it would have the incentive to pass-through more than 100% of a firm-specific cost increase.

<sup>65</sup> Donald S. Kenkel, "Are Alcohol Tax Hikes Fully Passed Through to Prices? Evidence from Alaska," *American Economic Review*, Vol. 95, No. 2, May 2005; Hai-Yen Sung, Teh-Wei Hu, and Theodore E. Keeler, "Cigarette Taxation and Demand: An Empirical Model," *Contemporary Economic Policy*, Vol. XII, July 1994. See also James Alm, Edward Sennoga, and Mark Skidmore, "Perfect Competition, Urbanization, and Tax Incidence in the Retail Gasoline Market," *Economic Inquiry*, Vol. 47, No. 1 (2009); and, Joseph J. Doyle, Jr. and Krislert Samphantharak, "\$2.00 Gas! Studying the Effects of a Gas Tax Moratorium," *Journal of Public Economics*, 92, 2008.

77. Issuers in the U.S. pay limited debit rewards to consumers who use debit cards. Current interchange fees for signature debit are about 142 basis points.<sup>66</sup> Yet, the relatively few cardholders who receive rewards for making signature debit transactions get, on average, about 25 basis points in rewards.<sup>67</sup> (In other words, if the consumer spends \$100, the reward is worth 25 cents.) An estimated 30% of debit card transactions are conducted with debit rewards cards.<sup>68</sup> Thus, the fraction of debit interchange shared with debit users through rewards is probably less than 10%.<sup>69</sup>

78. In contrast to the 100% pass-through by retail merchants, there is no evidence to suggest that a reduction in interchange fees will result in a commensurate reduction in rewards or increase in fees.<sup>70</sup> In fact, Visa itself has suggested that the pass-through rate from credit card issuers to cardholders would be less than 100%.<sup>71</sup> A number of economists have reached the same conclusion.<sup>72</sup>

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<sup>66</sup> Discover 2010 Debit Issuer Study, Executive Summary, p. 14.

<sup>67</sup> See Margaret Carten, Dan Littman, Scott Schuh, and Joanna Stavins, “Consumer Behavior and Payment Choice: 2006 Conference Summary,” Public Policy Discussion Papers No. 07-4, Federal Reserve Bank of Boston, July 16, 2007, p. 23. This average reward value of 25 basis points is consistent with other, more recent, evidence we have reviewed on bank debit reward programs.

<sup>68</sup> According to the Aite Group LLC, 29% of debit volume was transacted on a rewards card in 2009. (Financial Services Rewards Programs: The Quest for Profitability, December 2009, The Aite Group LLC, p. 10) Similarly, Wells Fargo, the second-largest debit card issuer, reports that 30% of its debit card volume is transacted on a rewards card. (Card Services and Consumer Lending, Wells Fargo, May 13, 2010, p. 14)

<sup>69</sup> This can be calculated as 25 basis points (the average reward on a signature debit card) multiplied by 30%, and then divided by 142 basis points (the average interchange on a signature debit card), which results in users receiving on average only 5.3% of the interchange fee. (A similar calculation for PIN debit yields an even lower rewards rate.) This low rewards rate does not by itself rule out 100% pass-through of reduced (or eliminated) interchange fees.

<sup>70</sup> The studies we have seen are all subject to criticism, but the critiques also do not estimate an issuer pass-through rate of 100%. For example, see Interim Report I: Payment Cards, Sector Inquiry under Article 17 Regulation 1/2003 on retail banking, European Commission, April 12, 2006, p. 56 and Annex 5, which estimated a pass-through rate of 25%. (See also the final report, Report on the Retail Banking Sector Inquiry, Commission Staff Working Document, January 31, 2007, p. 100.) This study has been criticized, by (for example) Oxera Consulting Ltd. (“A Comment on the European Commission’s Profitability Analysis,” Prepared for Royal Bank of Scotland, July 24, 2006) and Evans, Rochet, and Schmalensee (“The European Commission’s Interim Report on Payment Cards: Some Comments and Suggestions,” June 21, 2006); See Howard Chang, David S. Evans, and Daniel D. Garcia Swartz, “The Effect of Regulatory Intervention in Two-Sided Markets: An Assessment of Interchange-Fee Capping in Australia,” *Review of Network Economics*, Vol. 4, Issue 4, December 2005. This latter study estimated an issuer pass-through rate of 30-40%.

<sup>71</sup> Visa Europe, Response to the Consultation on the European Commission’s Interim Report I: Payment Cards, June 21, 2006, p. 21 (“...in practice there may not be full pass-through, for example, on the issuing side. Issuers may find that they can increase their issuing business by using, as it were, part of an increase in the level of a MIF to recruit more cardholders, and not pass through the whole of the increase directly to its cardholders.”) Visa went on to



79. Thus, there is little reason to conclude that the rate at which issuers would pass-through a reduction in the interchange fee to users as higher debit fees (or lower rewards) would equal or exceed the rate at which merchants would pass-through the lower fees as lower merchandise prices. As a result, it seems far more likely for API to directly raise consumer welfare than lower it. In addition, as discussed below, consumers also would benefit from increased merchant acceptance of debit cards (primarily PIN debit).

80. We understand that some have claimed that issuers will suffer large margin reductions as a result of API.<sup>73</sup> We expect that issuers' overall margins will fall because we have seen no evidence to suggest that they would fully pass-through the interchange fee reduction in the form of lower rewards or higher debit fees. However, we do not view these margin reductions (or the somewhat higher debit fees levied on users) as harmful on balance. First, the issuers' margin reductions will be translated directly into consumer gains. Consumers (including cash customers) will obtain lower retail prices. The smaller estimated issuer pass-through rate suggests that higher consumer debit usage fees would be insufficient to reduce consumer welfare on balance. Moreover, market efficiency will be enhanced, because the price of debit card usage will become more transparent as the consumers using the product will pay for it as opposed to the current system that externalizes those costs to all consumers. Second, merchant

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explain that part of the increase also may be spent by an issuer on "promoting its business." *Id.* at p. 25. Of course, these type of expenditures spent on promotion in an attempt to attract the cardholders of other issuers is an example of rent-seeking conduct, as identified by Tullock and Posner in their classic articles cited earlier at note 36. When firms charge supra-competitive prices, they have the incentive to make promotional expenditures to attempt to obtain additional high-margin customers.

<sup>72</sup> See Alan S. Frankel and Allan L. Shampine, "The Economic Effects of Interchange Fees," *Antitrust Law Journal* 73, 2006, p. 634 ("As interchange fees increase, merchants are likely to pass the additional costs on to all of their customers. Issuers, on the other hand, generally do not fully rebate each increment in interchange fee revenue back to their cardholders."); Fumiko Hayashi and Stuart E. Weiner, "Interchange Fees in Australia, the UK, and the United States: Matching Theory and Practice," *Economic Review - Federal Reserve Bank of Kansas City*, Third Quarter 2006, p. 95 ("It does appear that pass-through of interchange fees is 100 percent on the acquiring side, while on the issuing side it is less than 100 percent."); Barbara Pacheco and Richard Sullivan, "Interchange Fees in Credit and Debit Card Markets: What Role for Public Authorities?," *Economic Review - Federal Reserve Bank of Kansas City*, First Quarter 2006, p. 98 ("Moreover, in the United States, most agree that networks place greater emphasis on issuer profits than acquirer profits and that acquirers pass along more of any changes in fees to their customers compared to issuers – both of which suggest that interchange fees will be above the efficient level."); Michael L. Katz, "What Do We Know About Interchange Fees and What Does it Mean for Public Policy?," Proceedings – Payments System Research Conferences, Federal Reserve Bank of Kansas City, May 2005, p. 132 ("acquirers [in the U.S.] generally pass through a higher percentage of fee changes to their customers than do issuers.").

<sup>73</sup> There are two inconsistent claims on this point. On the one hand, there is an argument that issuers will suffer a huge profit loss by having to absorb the entire loss of interchange fees. On the other hand, there is another argument that consumers' costs will skyrocket because issuers will eliminate all the consumer rewards and impose large debit usage fees. Both of these claims obviously cannot be true.

acceptance of PIN debit cards also will rise, leading to increased debit usage and further increases consumer benefits. As discussed above, the regulations should focus on maximizing consumer welfare, not total welfare (which places equal weights on bank profits, merchant profits and consumer welfare).

## **2. Elimination of Regressive Tax on Cash and Check Customers**

81. The API system also will reduce the current regressive “tax” on low income consumers, who are less likely to use the debit cards covered by Section 920 or less likely to obtain usage “rewards.” Lower income consumers are less likely to have checking accounts, and therefore are less likely to use debit cards and more likely to use cash.<sup>74</sup> Thus, when retail prices rise as a result of high interchange fees, the cost is partially shifted to these consumers, who obtain no convenience benefits from the debit cards.

82. As shown by a recent study conducted by economists at the Federal Reserve Bank of Boston, this regressive tax is quite significant for credit cards.<sup>75</sup> They found that, on average, each cash-using household pays \$149 to credit card-using households, and each credit card-using household receives \$1,133 from cash users every year. In addition, the lowest-income households paid an average of \$21 while the highest-income households received an average of \$750 each year. The same regressive dynamic exists with debit cards, although at lower levels. Whatever the exact magnitude of the cost-shift for debit cards, the API system avoids this regressive tax.

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<sup>74</sup> Low-income households are less likely to have a checking account (and, therefore, a debit card). According to the 2007 Survey of Consumer Finances, families that did not have a checking account were disproportionately likely to be in the bottom income quintile group. See “Changes in U.S. Family Finances from 2004 to 2007: Evidence from the Survey of Consumer Finances,” The Federal Reserve Board, p. A16, Table 6. An article by several Board economists finds that consumers “with less than a high school education are more likely to choose cash, at a share of about 40%.” They also find that the lowest income consumers are marginally more likely to use cash. See Ron Borzekowski and Elizabeth Kiser, “The Choice at the Checkout: Quantifying Demand Across Payment Instruments,” *International Journal of Industrial Organization*, Vol. 26, Issue 4 (July 2008). The FDIC also reported that there are 9 million U.S. households who are “unbanked” (do not have a checking or savings account), and that they are disproportionately low-income. (“Plan Promotes Bank Accounts for Consumers,” *The Wall Street Journal*, August 18, 2010. )

<sup>75</sup> Scott Schuh, Oz Shy, and Joanna Stavins, “Who Gains and Who Loses from Credit Card Payments? Theory and Calibrations,” Public Policy Discussion Paper No. 10-03, August 31, 2010. See also Prager, et al, *supra* note 29, at p. 23-24.

### 3. Consumer Benefits from Increased Merchant Acceptance of Debit Cards

83. The API system also is economically reasonable because it likely will lead to an increase in the rate of merchant acceptance of PIN debit cards, which will further benefit consumers. Today, the merchant penetration of PIN debit cards in the U.S. lags far behind comparable rates in Canada. About 30 percent of merchant outlets that accept credit cards also accept PIN debit, and PIN debit currently is not generally accepted for card-not-present transactions.<sup>76</sup> If PIN debit card transactions were made less expensive for merchants, and the incentives that have motivated banks to discourage PIN debit were eliminated and banks began to push it as the more secure and efficient product, merchants' incentives to accept the product would increase.<sup>77</sup> As discussed above, with an at-par pricing system and banks encouraging PIN debit because of its security and efficiency, Canadian PIN debit acceptance is much higher than in the U.S.<sup>78</sup> If API were implemented in the United States, debit (particularly PIN debit) acceptance likely also would increase.

84. Greater PIN debit acceptance would benefit consumers. Because it is more secure, PIN debit can be given to virtually the entire DDA base, whereas signature debit cannot.<sup>79</sup> As such, the consumers that do not qualify for signature debit would benefit from the expanded acceptance of PIN debit. Moreover, all debit cardholders would benefit from the reduced fraud costs of PIN debit, and those benefits also would accrue to issuers too.

85. Many merchants today do not have PIN pads. However, we expect that API will spur the spread of PIN pads. This is because API will eliminate issuer incentives to promote signature debit by using differential rewards, deceptive advertising, and taxation of PIN debit. This will increase the usage of PIN debit, which will increase merchant willingness to adopt PIN pads. PIN pads also are not prohibitively expensive. We understand they cost about \$100-500 and last on average five years.

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<sup>76</sup> See note 38, *supra*.

<sup>77</sup> As detailed in the Report of Steve Mott, PIN debit costs banks much less than signature debit to process. See Expert Report of Steve Mott, ¶ 35.

<sup>78</sup> Morrison Report, ¶¶ 28-33.

<sup>79</sup> Mott Report, ¶ 5.

86. Consumers in theory might not benefit on balance if there were a substantial decline in debit card issuance and usage. That reduced usage might more than offset the sum of the direct price benefits to consumers, plus the gains from higher merchant acceptance of PIN debit, plus the gains from the lower processing costs and fraud rates of PIN debit. However, we have no reason to expect this to be the case in fact. Debit cards are a core convenience that consumers have come to expect in a mature market. Banks benefit from providing this convenience as it enhances their ability to attract greater balances and cross-sell other services. Moreover, card issuers likely obtain cost-savings when their depositors use debit instead of cash or checks, so they will continue to have the incentive to issue debit cards widely. (If issuers have higher costs, those higher costs could be used to justify a positive interchange fee, as discussed below.) Instead, consumer usage of debit cards will tend to increase as a result of increased merchant acceptance of PIN debit, which will tend to increase issuers' incentives to continue to issue debit cards. Thus, any impact of higher usage fees or lower rewards on consumer usage is unlikely to offset all these effects, particularly in light of the likely higher merchant pass-through rate of the lower interchange fee, and the resulting beneficial effects on price and output in the merchandise market.

#### **4. Reduced Issuer Incentives to Inefficiently Promote Signature Debit**

87. The API system also is economically reasonable because it eliminates the current artificial subsidy paid to issuers for signature debit, which is both more costly to process for merchants and issuers, and more prone to fraud.<sup>80</sup>

88. Issuers historically have taken a number of steps to increase the number of signature debit transactions relative to the number of PIN debit transactions. First, some issuers have instituted rewards programs that allow the cardholder to use their debit card to accumulate points, but only if they sign for the transaction rather than enter their PIN. This encourages the cardholder to push “credit” instead of “debit” to ensure that the transaction is processed as a signature-based debit rather than PIN-based. For example, a SunTrust mailer for its rewards debit card says that “Qualifying check card purchases [i.e., to qualify for the reward] must be signature-based

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<sup>80</sup> Mott Report, ¶ 35. Also see paragraph 127, *infra*.

purchases ...”<sup>81</sup> Second, some banks have instituted cardholder per-transaction fees that apply to PIN-debit transactions at the point-of-sale, but do not apply to signature debit transactions. For example, a study by the Board in 2004 found that about 14 percent of banks that offered debit cards charged PIN debit usage fees to at least some customers.<sup>82</sup> These fees ranged from \$0.10 to \$2.00 per transaction, with the median fee being about \$0.75. A more recent study by PULSE found that 25% of debit issuers charge a PIN debit fee to at least some of their customers.<sup>83</sup> The average fee was about \$0.53. These fees also encourage cardholders to push “credit” instead of “debit” in order to avoid the transaction fee. Third, some banks have discouraged the use of PIN debit with deceptive claims to depositors that PIN debit increases the risk of fraud. A recent example of this is a mailing sent to cardholders by JPMorgan Chase in which it said, “by choosing ‘credit,’ you won’t have to enter your PIN in public,” implying incorrectly that signature debit is safer.<sup>84</sup> Finally, Visa and MasterCard rules each require only their logos on the front of the cards, which can nudge consumers to choose the signature option.<sup>85</sup> Practices such as these have limited the growth in usage of PIN debit.

89. Industry sources dating back 20 years show that PIN debit is more secure than signature debit.<sup>86</sup> We understand that issuers consistently issue PIN debit to most or virtually all of the DDA base, in contrast with signature debit. In this regard, it is somewhat surprising that some banks have disseminated claims that entering their PIN in public is unsafe, as a way to encourage the use of signature over PIN debit.<sup>87</sup> This is more of a reflection of the perverse incentives of

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<sup>81</sup> SunTrust mailer received September 2010. Also see [https://www.suntrust.com/portal/server.pt/community/chk\\_mastercard\\_check\\_card/454](https://www.suntrust.com/portal/server.pt/community/chk_mastercard_check_card/454).

<sup>82</sup> *Report to the Congress on the Disclosure of Point-of-Sale Debit Fees*, Board of Governors of the Federal Reserve System, November 2004.

<sup>83</sup> “PULSE Releases 2008 US Debit Issuer Survey,” *Payment News*, April 29, 2008 ([http://www.americanbanker.com/issues/175\\_75/debit-1017958-1.html](http://www.americanbanker.com/issues/175_75/debit-1017958-1.html)).

<sup>84</sup> “Counterintuitive Pitch for Higher-Fee Debit Category,” *American Banker*, April 21, 2010.

<sup>85</sup> For a discussion of how the display of information can affect consumer decisions, see Richard H. Thaler and Cass R. Sunstein, “Nudge: Improving Decisions About Health, Wealth, and Happiness,” Yale University Press, 2008.

<sup>86</sup> Mott Report, ¶¶ 4-5.

<sup>87</sup> Another version of this argument is that thieves can break into a user’s DDA by having access to the PIN. As we understand the claim, it is that thieves could observe a person’s PIN when the user enters it in public. Of course, the thief would need to obtain the card number as well as the PIN. In fact, having two layers of security is why PIN debit is more secure than signature debit, not less. Of course, thieves also can access the money in a DDA by making purchases with a stolen signature debit number. It is true that thieves cannot use a signature debit card to remove cash at ATMs. However, this problem is limited because issuers place limits on daily ATM cash

the current system rather than an indication of the relative fraud exposure created by the two products.

90. The API system would eliminate the inefficient incentives that motivate these practices to promote signature debit over PIN debit. Instead, issuers would have the incentive to use the debit networks that offer the best combination of network quality on the one hand, and costs (including fraud costs) on the other.<sup>88</sup> This does not mean that signature debit will be prohibited, or that it will disappear. However, applying API for both PIN and signature debit cards likely will increase PIN debit acceptance and usage.

91. In this regard, the evidence shows that most consumers are willing to enter their PINs in public.<sup>89</sup> Large merchants that accept and favor PIN debit have been able to achieve much higher PIN debit usage simply by prompting shoppers to use their PINs. We have received data from one such merchant that achieves a rate of about 80% for PIN debit (as a percentage of total debit transactions) versus roughly 33% for all merchants. (See Exhibit 6.) This rate likely would be even higher except for issuer efforts to discourage use of PIN debit in favor of signature debit.

92. PIN debit purchases over the Internet also likely will grow over time under an API system. Systems to accept PIN debit on the Internet are now being rolled out.<sup>90</sup> PULSE reports on two surveys that indicate consumers' high willingness to enter their PINs for Internet transactions.<sup>91</sup> These results are not surprising. Consumers make payments via remote banking over the Internet by entering a password that is similar to a PIN. More than 70 million U.S.

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withdrawals. If the problem were significant, issuers could remedy it by issuing separate ATM and POS debit cards. Most consumers carry multiple credit and debit cards already.

<sup>88</sup> Any identical interchange fee would eliminate the incentives to favor signature debit. Therefore, if the Board chooses to mandate an interchange fee, it should be the same for all networks.

<sup>89</sup> For example, we understand that PIN debit is accepted at New York City subway stations and is widely accepted for mass transit in Canada. See Morrison Report, ¶ 33.

<sup>90</sup> For example, Acculynk is working with nine PIN debit networks (including PULSE, NYCE, MasterCard, ACCEL/Exchange, Alaska Option, Credit Union 24, Jeanie, NetWorks, and SHAZAM) to use its PaySecure system for Internet payments. See "PaySecure Internet PIN Debit on Track with U.S. Financial Institutions," News Release (October 13, 2010), <http://www.acculynk.com/us/press/PaySecure%20Internet%20PIN%20Debit%20on%20Track%20with%20U.S.%20Financial%20Institutions.pdf>.

<sup>91</sup> According to PULSE, a 2009 Javelin survey indicated that 79% of respondents "would feel more comfortable using debit cards online with a PIN than without it." A PULSE pilot study found that 54% of cardholders paying for online purchases preferred to enter a PIN, when given a choice between PIN or signature options. See "PULSE Introduces PIN Debit for E-commerce Transactions," News Release (July 14, 2010), <http://www.acculynk.com/us/press/PULSE%20Internet%20PIN%20Debit%20News%20Release.pdf>

households utilize online banking services.<sup>92</sup> In fact, Canadian consumers are using that functionality, via Interac, to make direct debit transactions over the Internet.<sup>93</sup> Similarly, consumers routinely enter their credit and signature debit card number, along with the three-digit security identifier on the back (which is similar to a PIN), when making signature debit or credit card purchases over the Internet. Absent issuers' incentives to promote signature debit to obtain higher interchange fees, PIN debit is well positioned to expand on the Internet.

## **5. Prevention of Exercise of Network Market Power**

93. The API system also is economically reasonable because, if supported by regulations sufficient to prevent evasion, it will prevent the debit card networks from harming consumers by exercising market power over merchants. As discussed above, this market power has caused higher retail prices that harm consumers, and has limited the growth and acceptance of the more secure and efficient debit products such as PIN and C&P.

### **D. An API System Would Have Significant Regulatory Administrative Benefits, Relative to Cost-Based Interchange Fees**

94. The API standard also has regulatory administrative benefits for market participants and the Board and other regulators, relative to a standard that requires evaluation and allocation of costs. Cost-based regulation raises a number of well-known, difficult regulatory issues.<sup>94</sup>

95. First, the API avoids the need for the Board to decide what costs to include and how to measure them. For example, the statute uses the term "incremental cost," without defining it. Cost-based regulation would require the Board to obtain estimates of issuers' costs of signature and PIN debit, as well as issuers' costs when depositors use cash and checks instead of debit. API eliminates the cost burden placed on the participants to provide the relevant cost information

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<sup>92</sup> 2010 Consumer Billing and Payment Trends Survey, Consumer Insights, Fiserv.

<sup>93</sup> Indeed, the Board could help to create and promote such a more secure system in the U.S., if it concludes that fear of such fraud is a significant deterrent to efficient transactions on the Internet.

<sup>94</sup> See Prager, et al, *supra* note 29, p. 48 ("However, the determination of which costs should be included in a cost-based fee is necessarily arbitrary, and measuring those costs is nontrivial, particularly if frequent re-estimation of costs is necessary."). Also, see Zhu Wang, "Regulating Debit Cards: The Case of *Ad Valorem* Fees," *Economic Review - Federal Reserve Bank of Kansas City*, First Quarter 2010 ("First, policymakers may lack information on card costs because networks and issuers treat their cost information as proprietary. Even if policymakers can mandate collecting the cost information, determining what cost components should be included in setting the card fees remains at issue. Historical lessons have shown that cost-based price control can distort firms' incentives.").

to the Board. API also eliminates the need for the Board or other agency to audit the cost estimates received from issuers in order to achieve consistency and avoid evasion.<sup>95</sup>

96. Second, the API system also allows the Board to avoid a number of knotty, if not intractable, regulatory dilemmas. In particular, if the Board mandates a higher interchange fee for a debit card that has higher costs to issuers, such a policy may encourage issuer promotion of that less efficient card. Standards that permit issuer-specific interchange rates based on a specific issuer's costs could also promote inefficiency if they provide higher interchange fees to higher cost issuers, particularly given the wide divergence of issuer costs.<sup>96</sup> Similarly, if the Board sets the interchange fee on the basis of the transactional costs of issuers, but does not take into account the debit acceptance costs of merchants, that policy also could motivate issuer promotion of a card with higher overall transactional costs.

97. Third, the API system eliminates the need for the Board or other regulatory agencies continuously to monitor the costs of issuers and networks in order to enforce compliance with a cost-based interchange fee standard and avoid regulatory evasion over time.

98. Fourth, the API system eliminates the need for the Board to adjust regulated fees or standards over time. For example, if the Board chooses to set a maximum interchange fee, it may need to change that maximum fee as costs change in the future. This feature also will reduce the regulatory costs of issuers, networks, merchants and consumer advocacy groups, who will be relieved of the burden of periodic, if not continuous, regulatory proceedings.

### **E. Rebutting the At-Par Presumption**

99. We recommend that the Board mandate a strong (but rebuttable) regulatory presumption that interchange should be at-par. If a network or issuer wishes to deviate from at-par interchange, it should have to bear a heavy burden of proof that a non-zero interchange fee

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<sup>95</sup> If the Board limits the cost basis of interchange fees to incremental authorization, clearing and settlement costs, we understand that these are more relatively straightforward to identify and segregate. But, if other costs are included, a host of troublesome accounting issues are raised. For example, we understand the issuer costs vary considerably based on numerous factors, including the size and efficiency of the financial institution, whether it outsources certain processing functions and whether it allocates costs accurately across the various segments to which they may apply. On the latter point, certain debit issuance costs may be included in the bank's DDA, ATM or credit card programs costs. If the Board opts for a cost-based regulation, it will need to ensure that allocations across those programs are done accurately and consistently across issuers. See Mott Report, ¶¶ 38-44.

<sup>96</sup> Mott Report, ¶¶ 38-44.



clearly would likely benefit consumers.<sup>97</sup> We are skeptical that networks or issuers can make such an showing of reasonableness, in light of the likely differential pass-through rates and the likely consumer benefits of API from increased merchant acceptance of PIN debit, as well as the administrative cost savings of API.<sup>98</sup> However, if an issuer or network can carry this heavy burden, then a positive interchange fee in principle might be economically reasonable, up to a cap that is a proportion of the issuer's costs. In that situation, the issuer or network also would be required to show that it bears a higher cost when its depositors make debit transactions rather than using checks or cash, as discussed below.

100. We recommend that the Board take a cautious approach to permitting issuers to deviate from API. In particular, if the Board were to permit higher cost issuers to obtain a positive interchange fee as compensation for those higher costs, that policy would “reward” the inefficiency and thereby decrease the issuer's incentives to reduce its costs.

101. Finally, when such an issuer-by-issuer deviation from API is permitted, the Board could consider crafting a corresponding regulatory exception to the networks' Honor All Cards rules (literally, honor all *issuers*) to allow merchants to opt out of accepting the higher interchange fee cards. This might be necessary to mitigate issuers' adverse incentive effects and also avoids the incentive of deviating issuers to free ride on the Honor All Cards rules and potentially inflict harm on other issuers (as well as merchants and networks), by reducing the merchants' willingness to accept the network's cards.

## **F. Interchange Fee Cost-Basis**

102. If a network or issuer is able to show that a positive interchange fee is economically reasonable because it clearly is likely to benefit consumers, then the Board should consider

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<sup>97</sup> In light of the various administrative burdens of fee regulation and potentially adverse incentive effects, the Board may conclude that the costs and risks of allowing issuers to deviate from API exceed the likely market benefits. In that case, the most economically reasonable alternative would be to simply mandate interchange at-par without exception for regulated issuers, in light of the likely (expected) consumer benefits and the other policy benefits discussed in this report.

<sup>98</sup> One possible rebuttal scenario might involve an efficient issuer requesting a positive interchange fee for a PIN debit network that involves the issuer making a binding commitment to pass through to depositors more than 100% of the interchange fee obtained in the form of debit rewards (relative to the reward under API). (To back up this commitment, the issuer might propose a process by which the regulatory agency could monitor and detect any attempt to recapture some of those higher rewards with other fees. The issuer also would submit other evidence necessary to show that consumers likely would benefit from the positive interchange fee.)

setting a cost-based standard for the maximum positive interchange fee as a proportion of the issuer's costs. In light of the fact that debit cards largely supplant cash and check transactions, it would be economically reasonable to base the proportion of cost standard on issuers' incremental costs of processing debit transactions, relative to their incremental costs of the cash and checks that consumers would tender otherwise.<sup>99</sup> We believe that it typically will be the case that issuers' costs when depositors use debit cards will be less than their costs when depositors use cash and checks instead. In addition, their depositors desire to have access to debit cards. Therefore, there generally would be no need for a positive interchange fee to incentivize issuers to continue to issue and promote debit cards even with API.

103. However, under the presumptive API standard proposed here, the use of API may be if rebutted if the issuer (or network, on behalf of all its issuers) can establish the following two conditions: (a) there is sufficient evidence of consumer welfare benefits from a positive interchange fee; and (b) the issuer's (or all the network's issuers) incremental costs of debit transactions exceed the comparable costs of transactions with cash and checks. Where these facts can clearly be proved, then the issuer would be entitled to a positive interchange fee equal to a proportion of the issuer's costs. A positive interchange fee could be permitted, up to a limit of incremental ACS costs, to make up some or all of the difference between the issuers' costs of processing debit transactions and their lower costs of cash and checks, if their depositors were to use those payment instruments instead. To illustrate with a hypothetical example, suppose that an issuer's ACS cost of debit transactions is 10 cents while its comparable cost of cash and check transactions is 6 cents. In that situation, the issuer could recover up to a maximum of 4 cents (i.e., 10-6), which amounts to 40% of its debit cost.

104. To promote efficiency (or to avoid rewarding inefficiency) the Board should not fully compensate high cost issuers for their higher costs. This objective could be accomplished with a partial cost adjustment and only up to some maximum cost.<sup>100</sup>

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<sup>99</sup> TCF Complaint, ¶¶51-52; Executive Summary—2010 Debit Issuer Study, Discover, p. 9 (quoting from a large bank participant in the survey, "The decline in our ATM transactions is due to customers not relying as much now on cash. I think debit is capturing a lot of the cash transactions." See also chart showing declining ATM transactions per month per active card).

<sup>100</sup> In light of the statutory reference, one possible cap would be the incremental ACS costs of issuers with average efficiency.

105. It also is important to note, as discussed in Section IV.C.4 above, that issuers have the incentive to promote a network with a higher interchange fee. Therefore, the Board should not permit a higher interchange fee for any signature debit network in light of the significantly higher fraud costs for signature debit. Otherwise, the interchange fee differential could perpetuate the current inefficient incentives that encourage greater fraud.

106. If the network or issuer is able to show that a positive interchange fee is reasonable, then the Board would need to set cost-based standards for the interchange fee in proportion to the issuer's costs. (The Board similarly would need to set such standards, if it rejects that API standard in favor of a pure cost-based interchange fees, rather than the rebuttably presumptive API standard.) Either way, there are several principles to consider in setting the cost-based interchange fee standards.

#### **1. Market Power of Networks over Merchants Calls for Tightly Circumscribed Standards**

107. Cost-based standards must be informed by the market power that debit networks can exercise over merchants. This market power creates an incentive for such networks or issuers to expand the cost-basis for regulated fees in an attempt to obtain higher fees. The potential for this type of regulatory incentive dictates the need for tight standards on the cost basis for debit interchange fees.

108. The standards also should be sufficiently robust to curb other forms of evasion. For example, the Board should be wary of network and issuer attempts to “unbundle” interchange fees into separate categories so that some portion of them might escape regulation. Any creation of a new and separate fee category should be viewed with skepticism, as a possible attempt to re-achieve high interchange fees by simply renaming them.

109. For example, under the API standard proposed here, issuers (or networks representing issuers) would not be permitted to collect any fees from merchants for any services (including authorization, clearance and settlement, as well as other services) *currently provided to merchants*. Allowing separate fees charged by issuers or networks for these currently provided services would amount to evasion of API. API obviously would have no effect on the market if networks and issuers could escape the API mandate simply by renaming certain services so that

they are exempted from the regulation. The fact that these services are valuable to merchants means that they should continue to be provided, not that their price should be raised.

110. If any issuers formulate innovative new services that are desired by merchants, then it makes sense for those issuers to be permitted to offer them to merchants on a voluntary, unbundled basis. For example, such a service might involve a new and improved fraud protection payment guarantee that goes beyond the very limited guarantee that is being included in the service package being provided today.<sup>101</sup> Moreover, in order to avoid Cournot complements distortions and free riding, it is necessary that the services be provided *independently* by the individual issuers, not by the networks on behalf of all issuers.<sup>102</sup> The services also should be offered by each issuer on a voluntary and unbundled basis, not tied to merchant acceptance.<sup>103</sup>

## 2. Cost Basis Should Be Narrowly Defined

111. The cost basis of interchange should only include the incremental costs of authorization, clearing, and settlement of a transaction. For example, the cost basis should not include marketing costs, or the costs of rewards programs. The cost basis also should exclude fraud costs. Including fraud costs would violate the principle of efficient cost allocation. Issuers have the primary ability to detect and prevent fraud, and the ability to choose networks that have lower fraud costs. API gives them the incentive to do so. In contrast, if fraud costs are included in the cost basis, it will perpetuate the inefficiencies of the current system, whereby bank

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<sup>101</sup> The guarantee is basically limited to the risk of insufficient funds, a risk that is associated solely with signature debit and one that banks can and do manipulate to create overdrafts to earn NSF fees. Beyond that benefit, the guarantee is highly limited and in many channels there are no benefits. For example, card-not-present merchants, including Internet and pay at the pump gas stations, get virtually no guarantee against chargebacks. The "guarantee" given to physical merchants is not much better. For those merchants, to receive payment when a transaction has been charged back, the merchant must have invested in expensive signature capture devices, or maintained signed paper slips, so that a signature can be produced to challenge the chargeback. Even then, the merchant has to pay chargeback fees, and in some cases, the fees exceed the amount of the transaction, effectively nullifying the merchants' ability or incentive to challenge the chargeback. See Mott Report, ¶¶ 59-61.

<sup>102</sup> The Cournot complements problem could occur if each issuer prices the service independently, but the merchant must take the service from all issuers on an all-or-nothing basis. A free rider problem also could occur if a merchant is interested in obtaining the services from some issuers but not others and the services of all are offered jointly.

<sup>103</sup> Each issuer would be a monopolist with respect to its own card holders. Therefore, the Board may wish to regulate the prices charged by issuers. Of course, this monopoly power also emphasizes why it is necessary to require that these services be provided on an unbundled, voluntary basis. If an issuer were permitted to bundle these services, an exception to the Honor All Cards rules would be needed to give merchants the ability to opt out of accepting their cards, as discussed above.

incentives to reduce fraud have been chilled by the subsidies they receive both from the positive interchange fees and from the partial reimbursement of fraud losses by merchants through chargebacks.

112. As discussed above, incremental costs should be defined as relative to the costs of the payment instrument that debit displaces (i.e., cash or checks), because this reflects the issuers' opportunity cost of debit. If debit is incrementally cheaper than cash and checks, then the incremental cost of debit is negative and a positive interchange fee should not be permitted.

### **G. Network Circumvention of API Standard with Unregulated Credit Cards**

113. We have a concern about signature debit networks and issuers engaging in regulatory evasion by replacing debit cards with other cards that are not regulated. Suppose that networks design cards that are formally characterized as credit cards, but actually provide debit card functionality. For example, consider a "credit card" where the transaction initially is authorized against a line of credit, but where the consumer can pre-designate that certain transactions be paid after the fact directly from the DDA, effectively converting the transaction into a debit transaction.<sup>104</sup> These types of cards (and others that the networks might design) seem like clear attempts to evade the regulations and should be prohibited by the Board's regulations.<sup>105</sup>

114. Visa and MasterCard might attempt to circumvent the regulations and subsidize their signature debit card issuers in another way—by raising their credit card interchange fees.<sup>106</sup> Because Visa and MasterCard presumably are charging the profit-maximizing credit card interchange fees now, this concern raises the question of why it would be in their economic interest to raise credit card fees further, simply because debit card fees are reduced by regulation. The answer is that while the honor-all-cards tying rules were eliminated in the *In Re Visa Check* antitrust settlement, most merchants continue to accept both types of cards. Credit and debit

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<sup>104</sup> We understand that MasterCard may have created a product of this nature. See, Sept. 23, 2010 Letter from Joseph F. Tringali (Counsel for MasterCard) to Special Master Robin M. Wilcox, In re: Visa Check/MasterMoney Antitrust Litigation, No. 96-cv-5238 (E.D.N.Y.) (J. Gleeson), Dkt. Entry # 1578. See, also, "Credit Cards Soon to Get a Makeover," *The New York Times*, October 21, 2010 (indicating that issuers are testing cards that "can double as credit and debit cards").

<sup>105</sup> For example, any card linked directly to a DDA could be considered a debit card.

<sup>106</sup> This same analysis would apply to credit card network fees levied on merchants.

acceptance are “transaction complements” for most merchants, meaning they tend to accept both credit and debit, or neither, but rarely one and not the other.<sup>107</sup>

115. The networks’ incentive can be explained as follows. At the current supra-competitive levels of debit and credit card interchange fees, Visa and MasterCard may find it unprofitable to increase credit card interchange fees further out of a fear that higher fees would lead to lower merchant acceptance of their credit and debit cards.<sup>108</sup> However, a reduction in signature debit card interchange fees would allow them profitably to raise the credit card interchange fee at the margin *without a significant loss in merchant acceptance* to the merchants who view credit and debit as transactional complements. Visa and MasterCard could attempt to keep the overall merchant cost of accepting payment cards the same by proportionally off-setting debit card fee reductions with average credit card fee increases.<sup>109</sup>

116. There is another incentive as well. An increase in credit card interchange fees would benefit the largest debit card issuers more directly. The largest debit card issuers also are among the largest credit card issuers too.<sup>110</sup> For example, the top-4 Visa signature debit card issuers account for 48% of Visa signature debit transactions and 59% of Visa credit card transactions, as set out in Exhibit 9. It is also worth noting that many of the Visa and MasterCard “dedication

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<sup>107</sup> For a general discussion of transactional complements, see Ian Ayres, “Note, Rationalizing Antitrust Cluster Markets,” *Yale Law Journal*, 95, 1985.

<sup>108</sup> Assuming current interchange fees are profit-maximizing, raising the interchange would induce some reduction at the margin.

<sup>109</sup> It is possible that an increase in the credit card interchange fee would lead a few merchants at the margin to drop credit cards and accept only debit cards, which would prevent Visa and MasterCard issuers from fully recapturing all of the profits lost on debit card transactions as a result of API. However, because credit and debit are transactional complements for most merchants, the number of marginal merchants who would drop credit is likely to be small, relative to the number of inframarginal merchants who would retain it. Thus, while this strategy might not recapture the entire profit reduction from API, there is no reason to think that a strategy of raising credit card fees would be unprofitable.

<sup>110</sup> Credit and debit are interrelated businesses for Visa and MasterCard. After the *In Re Visa Check* antitrust settlement, Visa and MasterCard signature debit card interchange fees fell, and their credit card interchange fees rose. For example, prior to settlement, Visa’s lowest signature debit interchange fee on a \$40 non-supermarket retail transaction was 150 basis points. Credit card interchange on the average \$75 non-supermarket retail transaction was 152 basis points. Following the settlement, the signature debit interchange fee fell to 108 basis points—a 28% drop. But the credit card interchange (for a standard non-rewards card) rose to 167 basis points—a 10% increase. Of course, the incentives in that situation are not identical to the ones here. See Exhibit 8.

agreements” with issuers cover both credit and debit.<sup>111</sup> The effects of those agreements are spread across both products.<sup>112</sup>

117. Thus, it would make sense for the Board or another agency to monitor credit card interchange fees to ensure that they are not used to circumvent the regulation on debit interchange.<sup>113</sup>

## H. Potential Criticisms of the API Standard

118. Some might claim that the theoretical models developed by Rochet and Tirole (and others) imply that it would be inefficient or consumer welfare-reducing to reduce debit card interchange fees below their current levels, if debit cards reduce merchants’ transactional costs (including the current interchange fee) relative to other means of payment. This is what Rochet and Tirole refer to as the “tourist test.”<sup>114</sup> Similarly, some might claim that these models imply that the Board should mandate an interchange fee equal to merchants’ incremental transactional costs relative to other means of payment, what might be termed the “tourist test standard.”

119. As Rochet and Tirole have recognized, the tourist test is useful for detecting excessive interchange fees only under very limited assumptions, including the likely counterfactual assumption that issuers pass through 100% of the interchange fees to depositors in the form of lower per transaction payments or higher rewards.<sup>115</sup> In the Technical Appendix (appended as Attachment 2), we discuss the tourist test standard in more detail and explain why its limitations make it unsuitable as a regulatory standard. Under realistic assumptions about the debit card

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<sup>111</sup> Dedication agreements are the agreements between networks (Visa and MasterCard) and issuers pursuant to which the network offers inducements, such as lump sum payments and discounted fees, to the issuer to motivate the issuer to issue all or most of its credit and debit cards over that network, and thereby “dedicate” itself to that network.

<sup>112</sup> Mott Report, ¶ 25 note 50.

<sup>113</sup> The Board should also consider taking steps to ensure that the smaller issuer exemption cannot be exploited by the debit networks to circumvent the statute.

<sup>114</sup> Jean-Charles Rochet and Jean Tirole, “Must-Take Cards: Merchant Discounts and Avoided Costs,” mimeo, November 2008 (forthcoming in the *Journal of the European Economic Association*). See also Julian Wright, “The Determinants of Optimal Interchange Fees in Payment Systems,” *Journal of Industrial Economics*, 52, 2004.

<sup>115</sup> As stated by Rochet and Tirole, “[T]he tourist test may yield false positives ... [for example] ... if the issuing industry’s prices exhibit cost amplification (conversely, *cost absorption leads to false negatives*).” *Id.* at 29 (emphasis added). The issuing industry’s prices exhibit cost absorption if the issuers-to-cardholders pass-through rate is less than 100%. As discussed earlier, the evidence suggests that the issuer pass-through rate likely is less than 100%. Accordingly, the current interchange fees could pass the tourist test and nevertheless be excessive.

market, there is no reason to expect that the current interchange fee maximizes consumer welfare or that the tourist test standard would lead to greater consumer welfare benefits. Nor is there reason to conclude that a positive interchange fee would enhance consumer welfare (or total welfare), relative to API.<sup>116</sup> Indeed, this very point has been made by Rochet and Tirole, who state that “Nothing prevents, both in our model and in reality, [the optimal interchange fee] ... from flowing from the issuer to the acquirer.”<sup>117</sup>

120. We have heard a claim that networks would not have the incentive to invest and innovate under the API standard. (This claim may involve a misunderstanding. The interchange fee is paid to the issuer, not the network. The networks’ incentives potentially would be affected by the network fees, not the interchange fee.) Networks will have continued incentives to innovate in order to attract issuers’ participation and merchant routing, as discussed later in this report. By innovating, the networks will earn more network fees from issuers. Debit network technology exhibits declining average costs and we expect that the network transactional fee will exceed the marginal cost. Thus, networks will have the incentive to grow. And, they would attempt to grow by providing better product quality and better service to issuers and merchants.

121. A related claim is that networks would not engage in fraud prevention under API. (Again, the API system will not affect these network incentives because the interchange fee goes to the issuer, not the network.) Issuers will have an incentive to engage in fraud prevention under API because they bear some of the costs of fraud. Issuers are much better positioned than networks (or merchants) to police fraud, given their closer relationship with the cardholder and the data they have on the cardholders’ spending patterns, including financial history in some cases.<sup>118</sup> In fact, issuers’ current incentives for fraud prevention efforts are reduced today because much of the cost of fraud is shifted to merchants. Moreover, API will lead to more fraud prevention because the best *immediate* fraud protection service is to shift more transactions to PIN debit. That shift is discouraged today by the high interchange fees for signature debit (as well as the high fees for PIN debit). The best long-term fraud protection strategy is to move to

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<sup>116</sup> As discussed in the Technical Appendix (Attachment 2), factors that tend to call for negative interchange fees include merchant heterogeneity, lower pass-through of issuers’ costs to card users as debit card fees (or reduced rewards) than of interchange fees to merchandise prices, and elastic consumer demand for merchandise, *ceteris paribus*.

<sup>117</sup> See Rochet and Tirole, *supra* note 114 at note 8.

<sup>118</sup> Mott Report, ¶ 66.



C&P or any other technology that replaces the magnetic stripe and eliminates the chargeback and PCI compliance costs that burden the current system.

122. We also have heard a claim that API will fail because issuers will switch to credit cards, which have higher interchange fees. Absent the type of evasion discussed above, we are skeptical that this would be a substantial effect. Our understanding is that consumers like to use debit cards and cash for some purposes and (pure, i.e., non-hybrid) credit cards for other purposes, so that cash and checks are the primary consumer substitutes for debit cards, not credit cards.<sup>119</sup> We also understand that banks are more wary about giving credit cards to some depositors out of fear of their being bad credit risks.

123. Moreover, to the extent that some shifting does occur, the most economically reasonable response to this type of “second-best problem” is not to neuter the regulation, simply because there can be some evasion at the margin. Instead, a better regulatory response is to use regulation to close the loophole and then ask Congress to resolve the evasion in its entirety by bringing credit card interchange fees under the regulations.

## **V. INTERCHANGE FEE FRAUD ADJUSTMENT**

124. The legislation authorizes the Board to allow an adjustment to interchange, if reasonably necessary, for “costs incurred by the issuer in preventing fraud” as long as the issuer complies with fraud-related standards that the Board will design. The presumptive API standard will reduce fraud, which can eliminate the need for a fraud adjustment. However, temporary deviations from API may be economically reasonable to spur rapid adoption by issuers and merchants of a superior new fraud-reducing technology.

### **A. Current System Encourages the More Fraud-Prone Technology**

125. The current interchange fee system is dysfunctional in that it encourages issuers to promote signature debit cards, which have fraud rates that are much higher than PIN debit. Any fraud adjustment should eliminate this incentive. Specifically, issuers should not be “rewarded” for issuing and promoting the more fraud-prone signature debit product by getting a higher interchange fee on signature debit than on PIN debit. That would perpetuate the current

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<sup>119</sup> See note 43, *supra*.

incentive of issuers to promote signature debit and slow the move to PIN debit (or even better authentication technologies) which have lower fraud costs. Fraud costs borne by merchants as a result of issuer and network behavior are a reason why signature debit interchange fees should be lower, not higher.

126. Signature debit is fundamentally more fraud-prone because a signature is a poor method for attempting to authenticate the cardholder. When a card is stolen, the cardholder's signature can be seen written on the back of the card, making the signature easy to forge. Moreover, signature debit networks and issuers allow their cards to be accepted in card-not-present environments where the signature cannot be checked at all. In contrast, requiring the cardholder to enter a PIN is inherently more secure and reliable. A stolen card by itself is not enough to allow a perpetrator to make a fraudulent PIN debit transaction. The PIN must also be stolen, which is much more difficult to do than to forge a signature.

127. The evidence confirms that fraud rates on signature debit are several times higher than on PIN debit transactions. A debit issuer study conducted for the PULSE network in 2004-2005 found that issuers' fraud costs on signature cards averaged 1.6 cents per transaction, compared to 0.1 cent per transaction on PIN debit.<sup>120</sup> Updates to this study in 2008 and 2009 also found very large differences.<sup>121</sup> In 2008, issuers' signature debit fraud loss rates were 6.5 times that of PIN debit (5.2 basis points versus 0.8 basis points). In 2009, signature debit issuer fraud costs were 7.5 times higher (7.5 basis points versus 1.0 basis point).<sup>122</sup>

128. These differences in fraud rates for signature versus PIN debit likely understate the difference in the inherent fraud costs. This is because banks have to spend much more money to try to prevent signature debit fraud than they do to prevent PIN debit fraud. This has the effect of reducing the signature debit fraud rate somewhat. However, the higher fraud prevention costs of signature debit actually are properly seen as part of the overall fraud costs and so should not be used as a justification for a higher interchange fee. A regulatory adjustment that would

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<sup>120</sup> "Signature Debit Fraud Runs 15 Times Higher Than on PIN Debit," *Digital Transaction News* (found at <http://www.merchantservice.com/news.asp?NewsID=56364343>).

<sup>121</sup> Discover 2010 Debit Issuer Study, Executive Summary.

<sup>122</sup> At the same, these differential fraud costs between signature and PIN debit of about 4 to 7 basis points are well below the average differential in signature and PIN debit interchange fees. Thus, the issuers maintain an incentive to promote signature over PIN debit, to the detriment of merchants and consumers.

compensate issuers for these higher fraud prevention costs, rather than encourage issuers to promote more secure PIN debit, would make no economic sense.

## **B. API Promotes Fraud Cost Avoidance**

129. The API standard has beneficial properties with respect to fraud prevention.<sup>123</sup> First, the API system eliminates the perverse incentive of issuers to promote signature debit over PIN debit. Second, the API system avoids the potential regulatory outcome whereby the higher fraud costs of signature debit cards (including the higher costs of fraud prevention) could be used to justify a higher interchange fee to compensate issuers for those higher fraud costs. Third, API likely will result in greater merchant acceptance of PIN debit, which will render the overall system more secure.

130. Fraud adjustment policies should be designed to be consistent with the principle of placing the cost on the party best able to reduce or eliminate the cost. As discussed earlier, PIN debit has lower fraud costs than signature debit. However, the higher interchange fee for signature debit encourages issuers to promote signature debit, despite its inefficiency. In contrast, API would eliminate issuers' artificial—and inefficient—incentive to promote signature debit, despite its higher fraud costs.

131. For the same reason, it would not make economic sense for the Board to provide issuers with a higher interchange fee for signature debit to compensate issuers for the higher fraud costs they bear with these cards. That policy would amount to a “reward” for inefficiency. It would discourage the movement to less fraud-prone PIN debit cards.

132. Providing a higher interchange fee to compensate issuers for their fraud costs also runs counter to the fact that issuers are in the better position than merchants to reduce fraud costs.<sup>124</sup> First, issuers choose the authentication technology to offer on their debit cards (signature and PIN), the networks on which to issue their debit cards, and the consumers to whom they issue their debit cards. Second, issuers have the more direct relationship with the cardholder. They have better, less expensive access to historical data on each cardholder's card usage, which allows them to predict whether any given attempt to use the card might be fraudulent. Fraud

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<sup>123</sup> In fact, any identical interchange fees for signature and PIN debit would have these beneficial effects.

<sup>124</sup> Mott Report, ¶ 66.

often impacts inactive cards and issuers know whether a cardholder has activated their card. Finally, cardholders tend to call their issuer, not the merchant, when their card has been lost or stolen, or when they identify a potentially fraudulent transaction on their statement. In contrast, merchants' fraud prevention efforts for signature debit are limited.<sup>125</sup> For example, it is impractical to teach cashiers how to detect a forged signature.<sup>126</sup> An ID check is time consuming and network rules may prohibit merchants from refusing a transaction based on lack of ID. As discussed elsewhere (Section IV.C.4 above, and Section VII.C. below), the incentives and ability of merchants to install PIN pads and route transactions over PIN debit networks are limited by issuers' practices.

133. In addition, merchants today already bear both large fraud costs and large fraud prevention costs as a result of network chargeback rules and the PCI DSS system, in addition to interchange fees. There are several ways in which the costs are allocated to merchants. First, merchants are subject to the costs of "chargebacks" from issuers.<sup>127</sup> Chargeback rates are significantly higher for signature debit transactions than for PIN debit transactions, where they are nearly non-existent.<sup>128</sup> Second, merchants bear substantial costs of complying with PCI DSS standards. These standards require merchants to take steps to bring their computer terminals, servers, and data centers into compliance with criteria for security of card data.<sup>129</sup> In addition, merchants must undergo (and pay for) annual audits to document continued compliance, and pay

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<sup>125</sup> See Mott Report, ¶ 66.

<sup>126</sup> We understand from merchants that it is neither practical nor economical for merchants to train their clerks to become handwriting experts. In any event, Visa and MasterCard are permitting "no signature" transactions in an increasing number of low ticket transactions.

<sup>127</sup> If a cardholder disputes a charge, the issuer can charge the purchase amount back to the merchant. In this case, the merchant bears the burden (and the associated costs and fees) of having to either absorb the purchase amount as a loss, or re-present the transaction along with evidence that they obtained a valid signature from the cardholder. This means that merchants must incur the costs of electronically capturing signatures, or maintaining signed paper sales slips, to put themselves in a position to challenge the chargeback. Even when chargebacks can be successfully re-presented by the merchant, the merchant pays re-presentation fees to their acquirer when they do so.

<sup>128</sup> According to data compiled by economist Richard Sullivan of the Kansas City Federal Reserve Bank, brick and mortar merchants have fraud losses of approximately 1 basis point on PIN debit and approximately 3 basis points on signature debit. But in the card-not-present environments (Internet, mail order, telephone order), merchants' fraud losses on signature debit are approximately 49 basis points. Richard J. Sullivan, "The Changing Nature of U.S. Card Payment Fraud: Industry and Public Policy Options," *Economic Review*, Second Quarter 2010, Federal Reserve Bank of Kansas City, p. 126.

<sup>129</sup> As explained in the report of Steve Mott, the PCI DSS system shifts costs to merchants that likely exceed the fraud costs associated with data breaches. (Mott Report, ¶ 50-59) In doing so, this system likely reduces issuers' incentives to move to more secure systems, such as C&P, that would replace the magnetic stripe and obviate the need for all or most of the PCI DSS costs that are currently imposed on merchants.

finances for being out of compliance.<sup>130</sup> Third, merchants bear substantial costs when actual data breaches occur (which can and do occur even when the merchant is in compliance with the PCI DSS standards). These costs include reissuance and estimated fraud costs of the breach, fines, and the loss of sales caused by the damage to the merchant's reputation.<sup>131</sup> Finally, merchants pay the costs of certain types of fraud prevention, such as configuring terminals to prompt for zip codes.

134. Any fraud adjustment of the interchange fee policy would require the Board to obtain quantitative information on these fraud and fraud prevention costs borne today by merchants and issuers, in order to support the determination and the direction of the specific fraud adjustment. The costs borne by merchants today suggest skepticism towards the view that the issuers should get enhanced interchange to protect against fraud for signature debit (or any system that does not replace the magnetic stripe and obviate the chargeback and PCI costs that merchants bear).<sup>132</sup>

135. We understand that one technology that might be able to dramatically reduce merchant chargeback expenses and PCI costs is Chip & PIN ("C&P"). If the Board concludes that "C&P," or some other technology, is a significantly more secure and fraud-reducing system, the Board could set policies to encourage the adoption of that technology by issuers and merchants.<sup>133</sup> Adoption of such a technology—if it were superior and cost-effective—would seem to be the most economically reasonable approach to fraud prevention.

136. Such a superior new technology would need to be adopted collectively by merchants and issuers, so there is a potential chicken-and-egg problem. The need for collective action could involve a role for the temporary imposition of interchange fees. The purpose of those fees would

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<sup>130</sup> Based on data provided to us by a small number of large merchants, PCI DSS costs of merchants over the past three years (scaled to the entire industry) may have amounted to roughly \$6 billion (which would mean about 6 basis points on debit volume). This may be an understatement since it is likely that costs for small merchants are proportionately higher and it does not capture some PCI related-expenses prior to 2007. Steven Mott has estimated total PCI DSS costs incurred by merchants at \$10 billion. See Mott Report, ¶ 53.

<sup>131</sup> See Mott Report, ¶¶ 50-59.

<sup>132</sup> To the extent that merchants' efforts to prevent fraud would be affected by the interchange fee adjustment, the Board would need to take that effect into account in setting the adjustment.

<sup>133</sup> For example, C&P has been implemented in 19 of the 20 OECD countries (the U.S. being the lone holdout) and it has demonstrably limited fraud, particularly when it has completely replaced the magnetic stripe as the prevailing authentication technology. We also understand that C&P would eliminate chargebacks by making issuers and cardholders truly responsible for fraud. We also understand that C&P would eliminate most of the PCI costs that are so burdensome for merchants.

be to facilitate the initial investments needed to jump-start the creation of positive network effects. For example, it has been argued that this was a rationale for “reverse” interchange fees paid to merchants when PIN debit at the point of sale was becoming established. However, once the process is well underway, the regulation would return to API.

## **VI. REGULATION OF NETWORK FEES**

137. Section 920 mandates the regulation of network fees. The statute recognizes two key facts. First, network fees can be used directly or indirectly to subsidize issuers. Second, network fees can be used to circumvent the regulation of interchange fees. Section 920 mandates that the regulations prevent both of these behaviors. The most economically reasonable way to achieve these goals is to mandate that networks may not levy any network fees on merchants, but may charge network fees only to issuers. Because networks compete for issuers, the fees charged to issuers likely do not need to be limited by price regulation. Instead, competition will protect issuers and maintain networks incentive to provide low-cost and high-quality service. However, if the Board chooses to permit network fees levied on merchants, it would be economically appropriate to set a hard cap on those fees.

### **A. Market Power Implies the Need for Strong Regulation of Network Fees to Avoid Issuer Subsidization and Circumvention of the Interchange Fee Regulation**

138. As discussed above, Visa and MasterCard have the ability to exercise substantial market power over merchants, and the umbrella created by that market power has enabled the smaller competing debit networks with less market power to raise fees to merchants as well. Even if the API standard is adopted for debit interchange, Visa and MasterCard will continue to have the ability to exercise market power over merchants by setting high debit network fees. Other networks would have the incentive to follow suit, as currently is the case for interchange fees. Each merchant individually would continue to have a strong incentive to accept cards from multiple networks.<sup>134</sup>

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<sup>134</sup> As discussed earlier, in this way the merchant avoids the potential of losing customers to other stores, or the potential of losing sales from consumers who do not have alternative forms of payment with them at the time, or when there are outages on some networks. Merchants also have only limited ability to steer customers to lower cost networks.

139. By contrast, all the networks have less, if any, ability to exercise market power over issuers. Instead, they have the incentive to compete for issuers' business. Issuers have the ability to substitute between networks because such a high proportion of merchants accept multiple debit networks. This differential in the ability to exercise market power means that debit card networks have an economic incentive to set high network fees to merchants—who are captive—and use the proceeds to compete for issuers.

140. It follows that the use of network fees to subsidize issuers is an inherent problem for setting network fees. Right now, networks can subsidize issuers directly by setting interchange fees. However, this ability to subsidize through interchange fees presumably will be eliminated (or at least dramatically reduced) by the regulations, and so networks will have the incentive to use various other fees to subsidize issuers.<sup>135</sup> This market dynamic implies that the network fees charged to merchants must be controlled in some way.

141. There are numerous ways in which network fees can be used to subsidize issuers or circumvent regulation. For example, the networks could simply raise network fees to merchants and lower them for issuers, or otherwise make (perhaps disguised) payments to issuers. A prime example would be payments made by the network to the issuer for “marketing” or “promotion” by issuers, perhaps even treating card issuance as promotion. Another example would be per transaction (or per dollar of transactions) payments that are claimed to encourage issuers to increase card usage. Or, a network might raise network fees to merchants and then use the fees to finance its own marketing or promotion of its network, as an indirect way of compensating issuers with in-kind services. Another possible example would be the use of volume discounts to large issuers, a practice we understand is common in the dedication agreements we discussed earlier.

142. In light of these concerns about circumvention and subsidization, it is essential that network fees levied on merchants (or the acquiring banks) be limited by regulation. Market forces are insufficient to keep network fees at competitive levels.

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<sup>135</sup> See Prager, et al, *supra* note 29, p. 49 (“Regulation of interchange fees is also problematic because the key issue is the overall structure of fees across parties to a transaction, not the interchange fee itself. When faced with a constraint on the level of its interchange fee, a card network might adjust other prices, such as switch fees, in order to achieve the network’s desired prices for the two sides of the market.”).

## **B. It is Economically Reasonable to Levy Network Fees Solely on Issuers**

143. Taking into account the economic principles of regulation set out earlier, we have concluded that the most economically reasonable regulatory approach would require the networks to assess network fees solely on issuers and levy no network fees on merchants (or their acquiring banks).<sup>136</sup> We make this recommendation for several reasons.

- a. First, this allocation prevents the network from using the network fee to subsidize issuers and eliminates the potential for circumvention. Thus, it satisfies the regulatory mandate of Section 920. In fact, in light of the inherent role of network fees to subsidize issuers, it is the only sure way to avoid subsidization.
- b. Second, this allocation reduces market intrusiveness. Issuers have significant ability to substitute among debit networks. Their ease of substitution limits the ability of the networks to exercise market power in levying network fees on them. This would not be the case if the costs are levied on the merchants, since merchants face significant constraints on rejecting cards. Thus, this allocation of network fees to issuers eliminates the need for the Board to regulate the level of network fees. This would reduce administrative costs and the potential that the network fees are set at the wrong level.
- c. Third, this allocation of network fees will maintain stronger issuer incentives to reduce costs. This result follows from the principle that the party that can best reduce or eliminate a cost should have to bear the cost. The issuer chooses the set of networks to offer on its cards, not the merchant. Therefore, the issuer needs to be encouraged to choose the lowest cost networks or efficiently balance cost and network quality. The issuers' incentives will be the strongest when they bear the entire cost. While the merchant has some limited ability to affect the choice of network, either by steering consumers or by its routing decision, its power to choose the network is secondary to the issuer.
- d. Fourth, consumers likely would gain benefits from a regulation that places all the network fees on issuers. As discussed earlier with respect to interchange fees, this

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<sup>136</sup> If the Board declines to adopt this approach, we recommend that network fees to merchants be capped at a low level in order to avoid circumvention of the regulations and subsidization of issuers.



result follows from the fact that merchants likely would pass-through a higher percentage of fee reductions to consumers in the form of lower retail prices than the issuers would pass-through in the form of higher usage fees or reduced rewards.

- e. Finally, there also are obvious administrative benefits from avoiding the need to determine the cost allocation between merchants and issuers, particularly in light of the inherent concerns with regulatory evasion and improper subsidization of issuers.

144. Levying network fees solely on issuers will not reduce networks' incentives to invest in innovation. Networks will have continued incentives to innovate in order to attract issuers' participation and merchant routing, both of which would lead to additional network volume. Thus, by innovating, the networks will earn more network fees. Debit network technology exhibits declining average costs and we expect that network fees to issuers will exceed marginal costs. Thus, networks will have the incentive to grow. And, they would attempt to grow by providing better product quality and better service to issuers and merchants.

145. As discussed below, we recommend that the Board mandate that banks issuing dual-function debit cards must offer two PIN and two signature debit networks on each card. Even with this requirement, issuers should have sufficient choice to ensure that the debit networks will have the incentive to compete for issuers with lower network fees and high quality service. There are more than a dozen PIN debit networks today. Visa and MasterCard currently provide almost all the signature debit transactions. However, we understand that Discover has a viable signature debit network that can provide a good alternative to Visa or MasterCard.<sup>137</sup> Moreover, the PIN debit networks are also well-positioned to compete for debit transactions that are

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<sup>137</sup> Discover is the most recent network to enter the debit market. Prior to the court ruling striking down Visa's and MasterCard's rules preventing their member banks from issuing competing cards, Discover was effectively prevented from entering debit. In early 2006, a little less than a year after the exclusionary rules were struck down, Discover entered the signature debit market. Discover Debit is accepted at millions of merchants in the U.S., and Discover also owns the PULSE PIN debit and ATM network. Discover promotes Discover Debit to issuers on the basis of broad merchant acceptance, 100% authorization, lower network fees, and other advantages. ([http://www.discovernetwork.com/paymentsolutions/debit/pdf/Press\\_Release-Discover\\_Debit.pdf](http://www.discovernetwork.com/paymentsolutions/debit/pdf/Press_Release-Discover_Debit.pdf))

currently limited to signature debit.<sup>138</sup> Thus, issuers will retain the power to deter the exercise of market power by Visa and MasterCard.<sup>139</sup>

146. If the Board elects not to eliminate network fees on merchants, it nevertheless needs to prevent networks from exercising market power over merchants to raise merchant network fees as a circumvention of Section 920. Thus, in that circumstance it would be economically appropriate to set a maximum fee cap at a low level on the type and amount of the network fees that can be levied on merchants.

## **VII. REGULATION OF NETWORK EXCLUSIVITY AND ROUTING RULES**

147. Section 920 mandates that the Board prescribe regulations regarding network exclusivity and routing rules. In particular, the statute requires that any debit transaction can be processed on multiple unaffiliated networks, and that neither networks nor issuers can prevent merchants from controlling the routing of a debit transaction.

148. These rules reinforce the interchange fee and network fee regulations. But these rules also have a potential longer run benefit. By prohibiting network exclusivity and providing for merchant control over routing, the rules may help to foster longer-run network competition, and this might allow for potential future deregulation of interchange fees. In addition, these rules will encourage the networks to compete on the network quality dimensions provided to merchants, such as the stability and availability of the network and network response time.

### **A. Network Market Power Calls for Strong Regulation with Greater Merchant Control**

149. As discussed in Section III, debit networks' ability to exercise market power over merchants stems from merchants' inability to reject most debit networks, coupled with merchants' limited ability to dictate the network over which a particular customer's transaction is routed. In contrast, suppose that every issuer offered every signature and PIN network on all of

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<sup>138</sup> For example, the PIN debit networks have been expanding their "pinless" debit offering to more and more merchant segments. See, for example, [http://www.star.com/\\_files/downloads/pdfs/fd\\_starbillerdirectpayments\\_ss.pdf](http://www.star.com/_files/downloads/pdfs/fd_starbillerdirectpayments_ss.pdf).

<sup>139</sup> Discover has a fully-functioning signature debit network (along with its PULSE PIN debit network), and a broad merchant acceptance network. However, if the Board nevertheless concludes that Discover and others are not yet viable and effective competitive alternatives to Visa and MasterCard signature debit, the Board may need to consider regulating their network fees temporarily until there is effective network competition for issuers.

its debit cards, and did not steer depositors' usage choices with differential fees or promotions. Suppose that merchants accepted all cards but also controlled routing, so that when a debit card was proffered for payment the merchant could decide whether the transaction would be routed over any one of the signature or PIN debit networks. In this scenario, the networks would have a greater incentive to reduce interchange and network fees charged to merchants. Over time, this competition would reduce or even might eliminate the need for regulation.

150. The network exclusivity and routing rulemaking gives the Board an opportunity to rein in network market power exercised over merchants and, at the same time, mandate a path by which greater network competition may emerge over time.

## **B. Network Exclusivity Standards Should Provide Choice for Merchants**

151. The market likely would function more competitively if issuers offered multiple signature and PIN debit card network choices on each card, if merchants controlled the routing (and such routing is not inhibited by network rules or issuer practices), and if issuers paid the network fees. These conditions would reduce networks' ability to exercise market power over merchants. Networks would still be incentivized to compete for issuers by offering lower fees and better quality and services. They would have to compete for merchant acceptance and routing priority by offering better service to merchants. This approach also could have long term regulatory benefits in that the need for fee regulation in the future could be eliminated. As discussed earlier in the regulatory principles section of our report, wherever possible, it makes economic sense to design regulations that include a process by which competition eventually can replace regulation.

### **1. Prohibition on Network Inducements to Issuers to Favor Their Network**

152. Some networks today induce banks to issue cards that work exclusively on their networks, or induce banks to steer volume to their networks. As explained in a recent paper by Board economists,

“Merchants generally prefer that their acquirers route PIN debit transactions over the network with the lowest interchange fee, resulting in direct price competition among PIN debit networks. More recently, this price competition appears to have diminished (and ... PIN debit interchange fees have risen) as the largest national PIN debit networks have

increasingly required issuers to sign exclusive agreements under which they become the sole PIN network whose logo appears on an issuer's cards."<sup>140</sup>

153. These exclusivity arrangements affect a substantial and growing fraction of transactions. Visa requires that MasterCard's signature debit network not be offered on the same card as Visa's signature debit network.<sup>141</sup> Thus, no card contains both Visa and MasterCard signature debit capability. In fact, we are unaware of any debit card that bears multiple signature debit options, a fact that constrains merchants' ability to discipline pricing when a signature-only card is proffered.

154. We understand that Visa's Interlink network also has a significant number of arrangements in which it is the exclusive PIN-debit network. In this regard, according to data provided to us by one large merchant that has implemented a sophisticated program to route PIN debit transactions to the lowest cost available network, 42 percent of its PIN debit transactions run over the Interlink network, despite the fact that the merchant attempts to route around Interlink whenever any other cheaper PIN debit network is available on the card.<sup>142</sup> This merchant accepts virtually all debit card networks. Given its implementation of an effective system of routing between PIN debit networks, its experience likely can be viewed as a proxy for the number of debit cards that have Interlink as the only PIN debit choice on the card. Based on this experience, we have estimated the number of such cards to number well over 100 million.<sup>143</sup>

155. Visa's exclusivity strategy has generated a competitive response from the other PIN debit networks. The Star PIN debit network (owned by First Data) earlier this year signed an exclusive PIN debit agreement with SunTrust.<sup>144</sup> While the details of the agreement are confidential, we assume that this means that SunTrust's 5 million debit cards will work on only

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<sup>140</sup> See Prager, et al, *supra* note 29, p. 27.

<sup>141</sup> See note 17, *supra*.

<sup>142</sup> Other sources have reported even higher numbers. According to the estimates of one analyst, 60 to 70 percent of Visa-branded debit cards work exclusively on Visa-owned networks. Similarly, 40 to 50 percent of MasterCard-branded debit cards work exclusively on MasterCard-owned networks. See Analyst Comments, StreetInsider.com, June 24, 2010 (<http://www.streetinsider.com/Analyst+Comments/Citi+on+Card+Networks+%28V%29MA%29%3B+PIN+Debit+Risk+Post+Durbin%3B+Sensitivity+Analysis+%26+Perspective/5756511.html>).

<sup>143</sup> See note 21, *supra*. We expect that the Board may have obtained more exact information on this issue from the networks and issuers.

<sup>144</sup> See [http://www.firstdata.com/en\\_us/about-first-data/media/press-releases/05\\_03\\_10](http://www.firstdata.com/en_us/about-first-data/media/press-releases/05_03_10).

one PIN debit network. This is not the only example of exclusivity arrangements. In 2006, PULSE signed an exclusive PIN debit network agreement with First Tennessee Bank.<sup>145</sup> Earlier this year, PULSE signed an exclusive agreement with Woodforest Financial Group.<sup>146</sup> In 2007, the NYCE network signed an exclusive PIN debit deal with Intrust Bank.<sup>147</sup>

156. Three of the largest non-Visa PIN debit networks also recently instituted a new tier of higher interchange for issuers who meet certain loyalty provisions. In October 2009, the NYCE network established a new “Premier Issuer” category which adds 1.1 cents to the interchange fee for issuers who favor the network. In April 2010, Star implemented a new “All-Star” category, which adds between 1.5 and 2.5 cents per transaction to the interchange for issuers who commit their entire PIN debit volume to Star. In June 2010, PULSE implemented “PULSE Pay Choice” category which adds 5 cents per transaction to the interchange for certain issuers.<sup>148</sup>

157. The exclusivity and loyalty arrangements of Visa and MasterCard (and now others) have exquisitely perverse effects on competition. These provisions force merchants to pay additional fees that have the direct effect of increasing the ability of networks to exercise market power over the merchants. These arrangements obviously also are inconsistent with providing merchants the ability to discipline debit interchange pricing by routing to competing networks.

## **2. Minimum of Two Signature and Two PIN Debit Networks on Dual Function Cards**

158. The statute calls for standards requiring at least two unaffiliated debit networks on each debit card. Consistent with the competition goals of the statute, it is economically reasonable that the Board interpret this requirement to mean at least two signature debit networks and two

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<sup>145</sup> See <http://www.highbeam.com/doc/1G1-144098361.html>.

<sup>146</sup> See <http://investorrelations.discoverfinancial.com/phoenix.zhtml?c=204177&p=irol-newsArticle&ID=1387144&highlight=>.

<sup>147</sup> “Exclusive Network Pacts for PIN Debit Gain Favor,” *American Banker*, September 28, 2007 (<http://www.allbusiness.com/banking-finance/banking-lending-credit-services-payment/11997114-1.html>).

<sup>148</sup> See “Star Ushers in New Rates, with Interchange Spiffs for Some Issuers,” *Digital Transactions*, January 12, 2010 (<http://www.digitaltransactions.net/newsstory.cfm?newsid=2419>), and [www.vantagecard.com/price/interchange05.html](http://www.vantagecard.com/price/interchange05.html).

PIN debit networks on cards that have both signature debit and PIN debit functionality.<sup>149</sup> There are several benefits of this interpretation.

159. First, there are many cards that do not offer both PIN debit and signature debit functionality. We understand that about 8% of all debit cards include only signature debit functionality.<sup>150</sup> For example, cards used to distribute healthcare benefits are typically signature-only cards.<sup>151</sup> Merchants are finding that consumers increasingly present these types of cards, which cannot be routed over a PIN debit network. And, about 13% of all debit cards today are PIN-only. To give merchants a routing choice for these cards (which comprise 21% of all cards), two networks of each type would have to be offered.

160. Second, about 70% of merchant locations that accept signature debit do not accept PIN debit.<sup>152</sup> This includes most Internet merchants. To give these merchants some ability to influence debit network behavior—at least until PIN debit penetrates these segments, as we anticipate it will under API—there should be two signature debit networks available on all cards where issuers choose to provide signature debit functionality.

161. Third, if a card were to include only one signature and one unaffiliated PIN debit network, most merchants would be unable to exercise any real control over routing. This would be the case for 21% of cards that are signature-only or PIN-only. In addition, smaller merchants have no real ability to steer transactions from signature to PIN. Even for merchants that can exercise such routing control, some cardholders have a preference for signature or debit, and the customer chooses whether to enter a PIN or opt for a signature. In particular, while some of the largest merchants attempt to steer the transaction, their control over routing is limited because of issuers' ability to influence cardholder behavior through rewards programs for signature debit and discriminatory fees on PIN debit.

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<sup>149</sup> However, our approach would not require issuers to offer dual function cards. It would be permissible to offer only PIN debit functionality or only signature debit functionality.

<sup>150</sup> The general purpose versions of these cards tend to be issued in the Midwest by US Bank, TCF and others. Mott Report, ¶ 28 note 56.

<sup>151</sup> In this regard, the data discussed earlier (from a merchant that steers signature to PIN debit transactions) indicated that this merchant continues to get increasing volumes of signature debit every year, accounting for a higher share of debit transactions.

<sup>152</sup> See note 38, *supra*.

162. Fourth, Visa has contracted with major debit issuers to provide them with significant financial incentives to use Visa signature debit and Interlink PIN debit exclusively. As a result, there are now millions of debit cards that are branded with only those two Visa-affiliated networks. Visa would have no incentive to compete for routing if the merchant's only choice was between two Visa-owned cards.

163. By mandating the offering of at least two unaffiliated networks of each type on dual function cards, merchants will have a choice over competing networks for every transaction. As a result of this rule, competition will be increased. This rule also will facilitate entry and expansion by signature debit networks owned by Discover and others, which also can reduce the market power of Visa and MasterCard.<sup>153</sup>

164. At the same time, the debit networks would continue to have the incentive to compete for issuers with lower network fees and high quality service. Issuers will retain their choice among debit networks. There are more than a dozen PIN debit networks. There is less competition in signature debit today. However, as discussed above, we understand that Discover has a viable signature debit network that can serve as an alternative to Visa or MasterCard, and American Express is a potential entrant. Thus, issuers likely will retain the power to deter the exercise of market power by Visa and MasterCard.

### **C. Routing Rules Should Ensure Merchant Control**

165. In order to maintain network competition, the merchant should have the power to control the routing of the transaction among the available networks. Giving merchants control over routing will increase effective competition among the networks over time, potentially permitting eventual interchange fee deregulation. This is another benefit of this regulatory approach.

166. While the issuer chooses the set of alternative networks that can be used by the merchant, it is economically reasonable to allow the merchant the ability to choose among the several alternatives, without being inhibited by networks or issuers. In that way, the merchant can select the routing that represents the best cost/quality combination. If the issuer were to control the routing instead, it would have no incentive to choose a routing rule that serves the interests of the

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<sup>153</sup> Many issuers already offer multiple PIN debit networks in order to take account of outages and the potential for merchant non-acceptance, so this requirement would not burden those issuers.

merchants and their customers. The issuer's interests are not ignored by this approach. The issuer has substantial influence by choosing the set of alternatives.<sup>154</sup>

167. At the same time, merchants likely will have preferences among networks. As discussed above, networks might differ in various ways that affect the merchants' costs, including stability and availability of the network, network response times, and speed of authorization.

168. Section 920 prohibits network routing constraints. In this regard, a network should not be permitted to require that a merchant (or issuer) give it routing priority. For example, we understand that certain PIN debit networks have issuer routing rules in place that could be utilized to block merchant routing choices. Nor should it be permitted to control routing indirectly by collecting a fee on transactions routed elsewhere. Such "bypass" fees amount to a "tax" on routing over other networks, and therefore motivates issuers to prefer one network over another.

169. In addition, many issuers currently give cardholders incentives to use signature rather than PIN debit. As discussed in Sections IV.C.4. and V.A., above, some issuers continue to place surcharges on PIN debit transactions because of their lower interchange fees. Other issuers offer rewards programs that favor signature over PIN debit.<sup>155</sup> These types of inducements frustrate merchant control over routing. These practices should be prohibited by the Board's new rulemaking, just as are network routing restraints. Of course, issuers would be permitted to offer uniform rewards or fees for all debit networks.

## VIII. CONCLUSIONS

170. The debit card market today is dominated by Visa and MasterCard, which have market power that gives them the ability to exercise substantial market power over merchants and a combined market share of more than 80%. At the same time, Visa, MasterCard and other debit networks compete for issuers to issue cards that run on their respective networks by subsidizing issuers with high interchange fees. This combination of network competition for issuers and the

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<sup>154</sup> This is analogous to the famous divide-and-choose mechanism popularized by the "cake-cutting" problem.

<sup>155</sup> If the issuer only offers a single PIN and a single signature debit network, then the user's choice of transaction type would correspond to their network choice as well. This is another reason to require multiple signature and multiple PIN networks.



exercise of market power over merchants have resulted in high interchange fees that cause consumer harm and limit merchant acceptance.

171. As a result, the Board cannot rely solely on competition among debit card networks to maintain reasonable interchange or network fees. We recommend that the Board adopt the following regulations to implement Section 920:

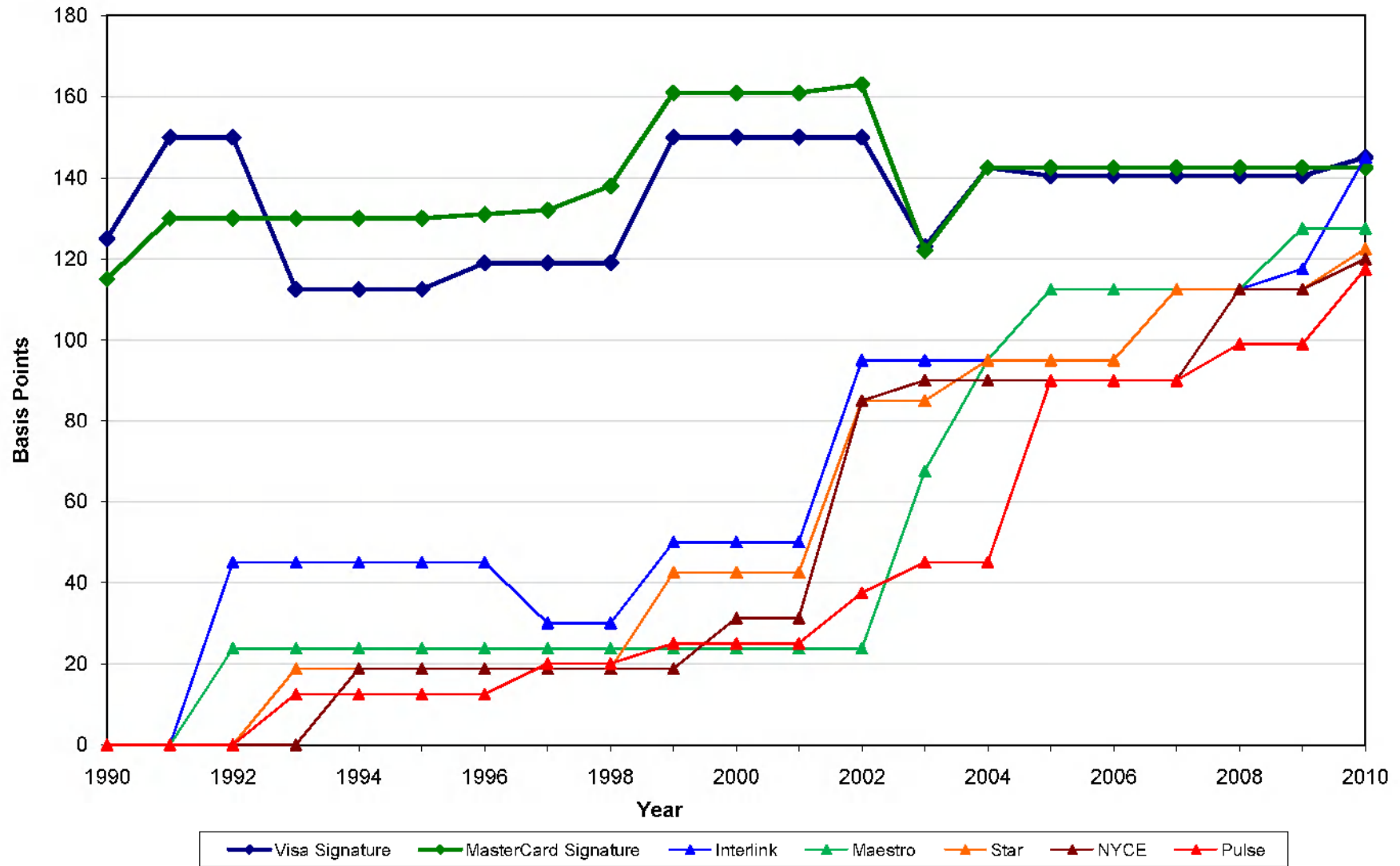
- a. Mandate a strong regulatory presumption that interchange should be at-par;
- b. Place a heavy burden on any network or issuer that wishes to deviate from at-par interchange to show that a non-zero interchange fee is economically reasonable because it clearly likely would benefit consumers on balance;
- c. Permit deviation from at-par interchange only if issuers' incremental costs of processing debit transactions exceed their incremental costs of the cash and checks that consumers would use otherwise, and restrict the interchange fee to a proportion of the issuer's costs that is below or equal to this cost difference;
- d. Forgo any fraud adjustment in either direction unless it is coupled with adoption of a significant new fraud-reducing technology;
- e. Prohibit network fees placed on merchants; however, if the Board chooses to permit network fees on merchants, set a hard cap on those fees;
- f. Ensure that each card, including each dual-function card, includes at least two unaffiliated network choices for each type of debit network offered on the card;
- g. Ensure full merchant control over routing, with no impediments on routing by networks or issuers.

172. This set of regulations has the potential to prevent the exercise of network market power over merchants and increase consumer welfare, while minimizing the administrative burden on the regulatory agency and the participants in the market. Over time, these regulations will lead to increased network competition and efficiency, while potentially reducing or eliminating the need to regulate.

173. There are alternative approaches that involve more intrusive price regulation and fee caps that could be mandated instead. However, we believe that the rules summarized above represent the most economically reasonable approach to achieving the economic goals of Section 920.

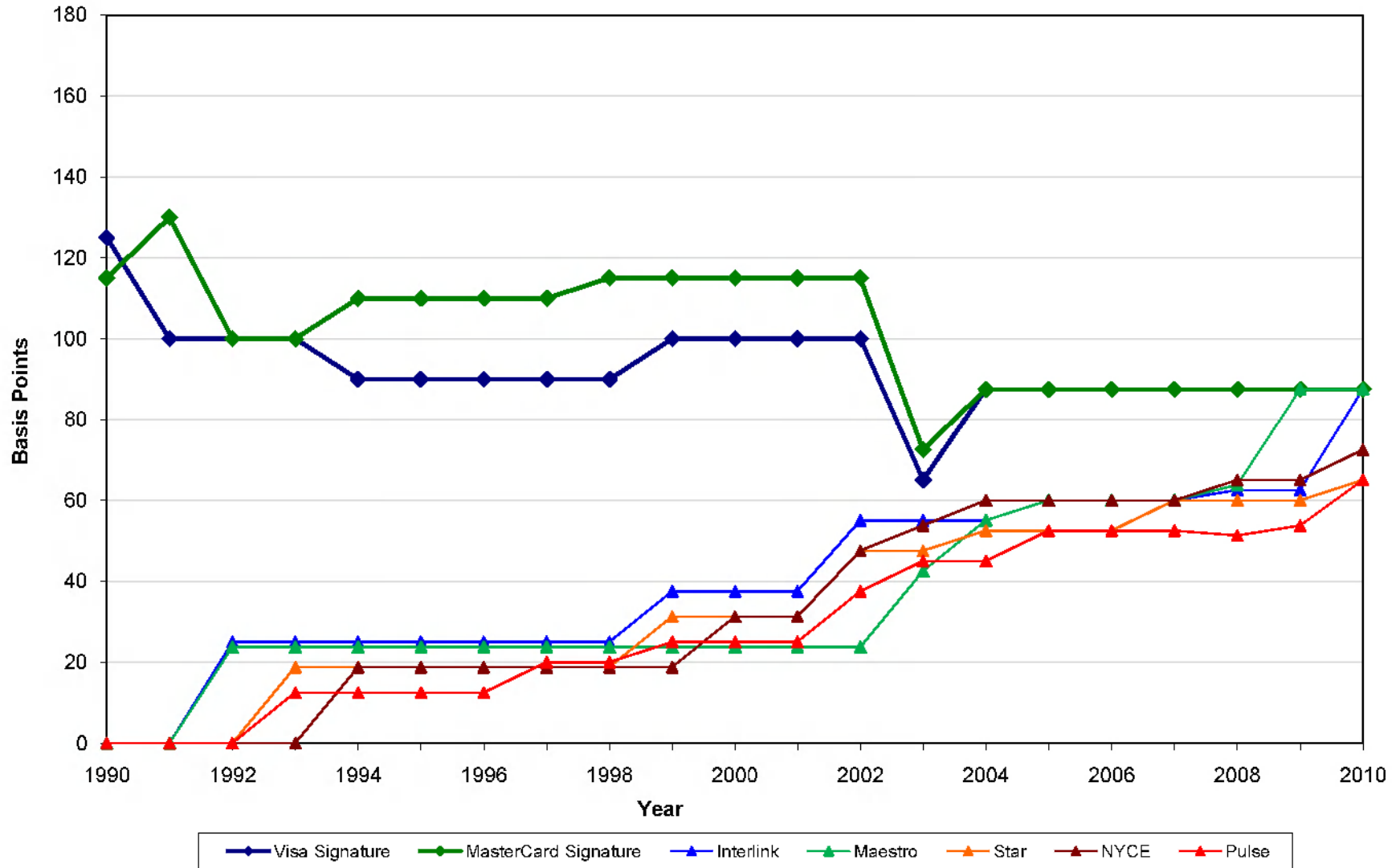
**ATTACHMENT 1: Exhibits**

**Exhibit 1a: Interchange Fee for Selected Debit Networks  
Base Non-Supermarket Rate for a \$40 Transaction**



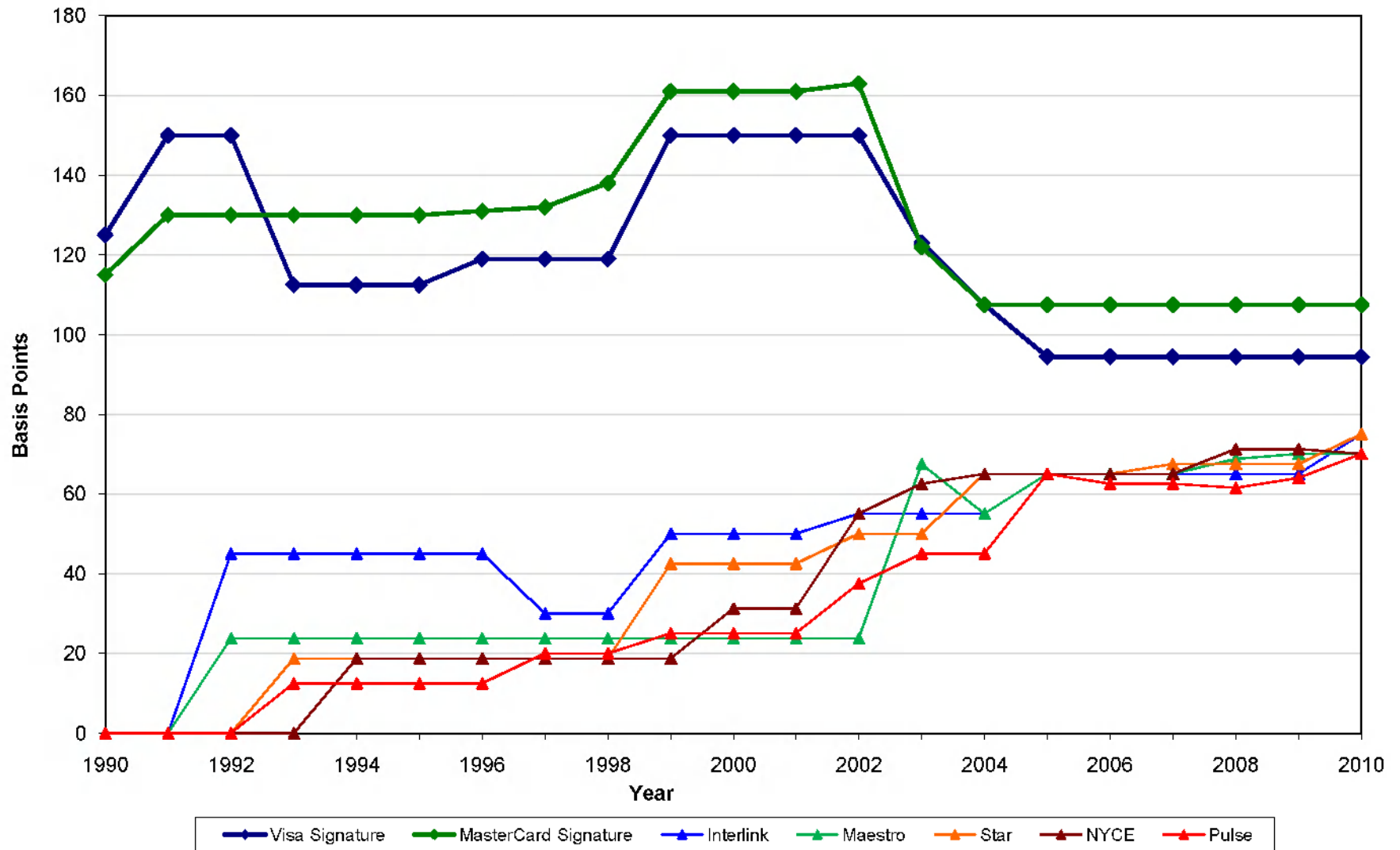
Sources: Based on interchange fee schedules of the various networks and other sources including ATM & Debit News, EFT Data Book, Debit Card Directory, The Nilson Report, CardFax, Bank Network News, The American Banker, and POS News.

**Exhibit 1b: Interchange Fee for Selected Debit Networks  
Base Supermarket Rate for a \$40 Transaction**



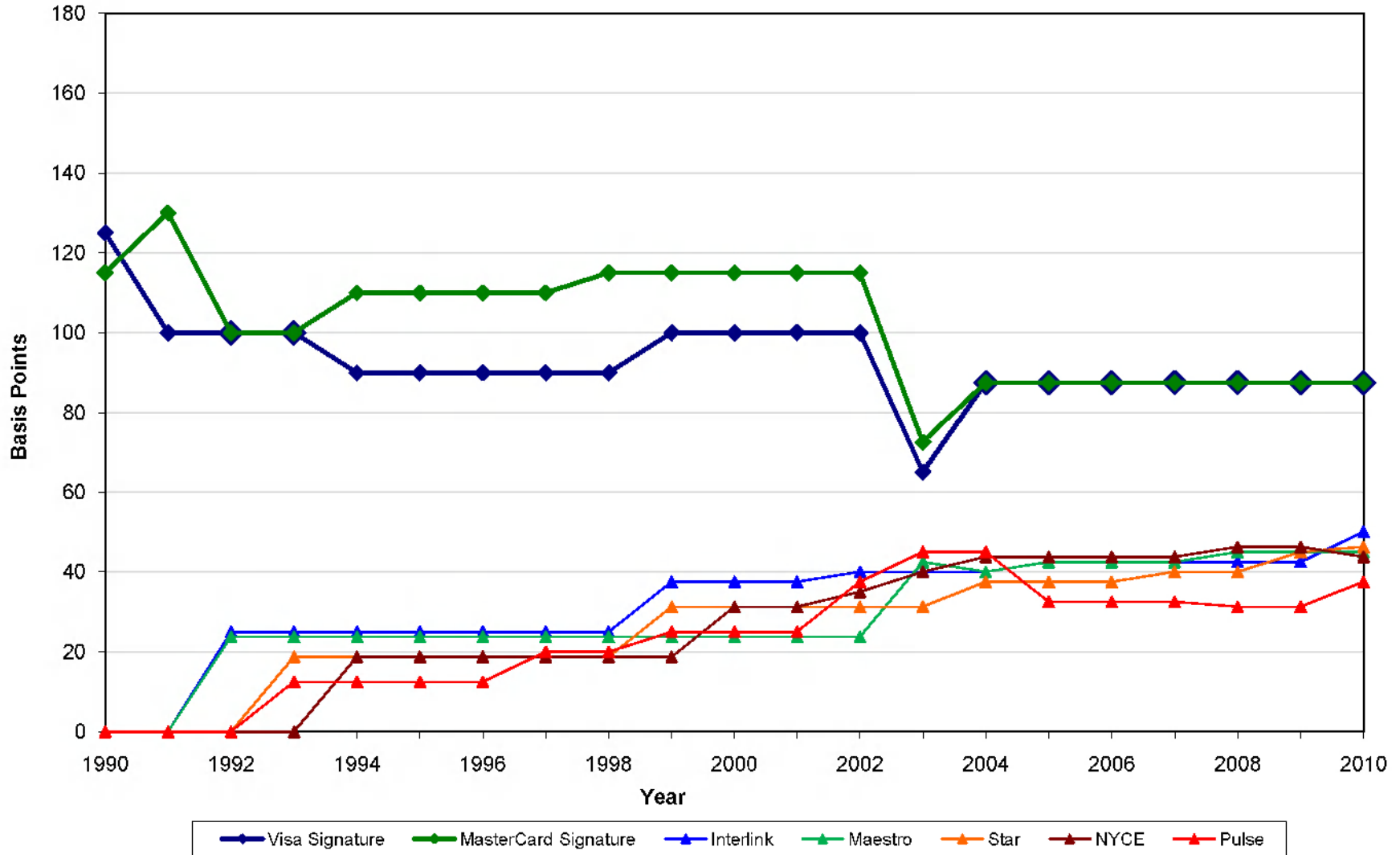
Sources: Based on interchange fee schedules of the various networks and other sources including ATM & Debit News, EFT Data Book, Debit Card Directory, The Nilson Report, CardFax, Bank Network News, The American Banker, and POS News.

**Exhibit 1c: Interchange Fee for Selected Debit Networks  
Tier 1 (Largest Merchant) Non-Supermarket Rate for a \$40 Transaction**



Sources: Based on interchange fee schedules of the various networks and other sources including ATM & Debit News, EFT Data Book, Debit Card Directory, The Nilson Report, CardFax, Bank Network News, The American Banker, and POS News.

**Exhibit 1d: Interchange Fee for Selected Debit Networks  
Tier 1 (Largest Merchant) Supermarket Rate for a \$40 Transaction**



Sources: Based on interchange fee schedules of the various networks and other sources including ATM & Debit News, EFT Data Book, Debit Card Directory, The Nilson Report, CardFax, Bank Network News, The American Banker, and POS News.

**Exhibit 2: Debit Card Market Shares Based on Purchase Transactions and Dollar Volumes - 2009**  
 Excluding Cash Back and Cash Only Transactions

	<b>Transactions</b>	<b>Dollar Volume</b>
Visa Signature Debit	50.2%	46.7%
Visa Interlink	15.4%	17.0%
MasterCard Signature and PIN Debit	17.3%	18.0%
Other PIN Debit	17.1%	18.3%
<b>Total Debit</b>	<b>100.0%</b>	<b>100.0%</b>

**Selected Subtotals**

Total PIN Debit	32.5%	35.3%
Total Signature Debit	67.5%	64.7%
Visa Share of Signature Debit	74.3%	72.2%
MasterCard Share of Signature Debit	25.7%	27.8%
Total Visa	65.6%	63.7%
Combined Visa and MasterCard	82.9%	81.7%

**Notes:**

MasterCard's share excludes PIN debit volumes that are processed through non-MasterCard PIN debit networks.

The shares reported for MasterCard and Total Signature Debit include an unknown amount of PIN debit volume processed by MasterCard's Maestro network.

The Other PIN Debit shares may include an unknown amount of Maestro volumes resulting in some double counting. To the extent that there is double counting, the Other PIN Debit shares are overstated.

Sources: The Nilson Report, various issues. Data provided by merchants. CRA estimates.



**Exhibit 3: PIN Debit Networks' Share of Debit Market - 2009**

	Debit Shares	
	Transactions	Dollar Volume
Interlink	13.8%	14.7%
Star	6.1%	6.8%
Pulse Pay	4.2%	4.5%
Maestro	2.4%	2.7%
NYCE	2.1%	2.3%
Accel	1.4%	1.6%
Shazam	1.0%	1.1%
Credit Union 24	0.7%	0.8%
Jeanie	0.4%	0.5%
AFFN	0.2%	0.2%
Alaska Option	0.1%	0.1%
NetWorks	0.0%	0.0%
Other	0.0%	0.0%
<b>Total</b>	<b>32.5%</b>	<b>35.3%</b>

**Notes:**

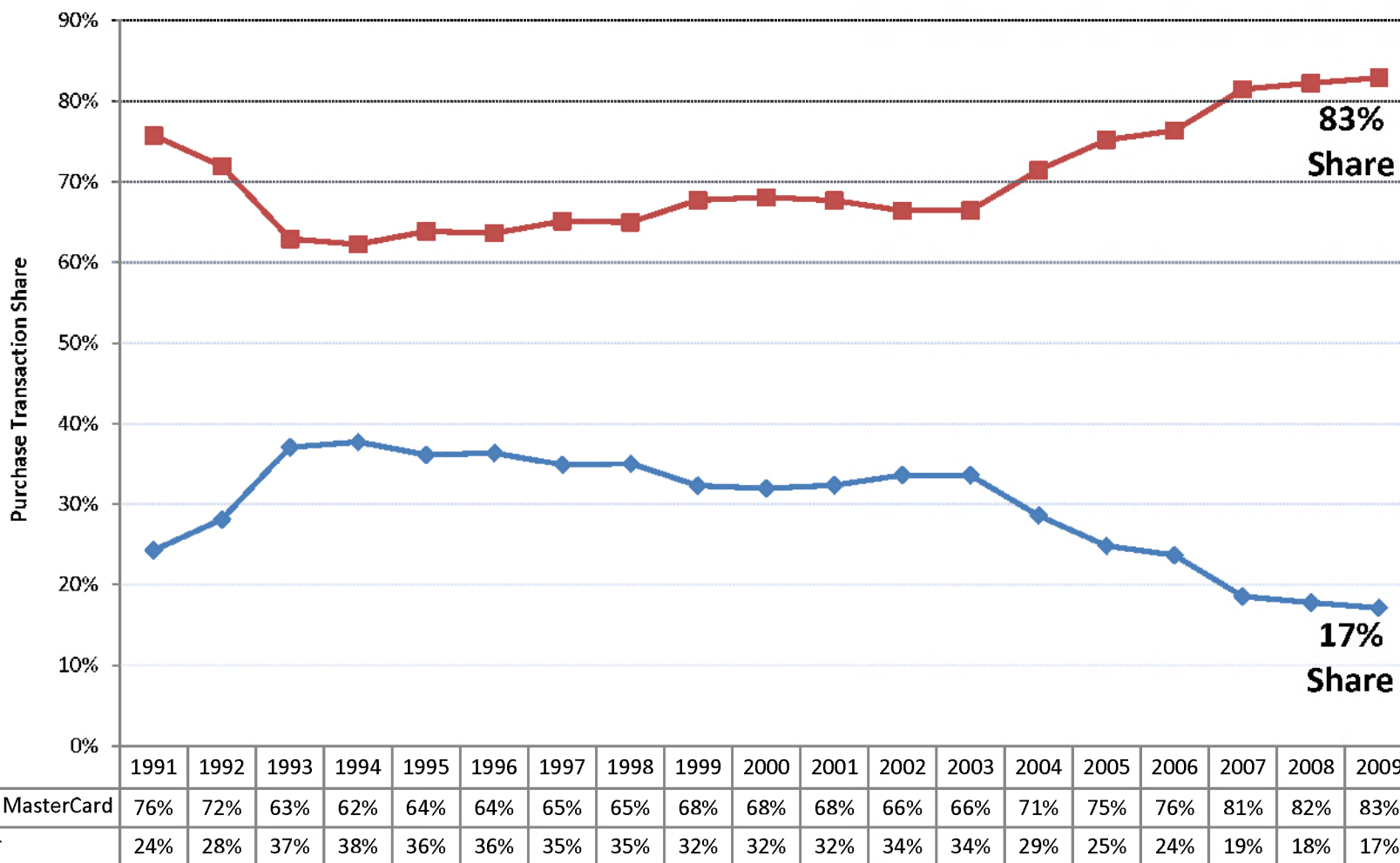
The data provided by merchants have been scaled so that the transaction and dollar volume shares of PIN debit match the shares of PIN debit reported in Exhibit 2.

The shares reported above for networks with relatively high interchange fees (for example, Interlink and Maestro) may understate their true shares because some of the large, sophisticated merchants that provided data actively attempt to route away from these more expensive PIN debit networks.

**Source:**

Data provided by merchants.

### Exhibit 4: Combined Share of Visa/MasterCard Debit - 1991-2009



Notes: Prior to 2006 figures are from published and unpublished data reported by The Nilson Report. From 2006 on, the data reported by The Nilson Report have been adjusted to take into account MasterCard's inclusion of non-MasterCard PIN debit volume in its reported debit volumes. Since 2008, the data also have been adjusted to account for Visa no longer reporting Interlink debit volumes separately.

Sources: The Nilson Report, various issues. E-mail from The Nilson Report, September 17, 2007. Data provided by merchants. CRA estimates.

**Exhibit 5: Estimated PIN Debit Network Exclusivity By Network**

Percent of Transactions That Must Be Routed to Network When Network Functionality Is Present on the Card

	<b>2007</b>	<b>2008</b>	<b>2009</b>
Interlink	86%	83%	89%
Maestro	26%	25%	72%
Credit Union 24	24%	19%	69%
Alaska Option	94%	78%	63%
NYCE	43%	45%	57%
Pulse Pay	49%	46%	56%
STAR (West Coast)	47%	45%	55%
Shazam	74%	61%	55%
MAC	57%	56%	54%
STAR (East Coast)	31%	41%	28%
Accel	21%	2%	19%
Jeanie	12%	12%	11%
AFFN	6%	2%	2%

**Notes:**

The percentages reported above are an estimated measurement of network exclusivity on PIN debit cards.

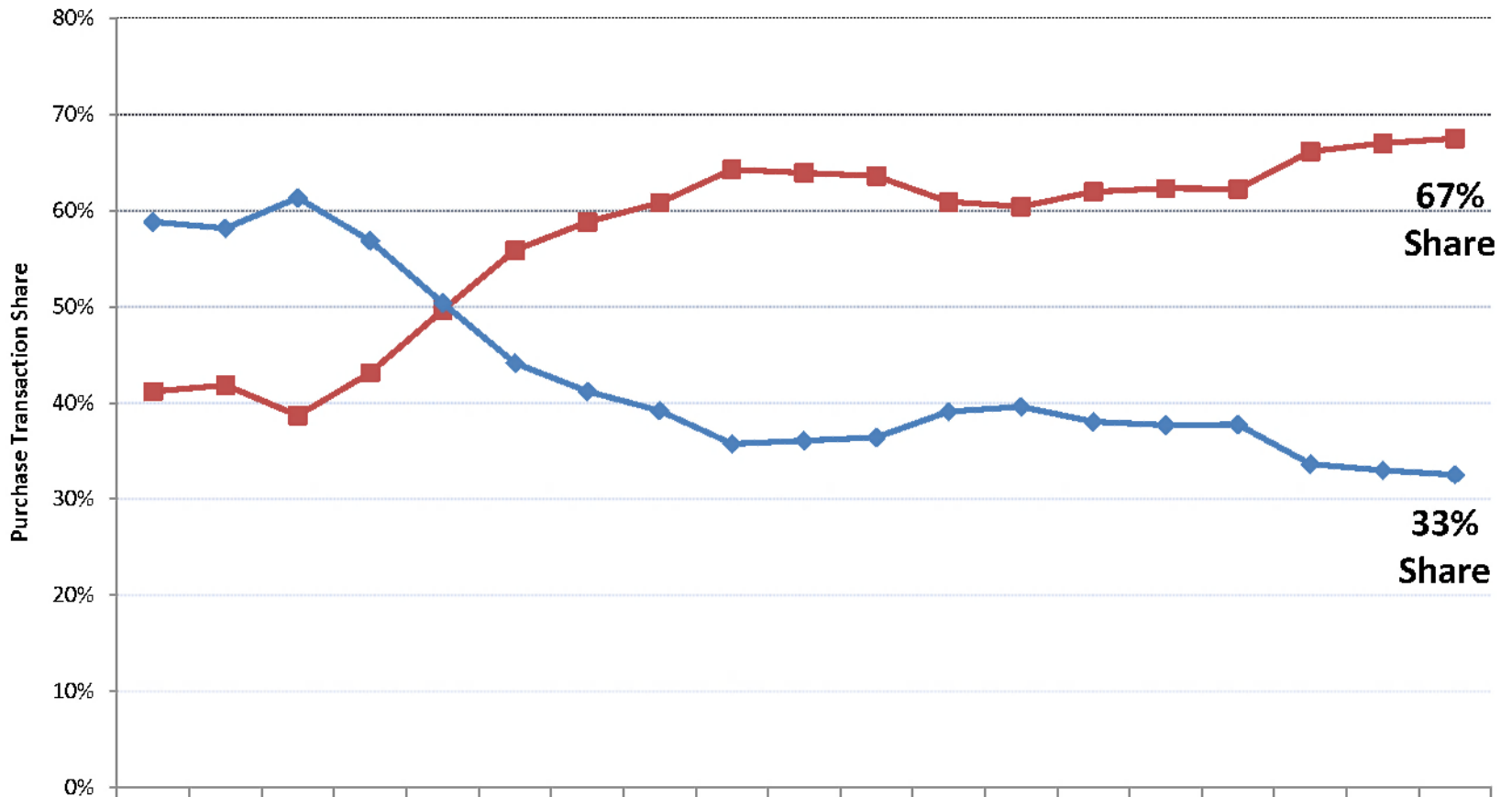
The data above can be interpreted along the lines of the following example. Given that a debit card had Interlink functionality in 2009, an estimated 89% of those debit cards had no other PIN debit network functionality. Stated differently, only about 11% of the debit cards that had Interlink functionality could be routed by the merchant to an alternative PIN debit network.

These data were generated by a large, national merchant as part of a two week test that is conducted each year. As part of this test, the merchant takes turns placing each network at the top of its routing priority table and then at the bottom of the routing table. The merchant then compares the results to determine the percentage of transactions for each network that it was unable to route through another PIN debit network (i.e., the card had PIN debit network functionality exclusive to that network).

**Source:**

Data provided by merchant.

### Exhibit 6: Relative Share of PIN and Signature Debit - 1991-2009



	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Signature Debit	41%	42%	39%	43%	50%	56%	59%	61%	64%	64%	64%	61%	60%	62%	62%	62%	66%	67%	67%
PIN Debit	59%	58%	61%	57%	50%	44%	41%	39%	36%	36%	36%	39%	40%	38%	38%	38%	34%	33%	33%

Notes: Prior to 2006 figures are from published and unpublished data reported by The Nilson Report. From 2006 on, the data reported by The Nilson Report have been adjusted to take into account MasterCard's inclusion of non-MasterCard PIN debit volume in its reported debit volumes. Since 2008, the data also have been adjusted to account for Visa no longer reporting Interlink debit volumes separately.

Sources: The Nilson Report, various issues. E-mail from The Nilson Report, September 17, 2007. Data provided by merchants. CRA estimates.

**Exhibit 7a: Debit Network Interchange Fees for a Retail Transaction - 2010**  
 Base Non-Supermarket Rate

Network	Interchange Fee Rate				Interchange Fee on a \$40 Transaction	
	Ad Valorem	Per Transaction	Min	Max	Fee	Basis Point
<b><u>Signature Debit Networks:</u></b>						
Visa	0.95%	\$0.20			\$0.58	1.45%
MasterCard	1.05%	\$0.15			\$0.57	1.43%
Discover	NA	NA	NA	NA	NA	NA
<b><u>PIN Debit Networks:</u></b>						
Interlink	0.95%	\$0.20			\$0.58	1.45%
MasterCard PIN Debit	0.90%	\$0.15			\$0.51	1.28%
Star Systems	0.80%	\$0.17			\$0.49	1.23%
Pulse Pay	0.85%	\$0.13			\$0.47	1.18%
NYCE	0.90%	\$0.12	\$0.21		\$0.48	1.20%
Accel	0.80%	\$0.18			\$0.50	1.25%
Credit Union 24	0.85%	\$0.12		\$0.45	\$0.45	1.13%
Shazam	0.75%	\$0.15			\$0.45	1.13%
AFFN	0.65%	\$0.12		\$0.50	\$0.38	0.95%
Alaska Option		\$0.19			\$0.19	0.48%

Rate reported is the non-supermarket rate for the base interchange fee tier. This is the rate paid by most non-supermarkets.

In 2010, Star Systems, Pulse Pay, and NYCE each instituted higher debit interchange fee rates for issuers that commit a specified level of card issuing business to the network. These higher interchange fee rates increase the per transaction amount by 1.5 to 6 cents depending on the merchant's type and size. The interchange fees reported in the table above do not account for these higher loyalty rates.

Source:

Interchange reimbursement fee schedules for the various networks.

**Exhibit 7b: Debit Network Interchange Fees for a Retail Transaction - 2010**  
Tier 1 (Largest) Non-Supermarket Rate

Network	Interchange Fee Rate				Interchange Fee on a \$40 Transaction	
	Ad Valorem	Per Transaction	Min	Max	Fee	Basis Point
<b><u>Signature Debit Networks:</u></b>						
Visa	0.62%	\$0.13			\$0.38	0.95%
MasterCard	0.70%	\$0.15			\$0.43	1.08%
Discover	NA	NA	NA	NA	NA	NA
<b><u>PIN Debit Networks:</u></b>						
Interlink	0.50%	\$0.10		\$0.60	\$0.30	0.75%
MasterCard PIN Debit	0.50%	\$0.08		\$0.50	\$0.28	0.70%
Star Systems	0.55%	\$0.08		\$0.55	\$0.30	0.75%
Pulse Pay	0.50%	\$0.08		\$0.45	\$0.28	0.70%
NYCE	0.55%	\$0.06	\$0.14	\$0.49	\$0.28	0.70%
Accel	0.55%	\$0.08		\$0.50	\$0.30	0.75%
Credit Union 24	0.55%	\$0.07		\$0.45	\$0.29	0.73%
Shazam	0.50%	\$0.08			\$0.28	0.70%
AFFN	0.50%	\$0.07		\$0.40	\$0.27	0.66%
Alaska Option	0.00%	\$0.10			\$0.10	0.25%

Notes:

Rate reported is the non-supermarket rate for the base interchange fee tier. This is the rate paid by only the very largest non-supermarkets.

In 2010, Star Systems, Pulse Pay, and NYCE each instituted higher debit interchange fee rates for issuers that commit a specified level of card issuing business to the network. These higher interchange fee rates increase the per transaction amount by 1.5 to 6 cents depending on the merchant's type and size. The interchange fees reported in the table above do not account for these higher loyalty rates.

Source:

Interchange reimbursement fee schedules for the various networks.

**Exhibit 8a: Visa Signature Debit Interchange Fees Fell Immediately After The Settlement in the *In Re: Visa Check/MasterMoney Antitrust Litigation* Based On \$40 Average Debit Card Transaction Size**

Interchange Fee Category	Pre-Settlement (April 2003)			Post-Settlement (April 2004)			% Decrease	
	Percent	Fixed	Total Fee in Basis Points	Percent	Fixed	Cap		Total Fee in Basis Points
CPS/Retail - Performance Threshold I	1.25%	\$ 0.10	150	0.70%	\$ 0.15		108	28%
CPS/Retail - Performance Threshold II	1.25%	\$ 0.10	150	0.83%	\$ 0.15		121	20%
CPS/Retail - Performance Threshold III	1.25%	\$ 0.10	150	0.95%	\$ 0.15		133	12%
CPS/Retail - All other	1.25%	\$ 0.10	150	1.05%	\$ 0.15		143	5%
CPS/Supermarket - Performance Threshold I	0.00%	\$ 0.40	100	0.70%	\$ 0.15	\$ 0.35	88	13%
CPS/Supermarket - Performance Threshold II	0.00%	\$ 0.40	100	0.83%	\$ 0.15	\$ 0.35	88	13%
CPS/Supermarket - Performance Threshold III	0.00%	\$ 0.40	100	0.95%	\$ 0.15	\$ 0.35	88	13%
CPS/Supermarket - All other	0.00%	\$ 0.40	100	1.05%	\$ 0.15	\$ 0.35	88	13%
CPS/Retail 2	1.43%	\$ 0.05	156	0.80%	\$ 0.25		143	8%
CPS/Retail Key Entry	1.80%	\$ 0.10	205	1.60%	\$ 0.15		198	4%
CPS/Card Not Present	1.80%	\$ 0.10	205	1.60%	\$ 0.15		198	4%
CPS/Retail Service Station	1.25%	\$ 0.10	150	0.70%	\$ 0.17		113	25%
CPS/Automated Fuel Dispenser	1.50%	\$ 0.05	163	0.70%	\$ 0.17		113	31%
CPS/E-Commerce Basic	1.80%	\$ 0.10	205	1.60%	\$ 0.15		198	4%
CPS/E-Commerce Preferred	1.80%	\$ 0.10	205	1.55%	\$ 0.15		193	6%
CPS/Hotel & Car Rental Card Not Present	1.58%	\$ 0.10	183	1.36%	\$ 0.15		174	5%
CPS/Hotel & Car Rental Card Present	1.58%	\$ 0.10	183	1.36%	\$ 0.15		174	5%
CPS-E-Commerce Preferred Hotel and Car Rental	1.58%	\$ 0.10	183	1.36%	\$ 0.15		174	5%
CPS/Passenger Transport	1.70%	\$ 0.05	183	1.60%	\$ 0.15		198	(8%)
CPS/E-Commerce Preferred Passenger Transport	1.70%	\$ 0.05	183	1.60%	\$ 0.15		198	(8%)
CPS/Small-Ticket	NA	NA	NA	1.60%	\$ 0.04		170	NA
CPS/Restaurant	1.25%	\$ 0.10	150	1.19%	\$ 0.10		144	4%
Express Payment Service	2.00%	\$ 0.02	205	1.95%	\$ 0.02		200	2%
EIRF	2.14%	\$ 0.10	239	1.75%	\$ 0.20		225	6%
Standard	2.49%	\$ 0.10	274	1.90%	\$ 0.25		253	8%

Source:  
 Visa Business Review, December 2003.

**Exhibit 8b: Visa Credit Interchange Fees Rose Immediately After The Settlement in the *In Re: Visa Check/MasterMoney Antitrust Litigation*  
Based on \$75 Average Credit Card Transaction Size**

Interchange Fee Category	Pre-Settlement (April 2003)			Post-Settlement (April 2004)			% Increase
	Percent	Fixed	Total Fee in Basis Points	Percent	Fixed	Total Fee in Basis Points	
CPS e-Commerce Basic	1.80%	\$ 0.10	193	1.85%	\$ 0.10	198	3%
CPS e-Commerce Passenger Transport Preferred	1.70%	\$ 0.05	177	1.75%	\$ 0.10	188	7%
CPS e-Commerce Preferred Hotel & Car Rental	1.58%	\$ 0.10	171	1.58%	\$ 0.10	171	0%
CPS - Automated Fuel Dispenser	1.50%	\$ 0.05	157	1.50%	\$ 0.05	157	0%
CPS - Service Station	1.50%	\$ 0.05	157	1.50%	\$ 0.05	157	0%
CPS - Card Not Present	1.80%	\$ 0.10	193	1.85%	\$ 0.10	198	3%
CPS - Hotel/Car Rental 1	1.58%	\$ 0.10	171	1.58%	\$ 0.10	171	0%
CPS - Passenger/Transport 1	1.70%	\$ 0.05	177	1.75%	\$ 0.10	188	7%
CPS - Retail 1	1.39%	\$ 0.10	152	1.54%	\$ 0.10	167	10%
CPS - Retail 1 - TIER I	1.39%	\$ 0.10	152	1.43%	\$ 0.10	156	3%
CPS - Retail 1 - TIER II	1.39%	\$ 0.10	152	1.47%	\$ 0.10	160	5%
CPS - Retail 1 - TIER III	1.39%	\$ 0.10	152	1.51%	\$ 0.10	164	8%
CPS - Retail 2 (Emerging Markets)	1.43%	\$ 0.05	150	1.43%	\$ 0.05	150	0%
CPS - Restaurant	1.39%	\$ 0.10	152	1.54%	\$ 0.10	167	10%
CPS - Supermarket/Warehouse	1.20%	\$ -	120	1.24%	\$ 0.05	131	9%
CPS - Supermarket/Warehouse - TIER 1	1.20%	\$ -	120	1.15%	\$ 0.05	122	1%
CPS - Supermarket/Warehouse - TIER 2	1.20%	\$ -	120	1.20%	\$ 0.05	127	6%
CPS - Supermarket/Warehouse - TIER 3	1.20%	\$ -	120	1.22%	\$ 0.05	129	7%
CPS e-Commerce Preferred	1.80%	\$ 0.10	193	1.80%	\$ 0.10	193	0%
CPS - Retail Key Entry							
EIRF (Validation Errors)	2.14%	\$ 0.10	227	2.14%	\$ 0.10	227	0%
Small Ticket				1.65%	\$ 0.04	170	
Standard	2.49%	\$ 0.10	262	2.63%	\$ 0.10	276	5%

Sources:

2003: Fifth Third Bank/ Processing Solutions Document February 2003; FYI Chase Merchant Services, LLC June 2003; *The Nilson Report*, Issue 793

2004: Fifth Third Bank/ Processing Solutions Document February 2003; FYI Chase Merchant Services, LLC June 2003; *The Nilson Report*, Issue 793; Visa U.S. Interchange Rates Document; 2004 Visa Interchange Programs Document; American Banker Online 12/1/2004.



**Exhibit 9: Top 4 Visa Signature Debit Card Issuers in the U.S. - 2009**  
Purchase Volume in Billion \$

Rank	Issuers	Visa Signature Debit		Visa Credit	
		Purchase Volume	Share	Purchase Volume	Share
1	Bank of America	\$121	19%	\$150	20%
2	Wells Fargo	\$105	16%	\$41	5%
3	JPMorgan Chase	\$56	9%	\$187	24%
4	U.S. Bank	\$27	4%	\$66	9%
	<i>Top 4 Issuers</i>	<i>\$309</i>	<i>48%</i>	<i>\$444</i>	<i>58%</i>
	Total Visa	\$647	100%	\$764	100%

Notes:

Signature Debit includes prepaid cards.

Credit purchase volumes are estimates based on Visa's share of total credit cards.

Source: The Nilson Report, Issues 947 and 942.

## ATTACHMENT 2: Technical Appendix

### I. The Tourist Test and the At-Par Interchange Standard

#### A. Introduction

Some economists might suggest that the theoretical models developed by Rochet and Tirole (and others) imply that it would be inefficient to reduce debit card interchange fees below their current levels, if debit cards reduce merchants' transactional costs (including the current interchange fee), relative to other means of payment.<sup>1</sup> This is what Rochet and Tirole refer to as the "tourist test." Similarly, commentators might claim that these models imply that the Board should mandate an interchange fee equal to merchants' incremental transactional costs relative to other means of payment, what might be termed the "tourist test standard." However, as Rochet and Tirole have recognized, the tourist test is useful for detecting excessive interchange fees only under very limited assumptions, including the assumption that issuers pass through 100% of the interchange fees to depositors in the form of lower per transaction payments or higher rewards.<sup>2</sup>

Using assumptions that are more realistic for the debit card industry in the U.S., there is no reason to expect that the current interchange fee maximizes consumer welfare or that the tourist test standard would lead to greater consumer welfare. Nor is there reason to conclude that a positive interchange fee would enhance consumer welfare (or total

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<sup>1</sup> Jean-Charles Rochet and Jean Tirole, "Must-Take Cards: Merchants Discounts and Avoided Costs," mimeo, November 2008 (forthcoming in the *Journal of the European Economic Association* (hereinafter, Rochet and Tirole (2008)). See also Julian Wright, "The Determinants of Optimal Interchange Fees in Payment Systems," *Journal of Industrial Economics* 52 (2004), p. 1-26.

<sup>2</sup> As stated in Rochet and Tirole (2008), "[T]he tourist test may yield false positives ... if the issuing industry's prices exhibit cost amplification [and] conversely, *cost absorption leads to false negatives.*" *Id.* at 29 (emphasis added). The issuing industry's prices exhibit cost absorption if the issuers-to-cardholders pass-through rate is less than 100%. As discussed in Section IV.C.1 of the main text, the evidence suggests that the pass-through rate in the U.S. debit card issuing industry likely is less than 100%. Accordingly, the current interchange fees could pass the tourist test and nevertheless be excessive.

welfare), relative to at-par interchange (“API”).<sup>3</sup> Indeed, this very point has been made by Rochet and Tirole, who state that “Nothing prevents, both in our model and in reality, [the optimal interchange fee] from . . . flowing from the issuer to the acquirer.”<sup>4</sup>

In this Section, we discuss the tourist test in more detail and explain why its limitations make it unsuitable as a regulatory standard. Under realistic assumptions about the debit card market, the stylized framework of the tourist test is not in conflict with the API standard. This analysis supplements the less technical analysis and policy considerations discussed in the main text.

## **B. Tourist Test**

The tourist test suggests that any increase in the interchange fee that leaves the merchant better off from a non-repeat customer (e.g., a tourist) using a debit card instead of cash or check would enhance efficiency and consumer welfare. Although this theoretical result applies only under very limited conditions (as discussed below), it might be interpreted by some to imply that the maximum interchange fee should be capped at a level where the merchant’s total cost for debit (i.e., the transactional cost of authorizing, clearing and settling, plus the interchange fee, plus any network fees) is lower than the total transactional costs to the merchant if the transaction were paid by cash or check.<sup>5</sup> We refer to this policy as the “tourist test standard.”

The modeling used to justify the tourist test standard is highly technical and involves a set of very specific assumptions. Under these assumptions, the tourist test would lead to an “optimal” interchange fee standard that has the property that it delivers all the incremental benefits of debit card usage to the issuer and none to the merchant.<sup>6</sup> However, these assumptions are not

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<sup>3</sup> On purely theoretical grounds, at-par interchange is optimal under a wide range of conditions (see Example 1 in Section II of this Technical Appendix). Factors that tend to call for positive interchange fees include consumer heterogeneity and issuer price-cost markups (see Example 2 in Section II), *ceteris paribus*. Factors that tend to call for negative interchange fees include merchant heterogeneity, merchant price-cost markups, lower pass-through of issuers’ costs to card users as debit card fees (or reduced rewards) than of interchange fees to merchandise prices, and elastic consumer demand for merchandise, *ceteris paribus*. (See Example 3 in Section II, and see Section III.)

<sup>4</sup> *Id.* at note 8.

<sup>5</sup> The logic of their analysis would imply that the relevant costs of cash versus debit would include differential fraud costs and other causes of chargebacks.

<sup>6</sup> See Example 2 in Section II of this Technical Appendix.

appropriate for application to the debit card market.<sup>7</sup> More realistic alternative assumptions do not lead to the tourist test standard. Instead, the implied standard might well lead to either API or a negative interchange fee (that is, one that flows from the issuer to the merchant).

The basic Rochet and Tirole framework used to derive the tourist test standard assumes that all merchants are identical, so that either all merchants accept the debit cards or none do.<sup>8</sup> That basic framework also assumes that issuers pass through 100% of the interchange fee to debit card users. While the basic framework assumes that merchants pass through (at least partially) the merchant discount to consumers, it also assumes that consumers' demand for merchandise is perfectly inelastic (i.e., consumers do not reduce their purchases when retail prices increase). Thus, the basic framework does not account for the fact that positive interchange fees are likely to reduce output and create a deadweight loss in the merchandise market. Instead, the basic framework focuses solely on the impact of the interchange fee on debit card usage by consumers. We discuss these limitations in more detail in the next section.

### **C. Limitations of the Tourist Test Standard**

A number of these assumptions obviously are unlikely to apply to debit cards. First, the evidence suggests that bank issuers pass through far less than 100% of interchange fee increases to debit card users.<sup>9</sup> Second, many merchants do not accept debit cards today, so the assumption of the tourist test standard that all merchants are identical also is incorrect.<sup>10</sup> Third, consumers' demand for merchandise is not perfectly inelastic.

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<sup>7</sup> As Rochet and Tirole pointed out in an earlier version of their paper, “the result ... that the tourist test allows an exact detection of interchange fees that exceed the level that maximizes total user surplus ... relies on three strong assumptions: issuers' margin is constant, the number of issuers is given, [and] merchants are homogeneous.” (Jean-Charles Rochet and Jean Tirole, “Must-Take Cards and the Tourist Test,” mimeo, October 2006, at p. 10.) Note that “user surplus” is the sum of the consumer surplus plus merchant profits.

<sup>8</sup> By “basic framework” we are referring to the model of sections 2 and 3.1 in Rochet and Tirole (2008), leading to their Proposition 2. (*Id.* at pp. 4 to 12)

<sup>9</sup> This assumption alone implies that reducing the interchange fee below the tourist test level would increase consumer welfare, as stated in Proposition 3 of Rochet and Tirole (2008), at p. 13.

<sup>10</sup> Section 6 of Rochet and Tirole extends their basic framework (where consumers have different costs and benefits of cash and checks versus debit, but all merchants are assumed to have identical costs) to the case where both consumers and merchants are heterogeneous; that is, merchants also have different costs of handling cash and checks. The results are difficult to interpret and the implications for consumer welfare and the usefulness of the tourist test are unclear. In Example 3 of Section II, we describe a variant where merchants have different costs of

Together with the fact that the issuers-to-cardholders pass-through rate is less than 100%, the merchandise demand elasticity implies that higher interchange fees cause a reduction in output and a corresponding efficiency loss (or “deadweight loss”) in the merchandise market.<sup>11</sup> Under these more realistic assumptions, the analytic and policy conclusions dramatically change. In particular, the interchange fee that maximizes consumer welfare (or total welfare) is likely to be much lower than the tourist test would suggest. This is explained through several illustrative examples in Section II and using a formal model in Section III.

Our analysis shows that the tourist test standard (i.e., an interchange fee equal to the merchants’ incremental cost of cash and checks, net of the transactional costs of debit and network fees other than the interchange fee) is clearly inappropriate under these more realistic alternative assumptions. In fact, Rochet and Tirole analyze a scenario with partial pass-through of interchange fee increases to card users and find that reducing the interchange fee below the tourist test level would enhance consumer welfare.<sup>12</sup> These results show clearly that the tourist test standard is neither appropriate in general, nor is it appropriate under realistic assumptions about the debit card industry.

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handling cash and checks, but all consumers face identical costs of using cash and checks versus debit. That is, we make the “opposite” assumptions than in the basic framework of the tourist test. We show that this leads to a very different interchange fee standard that has the property that it delivers all the incremental benefits of debit card usage to the merchant.

<sup>11</sup> Rochet and Tirole (2008) extend their “tourist test results” (i.e., their Proposition 2) to the case with elastic demand for merchandise, but they maintain the other assumptions (e.g., issuers pass through 100% of the interchange fee to card users; all merchants accept debit cards; and only a fraction of consumers use debit cards) and also add new assumptions (e.g., “hedonic” prices). (See their Appendix 6) In Section III of this Technical Appendix, we assume that (i) demand for merchandise is not perfectly inelastic; (ii) the issuers-to-cardholders pass-through rate is less than 100%; and (iii) all merchants accept debit and all consumers use debit. We show that reducing the interchange fee would increase both consumer welfare and total welfare. Moreover, if these assumptions are satisfied under at-par interchange, then the optimal interchange fee is negative.

<sup>12</sup> *Id.* at Proposition 3 on p. 13. In an earlier version of their paper, Rochet and Tirole analyzed a scenario with merchant heterogeneity and found that reducing the interchange fee below the tourist test level would enhance consumer welfare. See Appendix 5 in Jean-Charles Rochet and Jean Tirole, “Must-Take Cards and the Tourist Test,” mimeo, October 2006.

#### **D. At-Par Interchange**

As discussed in our report, there are consumer welfare benefits of API. API would lead to lower merchandise prices that would more than offset the reduction in debit card rewards (or increase in debit card usage fees). This is because the merchants' pass-through rate of cost reductions likely exceeds the issuers' pass-through rate of interchange fee reductions. In addition, because consumers' demand for merchandise is not perfectly inelastic, the increase in consumption caused by the reduction in merchandise prices would increase both consumer welfare and total welfare.<sup>13</sup> The lower interchange fee also would increase merchant acceptance of PIN debit cards, which would further increase consumer surplus. There are opposing forces affecting total consumer usage of debit cards. On the one hand, usage would tend to fall somewhat because debit card fees would increase somewhat (or rewards would be reduced). However, this effect is mitigated by the fact that the issuer pass-through rate likely is less than 100%. On the other hand, debit card usage would tend to rise because merchant acceptance would rise. On balance, there is no reason to expect that consumer usage of debit cards would fall substantially, if at all.

Some might use this analysis to argue for a highly negative interchange fee (i.e., a fee that flows from issuers to merchants). Such a negative interchange fee might increase consumer welfare by further reducing merchandise prices by more than debit fees would rise, and further increasing merchant acceptance. However, we do not recommend taking the analysis this far.<sup>14</sup> Instead, API strikes a better balance, particularly in light of the other regulatory policy benefits of the API standard discussed in Sections IV.C and D of our report.

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<sup>13</sup> See Section III of this Technical Appendix.

<sup>14</sup> It is not definitive that a highly negative interchange would raise welfare. For example, issuers might begin to pass-through more than 100% of a highly negative interchange fee or set very low limits on debit card usage, both of which could limit consumer usage.

## II. Externalities and the Interchange Fee: Examples

This Section uses simple examples to illustrate the underlying foundation of the tourist test standard and explain why that standard is neither generally applicable nor likely applicable to the real world of debit card and merchandise markets.

These examples can be summarized as follows:

Example 1 sets up the basic framework with homogeneous consumers and merchants, and sets out a benchmark case where at-par interchange maximizes welfare.<sup>15</sup> In this example, consumers and merchants both prefer debit to alternative payment instruments and their benefits exceed the incremental costs borne by banks for debit rather than the alternative payment instruments.<sup>16</sup> This illustrates the basic point that a positive interchange fee is not necessary to maximize welfare as a general matter.

Example 2 assumes instead that consumers are heterogeneous with respect to their values of using debit instead of alternative payment instruments. (For simplicity of exposition, we will refer in this Technical Appendix to the alternative instrument as “cash,” but we take this to denote both cash and checks, used in the proportions by which they substitute for cash.) We maintain the assumption that merchants are all identical with respect to their cost savings from processing a transaction with debit instead of cash. The welfare-maximizing interchange fee here is positive (i.e., flows from merchants to issuers). It equals the merchant’s cost-savings benefit minus the acquiring bank’s incremental cost of an additional debit transaction. This leads to the “tourist test.”<sup>17</sup> This positive interchange fee optimally balances the positive externalities created from debit card usage.

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<sup>15</sup> By “welfare” we mean either “consumer welfare” or “total welfare.” In Examples 1, 2 and 3, maximizing consumer welfare is equivalent to maximizing total welfare. However, this is not the case when issuers charge price-cost markups and do not fully pass-through interchange fees to debit card users. See Section III of this Technical Appendix, below.

<sup>16</sup> If banks’ also obtain cost savings from debit over cash and checks, as we believe is the case, the results are even stronger.

<sup>17</sup> Jean-Charles Rochet and Jean Tirole, “Must-Take Cards: Merchant Discounts and Avoided Costs,” mimeo, November 2008 (forthcoming in the *Journal of the European Economic Association*). See also Julian Wright, “The Determinants of Optimal Interchange Fees in Payment Systems,” *Journal of Industrial Economics* 52 (2004), pp. 1-26.

Example 3 assumes that consumers are homogenous but merchants are heterogeneous, differing in the cost-savings benefits they receive from debit transactions rather than cash. The welfare-maximizing interchange fee here is negative (i.e., flows from issuers to merchants). It equals the incremental benefit that consumers gain from using debit instead of cash. We refer to this as the “consumer benefit test” to distinguish it from the “tourist test.” In this situation, a negative interchange fee optimally balances the positive externalities created from debit card usage.

Of course, in the real world, there is both consumer and retail merchant heterogeneity. This means that the welfare-maximizing interchange fee must solve a difficult balancing problem in order to optimize the externalities from debit card usage by consumers and debit card acceptance by merchants. The regulator would need to estimate the distribution of consumer and merchant heterogeneity.

These examples also focus solely on debit card usage by cardholders and debit card acceptance by merchants. They do not take into account the fact that issuers likely do not pass through to consumers 100% of the interchange fee as rewards or reduced debit card service fees, which means that a positive interchange fee will not raise consumer welfare as much as the higher merchandise prices will reduce consumer welfare. The examples also do not take into account the impact of interchange fees on the retail merchandise market. Thus, they leave out the adverse welfare impact from the fact that a positive interchange fee raises merchants’ costs, which then are likely fully passed through to consumers in the form of higher prices, which tends to reduce both the demand for merchandise and welfare.

### **Example 1: Zero Interchange Fee Maximizes Welfare**

Suppose that every consumer obtains a benefit of 30 cents per transaction when they use debit instead of cash, not including any fees paid to (or rewards received from) the issuing bank.<sup>18</sup> Suppose that every merchant obtains a cost-savings benefit of 20 cents per transaction when a consumer uses debit instead of cash, not including any fees paid to the acquiring bank. Suppose that each issuing bank incurs an incremental cost of 25 cents per transaction when consumer a

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<sup>18</sup> These benefits involve time and cost savings from saving a trip to their bank or ATM machine.



pays with debit instead of cash.<sup>19</sup> Suppose that each acquiring bank incurs a cost of 10 cents per transaction. (For simplicity, we leave out the costs of networks in this analysis.)

In this example, debit is a superior form of payment than cash because the total per transaction benefits to consumers and merchants (i.e., 50 cents) exceed the total per transaction costs incurred by issuers and acquiring banks (i.e., 35 cents). Leaving aside any impact in the merchandise market, welfare would be maximized if all transactions were carried out with debit instead of cash.<sup>20</sup>

At-par interchange fee would lead to this welfare-maximizing outcome if there were perfect competition among issuers, among acquiring banks and among merchants.<sup>21</sup> Issuing banks would charge their depositors (consumers) a debit usage fee equal to the issuers' 25 cent cost.<sup>22</sup> Because each consumer obtains a benefit that is greater than the fee charged by the issuing bank (i.e.,  $30 > 25$ ), each consumer would use debit instead of cash. Acquiring banks would charge merchants a debit processing fee equal to the acquiring banks' 10 cent cost. Because each merchant obtains a cost-savings benefit greater than the fee charged by the acquiring bank (i.e.,  $20 > 10$ ), each merchant decides to accept debit cards. Therefore, in this example, at-par interchange maximizes welfare.<sup>23</sup>

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<sup>19</sup> These costs involve the issuers' processing costs less any cost-savings they obtain from consumers not using bank tellers or ATM machines. Issuers' costs of debit transactions may well be less than their costs when consumers use checks and cash withdrawn from their accounts instead.

<sup>20</sup> Accounting for such impact would reinforce the fact that welfare is maximized if all transactions are carried out with debit instead of cash. That is because the lower transaction costs will lead to greater output and thus to an additional surplus gain in the merchandise market (in addition to the gains from reducing transaction costs).

<sup>21</sup> We assume throughout this Technical Appendix that merchants face prohibitive impediments to charging different prices depending on whether the consumer pays with cash or a debit card.

<sup>22</sup> That is, we assume perfect competition among banks.

<sup>23</sup> Specifically, in this example, any per unit interchange fee between -5 cents and +10 cents would reach the same outcome. Consumers would continue to use debit even if the usage fee were raised up to their benefit of 30 cents, which would be the case if perfectly competitive issuers fully passed through an interchange fee of -5 cents (plus their costs of 25 cents). (A larger negative interchange fee would lead to a debit usage fee that would cause consumers to prefer cash.) Merchants would continue to accept debit even if their fee were raised up to their cost-savings benefit of 20 cents, which would be the case if perfectly competitive acquirers fully passed through an interchange fee of 10 cents (plus their costs of 10 cents). (A larger positive interchange fee would lead to a debit processing fee that would cause merchants to stop accepting debit.) Merchandise prices would rise from a positive interchange fee and fall from a negative interchange fee, but there would be no effect on consumer or total welfare. This is because merchants' costs and consumers' willingness to pay would change by equal amounts.

## **Example 2: Positive Interchange Fee Maximizes Welfare**

Suppose now that there is consumer heterogeneity regarding the benefits of using debit instead of cash. In particular, assume that consumers' benefits vary from a low of zero benefits and a high of 60 cents (instead of being 30 cents for all consumers as in Example 1). However, suppose that merchant cost-savings remain homogeneous at 20 cents, as do issuer incremental costs of 25 cents and acquiring banks' costs of 10 cents.

In this example, welfare maximization no longer involves all transactions using debit. Instead, it is only optimal for a consumer to use debit if the consumer's benefit is at least 15 cents. This is because the total benefits to the consumer and the merchant then would equal or exceed 35 cents (i.e.,  $15 + 20$ ), which is the total incremental costs incurred by the banks (i.e.,  $25 + 10$ ). However, all transactions where the consumer's convenience benefit is less than 15 cents should be carried out using cash because the total benefits are smaller than the total costs.

A positive interchange fee of 10 cents per transaction leads to this outcome. Assuming perfect competition among issuers, acquiring banks and merchants, if instead the interchange fee is zero, then all transactions where the consumer's benefit is less than 25 cents will be carried out using cash. This is because the issuing bank charges a fee of 25 cents per debit transaction. This is not welfare-maximizing. For example, consider a consumer that obtains a benefit of 20 cents from using debit. That consumer will use cash because the 20 cents benefit is smaller than the 25 cent that the consumer would have to pay to the issuer. But, the total benefits to the consumer and the merchant would be 40 cents (i.e.,  $20 + 20$ ), which exceeds the 35 cent total incremental costs incurred by the banks. Thus, there would be too little debit card usage and welfare would not be maximized.

Suppose now that the interchange fee is set equal to 10 cents per debit transaction. If the issuers pass through 100% of the interchange fee to consumers, the debit fee charged to consumers would fall to 15 cents. Thus, all consumers whose benefits were at least 15 cents would choose to use debit. On the merchant side, the acquiring banks would raise the per transaction merchant discount charged to merchants from 10 cents up to 20 cents. Merchants will continue to accept debit cards because their 20 cent cost savings from using debit is not less than the fee they must

pay the acquiring banks. Therefore, welfare would be maximized. In the jargon of economists, this example illustrates the standard internalization of an externality.

This example is the simple foundation of the “tourist test.” The tourist test standard would set the interchange fee equal to merchants’ per transaction cost-savings from a debit transaction instead of a cash transaction. However, the tourist test standard hinges on several strong assumptions that are unlikely to be satisfied in the U.S. debit card market.

*Comment: Rochet and Tirole consider a variant of Example 2 where issuers have (ex post) market power over cardholders and charge a price-cost mark-up. Suppose that the issuer mark-up equals 10 cents so that issuers would charge a usage fee of 35 cents if the interchange fee was zero. In this case, the interchange fee that maximizes total surplus would have to be higher to offset the mark-up, and would equal 20 cents.<sup>24,25</sup> This higher interchange fee would be needed to subsidize the issuer’s debit fee from 35 cents (under at-par interchange) down to the optimal issuer debit fee of 15 cents, when the issuer mark-up is 10 cents.<sup>26</sup> This example thus suggests a problem with applying this model as regulatory policy. As pointed out by Joe Farrell and Robin Prager et al., there is something “worrisome” about a policy of subsidizing firms with market power to induce them to charge more efficient lower prices and offset the distortion created by their market power.<sup>27</sup>*

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<sup>24</sup> As noted by Rochet and Tirole in their Proposition 2, if issuers have market power and the issuer pass-through rate is 100%, then the interchange fee that maximizes total welfare fails the tourist test. See also their Proposition 1.

<sup>25</sup> In the Rochet and Tirole model, the interchange fee that maximizes consumer surplus does not depend on the magnitude of the issuer price-cost markup (*Id.* at Proposition 2). In our example, this means that the interchange fee that maximizes consumer surplus is equal to 10, as would be the case in the absence of issuer market power. The consumer welfare criterion has the advantage of avoiding the worrisome issue of subsidizing issuers with market power, in contrast to the total welfare criterion.

<sup>26</sup> Merchandise prices then would rise by 20 cents (relative to at-par interchange), but there would be no welfare harm because consumers’ willingness to pay would increase by 20 cents.

<sup>27</sup> See Robin A. Prager, Mark D. Manuszak, Elizabeth K. Kiser, and Ron Borzekowski, “Interchange Fees and Payment Card Networks: Economics, Industry Developments, and Policy Issues,” Federal Reserve Board, Washington DC, May 2009 (“The presence of market power among issuing or acquiring banks is one factor that can influence the relationship between privately and socially optimal interchange fees. For example, when issuing banks have market power, a higher interchange fee can lower the costs of those banks, thereby offsetting issuer mark-ups that could otherwise inefficiently curtail card use. However, this role of an interchange fee is not related to the fundamental role of internalizing externalities and has been criticized as a means to subsidize firms (i.e., banks) with market power to induce lower prices (Farrell 2006).”) See also, Joseph Farrell, “Efficiency and Competition between Payment Instruments,” *Review of Network Economics* 5 (2006), pp. 26-44.

*Rochet and Tirole also point out that if issuers do not pass-through 100% of the interchange fee to depositors as a reduced debit usage fee, then the consumer welfare-maximizing interchange fee is lower than the tourist test standard.*<sup>28</sup>

### **Example 3: Negative Interchange Fee Maximizes Welfare**

In contrast to Example 2, suppose that consumers are homogeneous (as in Example 1), that is, every consumer obtains a benefit of 30 cents per transaction when they use debit instead of cash. However, suppose that merchants are heterogeneous. Suppose that merchants in different product or geographic markets differ in their cost-savings benefits, varying across markets from a low of 0 cents up to a high of 40 cents per debit transaction (instead of being equal to 20 cents for all merchants, as in Examples 1 and 2). Suppose as before that issuer incremental costs are 25 cents and the acquiring banks' costs are 10 cents.

In this example, welfare maximization no longer implies that all merchants should accept debit cards. Specifically, welfare is maximized when merchants accept debit cards only if their cost-savings benefits are at least 5 cents per transaction. If the merchant's cost savings are 5 cents, then the consumer plus merchant benefits are 35 cents, which is equal to the banks' total costs of 35 cents.

In this example, an interchange fee equal to zero will not maximize welfare. Instead, a negative interchange fee of -5 cents per transaction will maximize welfare. To see this, suppose the interchange fee is zero. The the acquiring banks' merchant discount is 10 cents, so merchants will only accept debit if their cost-savings benefit are at least 10 cents.<sup>29</sup> This outcome is not welfare maximizing. Too few merchants accept debit. For example, consider a merchant with an 8 cent cost-savings. In this situation, the total consumer plus merchant benefits would be 38 cents (i.e., 30+8), which exceeds the costs of the issuers and acquiring banks of 35 cents (i.e., 25+10).

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<sup>28</sup> *Id.* at Proposition 3.

<sup>29</sup> In this example, we abstract from the merchant Prisoner's Dilemma issue discussed in our report. We assume for simplicity that consumers do not take into consideration which merchants accept debit cards when they choose which merchant to visit (e.g., they are not aware of the merchant's acceptance policy). As a technical matter, we could treat all merchants competing in a retail market (geographic or product market) as homogeneous, and the merchant heterogeneity occurs across sectors.

Suppose instead that the interchange fee is set equal to -5 cents per debit transaction. That is, for each debit transaction, the issuing bank must pay 5 cents to the acquiring bank, which the acquiring bank then fully passes through to the merchant. The issuers are assumed to fully pass-through this fee to consumers, which will raise the debit transaction fee from 25 cents to 30 cents. Consumers will continue to use debit cards because the issuer's fee paid does not exceed the consumers' 30 cent benefit. All merchants whose cost-savings benefits exceed 5 cents now will accept debit cards because the merchant discount now will equal 5 cents (i.e., the acquiring bank's processing cost of 10 cents plus the (negative) interchange fee of -5 cents), instead of the 10 cent payment to the acquiring bank when the interchange fee was zero. In other words, optimal debit card acceptance by merchants will be achieved with a negative interchange fee of -5 cents. Thus, in this example, welfare is maximized by using a negative interchange fee equal to minus 5 cents per debit transaction.

Like Example 2, this example also involves internalization of an externality, but where the balance of benefits implies the need to subsidize merchants instead of consumers.

This example also leads to a test very different from the "tourist test," what we denote instead as the "consumer net benefit" test. In this example, the optimal interchange fee *paid to merchants* would be set equal to the convenience benefits obtained by consumers from using debit cards rather than cash, less the incremental costs of issuers from the consumers using debit instead of cash.

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Taken together, these examples show that setting the interchange fee to optimally internalize externalities involving debit card usage by consumers and debit card acceptance by merchants would be a very difficult exercise. For example, suppose that there is heterogeneity among both consumers and merchants. The "tourist" test of Example 2 and the "consumer net benefit" test of Example 3 show that the welfare-maximizing interchange fee in principle could be either positive or negative. However, in practice, it would be very difficult to determine whether the externalities produced by consumers' usage decisions on merchants are more important than the externalities produced by merchants' acceptance decisions on consumers. An additional complication is that consumers value increased merchant acceptance as a way to achieve the

debit usage benefits more often. Similarly, merchants might value increased consumer usage as a way to achieve the debit acceptance benefits more often. Such “network effects” would further complicate the issue of whether interchange fees should be positive or negative.

At the same time, these examples do not take into account what we view as additional important reason to favor at-par interchange over a positive interchange fee. First, as discussed elsewhere in this report, empirical evidence suggests that retailers likely would pass-through 100% of a positive interchange fee in the form of higher retail prices. In contrast, issuers are unlikely to pass-through the entire interchange fee in the form of consumer rewards or reduced fees. Thus, at-par interchange likely benefits consumers on balance. Second, as discussed in the report, there are other economic policy benefits for favoring at-par interchange.

### **III. Impact on the Retail Market and Welfare**

Section II of this Technical Appendix illustrated the way in which interchange fees could be set to internalize external effects of debit usage and acceptance decisions, but it ignored the impact on price and quantity in the retail market in which the transactions occurred. This issue is examined in this Section with a formal model of interchange fees. This model illustrates how a negative interchange fee (i.e., one that flows from the issuer to the retailer) increases both consumer welfare and total welfare, when issuers pass through only a fraction of the reduction in the interchange fee to card users as higher debit fees (or lower rewards), but retailers pass through a higher fraction of the reduction in the interchange fee to consumers in the form of lower retail prices.

#### **A. Basic Structure**

The model considers three sets of actors: retailers, issuers and consumers, which we discuss in turn.<sup>30</sup>

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<sup>30</sup> For simplicity, acquiring banks are not considered. This amounts to an assumption that acquirers are perfectly competitive with constant marginal costs.

## 1) Retailers

We consider a representative retailer. We denote by  $c_R$  the retailer's processing cost of a debit transaction excluding the interchange fee,  $f$ . Thus, the retailer's total cost of a transaction when it is completed using debit is equal to  $c_R + f$ . We also denote by  $C_R$  the retailer's cost when the transaction is completed using cash and checks. We assume that  $C_R > c_R$  so that retailers prefer to accept debit cards if the interchange fee is zero.

Retailers sell a (representative) retail good and we assume that the retailers' total supply of the retail good is given by an increasing supply function  $S(\cdot)$ .

## 2) Issuers

We consider a representative issuer. We denote by  $c_I$  the issuer's processing cost of a debit card transaction excluding the interchange fee. We also denote by  $h$  the per transaction usage fee levied on debit card users by the issuer when the interchange fee is zero. We assume that issuers earn a positive margin when the interchange fee is zero, i.e.,  $h > c_I$ . We assume that issuers pass through changes in the interchange fee to card users at a rate  $t$ , where  $0 \leq t \leq 1$ . Thus, the per transaction usage fee paid by the cardholder is equal to  $h - tf$  and the issuer's per transaction profit margin is equal to  $h + (1 - t)f - c_I$ .

## 3) Consumers

We denote by  $C_U$  the representative consumer's transactional cost when the retail good is purchased with cash and checks.<sup>31</sup> We assume that  $C_U > c_I$  so that consumers prefer to use debit if the debit usage fee is equal the issuer's processing cost (i.e., if  $h = c_I$ ).

We assume that consumers' total demand for the retail good is given by a decreasing function  $D(\cdot)$ .

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<sup>31</sup> For example, these costs include time and cost of an additional trip to the bank or an ATM machine.

## B. Equilibrium

In this section we describe the equilibrium in the retail market under different scenarios.

### 1) Equilibrium in a “no-debit economy”

As a benchmark, consider first the equilibrium in the retail market when only cash and checks are accepted by retailers. Let  $P$  denote the “shelf price” of the retail good. The “retailer net price” is equal to  $P - C_R$ , that is the shelf price minus the transactional cost of cash and checks incurred by the retailer. Likewise, the “consumer full price” is equal to  $P + C_U$ , that is the shelf price of the retail good plus the cost of cash and checks incurred by the consumer. The shelf price is determined by the equilibrium condition:

$$S(P - C_R) = D(P + C_U) \quad (1)$$

For future reference, we denote by  $P_a$  the equilibrium shelf price of the retail good under this scenario.

### 2) Equilibrium with competitive issuers and no interchange fees

Suppose next that debit is an alternative payment instrument and the interchange fee is zero. Moreover, suppose that issuers are perfectly competitive and earn zero profit on each debit transaction, i.e.,  $h = c_I$ . Since  $c_R < C_R$  and  $c_I < C_U$ , all retailers accept debit cards and all consumers use debit. This is because debit provides incremental cost savings to all the participants, relative to cash and checks. The “retailer net price” now equals  $P - c_R$ , that is, the shelf price minus the processing cost of debit. Likewise, the “consumer full price” equals  $P + c_I$ , that is, the shelf price plus the issuer fee. The shelf price is determined by the equilibrium condition:

$$S(P - c_R) = D(P + c_I) \quad (2)$$

Because  $c_I < C_U$ , at the no-debit equilibrium price  $P_a$ , the quantity demanded in equation (2) exceeds the no-debit equilibrium quantity. Similarly, because  $c_R < C_R$ , the equilibrium quantity



supplied in equation (2) exceeds the no-debit equilibrium quantity. Thus, the equilibrium with debit card transactions unambiguously leads to a higher output than the equilibrium with no debit. The effect on the nominal shelf price is ambiguous and depends on the relative elasticities and relative cost savings on the demand and supply sides of the retail market. However, in the equilibrium with debit transactions, the retailer net price is higher and the consumer full price is lower than in the no-debit equilibrium.<sup>32</sup>

It thus follows that both consumer surplus (i.e., consumer welfare) and retailer surplus rise when debit is introduced. Because issuers are assumed to earn zero profits, total welfare rises as well.

For future reference, let  $P_b$  denote the equilibrium shelf price of the retail good under this scenario.

### 3) Equilibrium with competitive issuers and non-zero interchange fees

We now introduce an interchange fee,  $f$ , paid by retailers to issuers.<sup>33</sup> However, we do not change any of the other assumptions from the previous scenario.<sup>34</sup> We next show that the interchange fee has no real effects on output and welfare, as long as it is set at a level in the following interval:

$$c_I - C_U < f < C_R - c_R \quad (3)$$

The first inequality ensures that consumers prefer to use debit, because their cost of cash and checks  $C_U$  exceeds the issuer's debit usage fee  $c_I - f$ . The second inequality ensures that retailers prefer to accept debit, because their cost of cash and checks  $C_R$  exceeds their total debit processing cost of  $c_R + f$ .

The equilibrium in the retail market is now determined by the equilibrium condition:

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<sup>32</sup> This follows directly from the fact that the equilibrium quantity is higher.

<sup>33</sup> For simplicity of exposition, acquiring banks are not considered. This amounts to an implicit assumption that acquiring banks are perfectly competitive with constant marginal costs. Thus, acquiring banks fully pass on higher interchange fees to merchants in the form of higher merchant discount fees.

<sup>34</sup> Under this scenario, competitive issuers set the debit usage fee equal to  $h = c_I - f$ . It follows that both the issuers and the retailers pass the interchange fee on to consumers at a rate of 100%.

$$S(P - c_R - f) = D(P + c_I - f) \quad (4)$$

where the arguments of the supply and demand functions represent respectively the “retailer net price” and “consumer full price.”

Comparing equations (2) and (4), it follows that the equilibrium shelf price of the retail good is equal to  $P_b + f$ . This is because the interchange fee shifts up both the supply and demand curves by equal amounts.

Thus, when issuers are perfectly competitive, a relatively small interchange fee (whether positive or negative) does not have any real effects. As long as the interchange fee continues to satisfy equation (3), both the equilibrium “retailer net price” and the equilibrium “consumer full price” are unchanged.

#### **4) Equilibrium when issuers pass through the interchange fee only partially**

We now analyze a situation where issuers charge a profit margin on debit transactions and pass through to card users only a fraction of the interchange fees. Under these conditions, the interchange fee has real effects on the retail market. A lower interchange fee increases output. Under these conditions, the interchange fee that maximizes both consumer welfare and total welfare is negative (i.e., the interchange fee flows from issuers to retailers).

As explained in Section 1.b, the debit usage fee levied on card users by issuers is  $h - tf$ , that is, the fee  $h$  levied by issuers when the interchange fee is zero *minus* the fraction of the interchange fee that is passed through to users. It follows that the equilibrium shelf price of the retail good is determined by the condition:

$$S(P - c_R - f) = D(P + h - tf) \quad (5)$$

where the arguments of the supply and demand functions respectively represent the “retailer net price” and the “consumer full price.” Equation (5) implicitly defines the equilibrium shelf price of the retail good as a function of the interchange fee,  $P(f)$ .

We next show that reducing the interchange fee below par (i.e., a negative interchange fee) increases both consumer welfare and total welfare. En route in doing so, it is useful first to establish the following intermediate result.<sup>35</sup>

**Lemma**  $t < 1$  implies  $t < P'(f) < 1$ .

The Lemma says that, if the issuer pass-through rate is less than 100%, then an increase in the interchange fee leads to an increase in the equilibrium shelf price of the retail good by less than the increase in the interchange fee, but by more than the reduction in the issuer usage fee.<sup>36</sup>

An immediate corollary of this result is that an increase in the interchange fee reduces the equilibrium quantity. To see this, notice from condition (5) that the change in the retailer net price due to the increase in the interchange fee is equal to  $P' - 1 < 0$ , where the inequality follows from the Lemma. Similarly, the Lemma also implies that an increase in the interchange fee leads to an increase in the consumer full price (since  $P' - t > 0$ ). Hence, as the retailer net price falls and the consumer full price rises, the equilibrium quantity falls.

Total welfare ( $TW$ ) is given by the following expression:

$$\begin{aligned} TW &= \int_{P(f)}^{\infty} D(p+h-tf) dp \\ &+ \int_0^{P(f)} S(p-c_R-f) dp \\ &+ [h+(1-t)f-c_I]D(P(f)+h-tf) \end{aligned}$$

Here, the first term is consumer welfare ( $CW$ ), the second term is retailer surplus and the third term is the total profit of the issuers.

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<sup>35</sup> The Lemma follows from applying the Implicit Function Theorem to equation (5):

$$(P' - 1)S' = (P' - t)D' \Rightarrow P' = (S' - tD')/(S' - D').$$

The assumptions  $S' > 0$ ,  $D' < 0$  and  $t < 1$  then imply  $P' > t$  and  $P' < 1$ .

<sup>36</sup> In the polar case where the issuer pass-through rate equals 100% (i.e.,  $t = 1$ ), the shelf price of the retail good increases by the same amount as the interchange fee (i.e.,  $P' = 1$ ).

The derivatives of total welfare and consumer welfare with respect to the interchange fee (evaluated at  $f = 0$ ) equal:

$$TW' = (h - c_I)(P' - t)D' < 0 \quad (6)$$

$$CW' = -(P' - t)D < 0 \quad (7)$$

These results demonstrate that the optimal interchange fee is negative, whether the welfare standard is consumer welfare or total welfare.

In the polar case when retail demand is perfectly inelastic (i.e.,  $D' = 0$ ), then a zero interchange fee is optimal under a total welfare criterion (because the total welfare effect in equation (6) would equal zero) but the optimal interchange fee under a consumer welfare criterion remains negative. This follows because the consumer welfare effect in equation (7) would be negative.

In the polar case when the issuer pass-through rate equals 100% (i.e.,  $t = 1$ ), the change in the nominal retail shelf price is just equal to the change in the interchange fee (i.e.,  $P' = 1$ ). As a result, a zero interchange fee would be optimal because the welfare effects in equations (6) and (7) would equal zero. However, a non-zero interchange fee also would be optimal in this scenario, as long as condition (3) would be satisfied.

Thus, this model shows that the optimal interchange fee is negative as long as issuers pass through only a fraction of the reduction in the interchange fee to card users as higher debit fees (or lower rewards), but retailers pass through a higher fraction of the reduction in the interchange fee to consumers in the form of lower retail prices. Under these conditions, reducing the interchange fee provides a net price benefit to consumers that lead them to increase their retail purchases.<sup>37</sup>

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<sup>37</sup> Note that this model ignores the effects of interchange fees on debit usage and acceptance that were discussed in Section II of this Technical Appendix.

### C. Imperfectly Competitive Retailers

This analysis has assumed that the retail market is perfectly competitive, but the result that the optimal interchange fee is negative does not hinge on that assumption.<sup>38</sup> To illustrate this simply, suppose that the equilibrium shelf price of the retail good is equal to  $P = P_0 + c_R + f$ , where  $P_0$  is the sum of other retailing costs (other than the cost of debit  $c_R + f$ ) plus a retailer price-cost markup. (In the above analysis, there was no retailer markup.) This assumption implies a retailer pass-through rate of 100%.<sup>39</sup> As explained above, the debit usage fee charged by issuers is equal to  $h - tf$  and thus the consumer full price is equal to

$P_U = P_0 + c_R + h + (1 - t)f$ . It then follows immediately from the assumption that the issuer pass-through rate is less than 100% (i.e.,  $t < 1$ ) that a reduction in the interchange fee would reduce the consumer full price  $P_U$  and, therefore, would increase sales volume. Hence, if these assumptions are satisfied when the interchange fee is zero, the optimal interchange fee would be negative, under either a consumer welfare standard or a total welfare standard. This also shows that the results obtained in this Section do not hinge on the assumption that retailers are perfectly competitive.

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<sup>38</sup> If one assumes that retailers are imperfectly competitive, the optimal (negative) interchange fee flowing from the issuing banks to the retailers likely would be greater in magnitude than under the assumption of perfect competition among retailers. The additional fee that retailers would obtain under this assumption would amount to a subsidy given to retailers to remedy the lack of perfect competition in the retail market. However, that would be the same “worrisome” effect we noted in Section II of this Technical Appendix. In any event, our report recommends API, not a negative interchange fee.

<sup>39</sup> This 100% pass-through rate is consistent with the empirical evidence discussed in our report.

## **ATTACHMENT 3: Author Biographies**

### **Professor Steven C. Salop**

Steven Salop is Professor of Economics and Law at the Georgetown University Law Center and Senior Consultant with Charles River Associates. His research focuses on issues in antitrust, competition, regulation, and law and economics. He has written several articles on economics of financial payments systems and the role of interchange fees. Professor Salop has consulted on several financial services matters, including the Pulse antitrust arbitration, the *Valley Bank* ATM surcharge case, the *MountainWest* antitrust case, and *In Re Visa Check*, among others. Professor Salop has a Ph.D. in Economics from Yale University. Before joining the Georgetown University Law Center faculty, he was an economist at the Federal Trade Commission, the Civil Aeronautics Board, and the Federal Reserve Board.

### **R. Craig Romaine**

Mr. Romaine is a Vice President of Charles River Associates in Washington, DC, where he provides consulting services to attorneys and business people on issues of competition, antitrust, and damages. During his more than 20 years of consulting experience, Mr. Romaine has spent considerable time analyzing competitive issues arising in payment card networks, including in *In re: Visa Check/MasterMoney Antitrust Litigation* on behalf of the plaintiff class of merchants, antitrust matters on behalf of Discover network in the U.S. and Europe, and others. Mr. Romaine has a Master's degree in Economics from the University of Chicago and a B.A. in economics from Louisiana State University.

### **Serge Moresi**

Serge Moresi is a Vice President and the Director of Competition Modeling of Charles River Associates. Dr. Moresi is an expert in applied microeconomics theory, including network effects and two-sided markets. He is an experienced developer of theoretical and simulation models dealing with strategic behavior. Dr. Moresi has provided clients with expert economic consulting services in many antitrust and regulatory proceedings spanning a number of industries, including airline global distribution systems and card payment networks. Dr. Moresi has a Diplôme Postgrade en Economie Politique from Université de Lausanne, Switzerland and a Ph.D. in Economics from M.I.T. He served as an Assistant Professor of Economics at Georgetown University.

### **Stephen Kletter**

Stephen Kletter is a Principal of Charles River Associates. With more than 10 years of consulting experience, has served as either project manager or principal investigator on numerous antitrust and regulatory studies at CRA. Mr. Kletter has extensive expertise in payment card networks matters, particularly industry background and data. Mr. Kletter has a

Master's degree in Economics from University of Michigan and a B.A. in Economics from Gettysburg College.

**Yianis Sarafidis**

Yianis Sarafidis is a Principal of Charles River Associates. He has provided expert advice in the context of antitrust litigation and merger cases in a variety of industries, including network industries and two-sided markets such as real estate and Internet commerce. He has developed economic analyses, led large teams of consultants, and authored submissions to the Department of Justice, the Federal Trade Commission and the European Commission. Dr. Sarafidis earned his Ph.D. in Economics at Yale University, and served as an Assistant Professor of Economics at Yale University and INSEAD.

**September 2010**

**CURRICULUM VITAE  
STEVEN C. SALOP**

**ADDRESS** Georgetown University Law Center  
600 New Jersey Ave., N.W.  
Washington, D.C. 20001

Telephone: (202) 662-9095  
Email: salop@law.georgetown.edu

**PERSONAL** Born, December 23, 1946; Married to Judith R. Gelman, three children; U.S. Citizen

**FIELDS OF SPECIALIZATION**

Industrial Organization, Competition and Antitrust Policy, Economics of Information, Economic Analysis of Law.

**DEGREES** Ph.D. Economics, Yale University, 1972  
M. Phil. Economics, Yale University, 1972  
B.A. University of Pennsylvania, 1968

**AWARDS** Summa Cum Laude, with Honors in Economics, University of Pennsylvania, 1968; Schoenbaum Prize in Economics, University of Pennsylvania, 1968; NSF Graduate Fellowship, 1968-72; Phi Beta Kappa, 1968.

**EMPLOYMENT EXPERIENCE**

*Current Position:* Professor of Economics and Law, Georgetown University Law Center (at GULC since August, 1981).

Guest Scholar, Brookings Institution, 1990-1991.

Visiting Professor, Massachusetts Institute of Technology, Spring 1986.

Visiting Interdisciplinary Professor, Georgetown University Law Center, July 1981-June 1982.



Associate Director for Special Projects, Bureau of Economics, Federal Trade Commission, January 1980-June 1981.

Assistant Director for Industry Analysis, Bureau of Economics, Federal Trade Commission, September 1979-January 1980.

Deputy Assistant Director for Consumer Protection, Bureau of Economics, Federal Trade Commission, December 1978-September 1979.

Economist, Division of Consumer Protection, Bureau of Economics, Federal Trade Commission. July 1978-December 1978.

Economist, Office of Economic Analysis, Civil Aeronautics Board, September 1977-July 1978.

Economist, Federal Reserve Board, July 1972-September 1977.

Adjunct Professor, Department of Economics, University of Pennsylvania, September 1977-June 1978.

Adjunct Professor, Department of Economics, George Washington University, September 1975-January 1978.

## **SELECTED PROFESSIONAL ACTIVITIES**

Associate Editor, *Economists' Voice* (formerly)

Associate Editor, *Litigation Economics Review*

Associate Editor, *Journal of Industrial Economics* (1997-2000)

Advisory Committee, FTC Hearings on Global and Innovation-Based Competition (1996).

Associate Editor (Industrial Organization), *Journal of Economic Perspectives* (1987-1993).

ABA Antitrust Task Force on Second Requests (1990).

Advisory Board, Georgetown Project on Treble Damages (1986-1987).

Associate Editor, *Journal of Industrial Economics* (1983-1988).

Associate Editor, *International Journal of Industrial Organization* (1984-1989).

Secretary, Antitrust Section, American Association of Law Schools (1983-1984).

Memberships: American Economic Association, American Bar Association, Phi Beta Kappa.

Nominating Committee: American Economic Association, 1982.

Economics Editorial Advisor, *Journal of Consumer Research*, 1982.

## **OTHER ACTIVITIES**

President, Salop Economics Inc.

Senior Consultant, Charles River Associates

Board of Directors, Charles River Associates (1998-2008)

Board of Trustees, The Lowell School (1989-1995)

## **PUBLICATIONS**

### **Books and Reports**

*Strategy, Predation and Antitrust Analysis*. Editor. Federal Trade Commission, 1981.

*Consumer Post-Purchase Remedies*. With H. Beales et al. Federal Trade Commission Staff Report, 1980.

*Consumer Information Remedies*. With L. Kantor et al. Federal Trade Commission Staff Report, 1979.

### **Articles**

“Refusals to Deal and Price Squeezes by an Unregulated Vertically Integrated Monopolist,” *Antitrust Law Journal* (2010).

“Question: What is the Real and Proper Antitrust Welfare Standard? Answer: The *True* Consumer Welfare Standard,” *Loyola Consumer Law Review* (2010)

“Economic Analysis of Exclusionary Vertical Conduct: Where Chicago Has Overshot the Mark,” in Robert Pitofsky (ed), *Where the Chicago School Overshot the Mark: Effect of Conservative Economic Analysis on U.S. Antitrust* (2008).

“Implementing the Hypothetical Monopolist SSNIP Test with Multi-Product Firms,” *Antitrust Source* (Feb. 2008) (with Serge X. Moresi & John R. Woodbury).

<http://www.abanet.org/antitrust/at-source/08/02/Feb08-Moresi.pdf>

“The Controversy over the Proper Antitrust Standard for Anticompetitive Exclusionary Conduct,” Barry Hawk (ed), *Fordham Competition Law Institute 33rd Annual Conference on International Antitrust Law and Policy* (2006).

“Exclusionary Conduct, Effect on Consumers, and the Flawed Profit-Sacrifice Standard,” *Antitrust Law Journal* (2006).

“Anticompetitive Overbuying by Power Buyers,” *Antitrust Law Journal* (2005)

“A Few Righteous Men: Imperfect Information, Quit-for-Tat, and Critical Mass in the Dynamics of Cooperation,” *Joseph E. Stiglitz Festschrift Volume 2003* (with S. Moresi)

“Should Concentration be Dropped from the Merger Guidelines?” With Jonathan Baker. *University of West Los Angeles Law Review* (2001)

“The Flawed Fragmentation Critique of Structural Remedies in the *Microsoft* Case,” *Antitrust Bulletin* (2001)

“Analysis of Foreclosure In The EC Guidelines On Vertical Restraints,” *Fordham University Law Institute 28<sup>th</sup> Annual Conference on International Antitrust Law and Policy* (2001)

“The Kodak Case, the First Principles Approach and Antitrust at the Millennium,” *Antitrust Law Journal* (2000).

“Competitive Analysis of Partial Ownership Interests.” With Daniel O’Brien, *Antitrust Law Journal* (1999).

“Preserving Monopoly: Economic Analysis, Legal Standards and Microsoft,” With R. Craig Romaine, *George Mason University Law Review*, 1999.

“Decision Theory and Antitrust Rules,” With C. Frederick Beckner, III, *Antitrust Law Journal*, 1999

“Analyzing Vertical and Horizontal Cross Ownership in Cable Television: The Time Warner-Turner Merger.” With S. Besen, J. Murdoch, D. O’Brien, and J. Woodbury. In J. Kwoka and L. White (eds.), *The Antitrust Revolution* 1998.

“Vertical Mergers and Leverage,” in *The New Palgrave Dictionary of Law and Economics*, 1998.

“You Keep On Knocking But You Can’t Come In: Evaluating Restrictions on Access Rules to Input Joint Ventures.” With D. Carlton. *Harvard Journal of Law and Technology* (1996).

“Evaluating Vertical Mergers: A Post-Chicago Approach.” With M. Riordan. *Antitrust Law Journal* (1995).

“Exclusionary Vertical Restraints: Has Economics Mattered?” *American Economic Review* (May 1992).

“An Economic Analysis of Copyright Collectives.” With S. Besen and S. Kirby. *Virginia Law Review* (1991).

“Competition Among Complements, and Intra-Network Competition.” With N. Economides. *Journal of Industrial Economics* (1992).

“Rowing Against the Tidewater: A Theory of Voting by Multi-Judge Panels.” With D. Post. *Georgetown University of Law Review* (1992).

“Evaluating Network Pricing Self-Regulation.” In *Electronic Services Networks: A Business and Public Policy Challenge of Electronic Shared Networks*, edited by Guerin-Calvert and Wildman, (1991).

“Equilibrium Vertical Foreclosure.” With J. Ordoover and G. Saloner. *American Economic Review* (1990).

“Deregulating Self-Regulated Shared ATM Networks.” *Economics of Innovation and New Technology* (1990).

“Monopoly Power and Market Power in Antitrust Law.” With T. Krattenmaker and R. Lande. *Georgetown University Law Review* (1987).

“Analyzing Anticompetitive Exclusion.” With T. Krattenmaker. *Antitrust Law Journal* (1987).

“Cost-Raising Strategies.” With D. Scheffman. *Journal of Industrial Economics* (1987).

“Information, Welfare and Product Diversity.” With J. Stiglitz. In *Arrow and the Foundations of the Theory of Economic Policy*, edited by Feiwel et al., (1987).

“Antitrust Analysis of Exclusionary Rights: Raising Rivals' Costs to Gain Power Over Price.” With T. Krattenmaker. *Yale Law Journal* (December 1986).

“Competition and Cooperation in the Market for Exclusionary Rights.” With T. Krattenmaker. *American Economic Review* (May 1986).

“Private Antitrust Litigation: Introduction and Framework.” With L. White. *Georgetown University Law Review* (1986).

“Economics of Private Antitrust Litigation.” With L. White. *Antitrust Law Journal* (1986).  
Reprinted by the Senate Judiciary Committee.

“Quantifying the Competitive Effects of Production Joint Ventures.” With T. Bresnahan. *International Journal of Industrial Organization* (1986).

“Measuring Ease of Entry.” *Antitrust Bulletin* (1986).

“Firm-Specific Information, Product Differentiation and Industry Equilibrium.” With J. Perloff. In *Strategic Behavior and Industrial Competition*, edited by Morris et al., (1986).

“Practices that (Credibly) Facilitate Oligopoly Coordination.” In *New Developments in the Analysis of Market Structure*, edited by Stiglitz et al., (1986).

“Equilibrium with Product Differentiation.” With J. Perloff. *Review of Economic Studies* (January 1985).

“A Practical Guide to Merger Analysis.” With J. Simons. *Antitrust Bulletin* (Winter 1984).

“A Bidding Model of Special Interest Regulation: Raising Rivals' Costs in a Rent-Seeking Society.” With D. Scheffman and W. Schwartz. In *The Political Economy of Regulation: Private Interests in the Regulatory Process*, (1984).

“Judo Economics: Capacity Limitations and Coupon Competition.” With J. Gelman. *Bell Journal of Economics* (Autumn 1983).

“Raising Rivals' Cost.” With D. Scheffman. *American Economic Review* (May 1983).

“Defects in Disneyland: Quality Control as a Two-Part Tariff.” With A. Braverman and J.L. Guasch. *Review of Economic Studies* (January 1983).

“The Theory of Sales: A Simple Model of Equilibrium Price Dispersion with Identical Agents.” With J. Stiglitz. *American Economic Review* (December 1982).

“A Framework for Evaluating Consumer Information Regulation.” With H. Beales, M. Mazis, and R. Staelin. *Journal of Marketing*. (Winter 1981).

“Efficient Regulation of Consumer Information.” With H. Beales and R. Craswell. *Journal of Law and Economics* (December 1981).

“Consumer Search and Public Policy.” With H. Beales, M. Mazis, and R. Staelin. *Journal of Consumer Research* (June 1981).

“Information Remedies for Consumer Protection.” With H. Beales and R. Craswell. *American Economic Review*, Papers and Proceedings (May 1981).

“Introduction.” In *Strategy, Predation and Antitrust Analysis*, edited by S.C. Salop. Federal Trade Commission, 1981.

“Strategic Entry Deterrence.” *American Economic Review*, Papers and Proceedings (May 1979).

“Monopolistic Competition with Outside Goods.” *Bell Journal* (Spring 1979).

“A Model of the Natural Rate of Unemployment.” *American Economic Review* (March 1979).

“Alternative Reservations Contracts.” Civil Aeronautics Board, 1978.

“Parables of Information Transmission in Markets.” In *The Effect of Information on Consumer and Market Behavior*, edited by Mitchell, (1978).

“The Noisy Monopolist: Information, Price Dispersion and Price Discrimination.” *Review of Economic Studies* (October 1977).

“Bargains and Ripoffs: A Model of Monopolistically Competitive Price Dispersion.” With J. Stiglitz. *Review of Economic Studies* (October 1977).

“Self-Selection and Turnover in the Labor Market.” With J. Salop. *Quarterly Journal of Economics* (November 1976).

“Information and Monopolistic Competition.” *American Economic Review*, Papers and Proceedings (May 1976).

“Wage Differentials in a Dynamic Theory of the Firm.” *Journal of Economic Theory* (August 1973).

“Systematic Job Search and Unemployment.” *Review of Economic Studies* (April 1973).

### **Reviews/Comments/Congressional and AMC Testimony**

“Proposed Legal Rule for Unilateral Refusals to Deal;” “Avoiding Error in Antitrust Analysis of Refusals to Deal;” “Opening Statement;” AMC Hearings on Section 2 (September 29, 2005)

“The Competitive Effects of Passive Minority Equity Interests: Reply,” With Daniel O’Brien, *Antitrust Law Journal* (2001)

“Slap Their Wrists? Tie Their Hands? Slice Them Into Pieces? Alternative Remedies for Monopolization in the Microsoft Case,” *Antitrust*, 1999

“Using Leverage to Preserve Monopoly: Discussion of Katz and Shapiro Paper,” in Eisenach and Lenard (eds), *Competition Innovation and the Microsoft Monopoly: Antitrust in the Digital Marketplace* (1999)

“Efficiencies in Dynamic Merger Analysis.” Testimony at FTC Hearings on Global and Innovation-Based Competition (November 1995). A slightly revised version has been published as “Efficiencies in Dynamic Merger Analysis: Summary.” With G. Roberts. *World Competition* (June 1996).

“Exclusionary Access Rules in Standards and Network Joint Ventures.” Testimony at FTC Hearings on Global and Innovation-Based Competition (December 1995).

“Evaluating Vertical Mergers: Reply to Reiffen and Vita Comment.” With M. Riordan. *Antitrust Law Journal* (1995).

“More Value for the Legal Dollar: A New Look at Attorney-Client Fees and Relationships.” With R. Litan. *Judicature* (1994).

“Kodak as Post-Chicago Law and Economics,” *CRA Perspectives*, April 1993. Reprinted in Texas Bar Association, *Antitrust and Business Litigation Bulletin* (November 1993).

“Vertical Foreclosure Without Commitment: Reply to Reiffen.” With J. Ordovery and G. Saloner. *American Economic Review* (1992).

“Antitrust Goes to College.” With L. White. *Journal of Economic Perspectives* (Summer 1991).

“Analysis of Entry in the New Merger Guidelines.” Brookings Papers on Economic Activity (1991).

“Mergers and Antitrust.” *Journal of Economic Perspectives* (1987).

“Comment on Golbe and White, ‘Time Series Analysis of Mergers.’” In Auerbach et al., *Mergers and Acquisitions*, NBER.

“Policy Implications of Conference Papers.” In Auerbach et al., *Mergers and Acquisitions*, NBER.

“Evaluating Uncertain Evidence with Sir Thomas Bayes.” *Journal of Economic Perspectives* (Summer 1987).

“Implications of the Georgetown Project for Treble Damages Reform.” Senate Judiciary Committee, March 21, 1986.

“Policing Deceptive Advertising.” Serial No. 97-134, 97th Congress.

“Entry Barriers, Consumer Welfare and Antitrust Reform.” In Bock et al., *Antitrust and New Views of Microeconomics*. Conference Board, 1986.

“Buy American, Save Your Job?” In J. Tobin et al., *Macroeconomics, Prices and Quantities*. Brookings Institution, 1983.

“Selling Consumer Information.” With H. Beales. In J. Olson et al., *Advances in Consumer Research*, Vol. VII. 1980.

“Comment on R. Schmalensee, ‘On the Use of Economic Models in Antitrust.’” In O. Williamson et al., *Antitrust Law and Economics*, 1980.

“Review of K. Lancaster, ‘Variety, Equity and Efficiency,’” *Journal of Economic Literature*, 1980.

## **UNPUBLISHED PAPERS AND TEACHING MATERIALS**

“Economic Reasoning for Lawyers: Cases and Materials”



## R. CRAIG ROMAINE

Vice President

Ph.D. (ABD), Economics,  
University of Chicago

M.A. Economics,  
University of Chicago

B.S. Business Administration,  
Louisiana State University

As a vice president in CRA's Competition Practice, Mr. Romaine specializes in the economic analysis of mergers, acquisitions, and other antitrust issues; the theory and modeling of damages claims; and finance/valuation issues. Mr. Romaine has extensive experience in the analysis of competition issues, particularly the competitive effects of mergers and acquisitions in their relevant markets. His expertise extends to the evaluation and measurement of damages in a variety of contexts, including patent and copyright infringement, antitrust violations, breach of contract, and securities fraud.

### PROJECT EXPERIENCE

- Mr. Romaine directed CRA's work on behalf of the plaintiff class in *In Re: Visa Check/MasterMoney* tying litigation, which resulted in a settlement paid to the plaintiff class valued at over \$3 billion.
- Mr. Romaine directed CRA's work on behalf of Discover Financial Services in its antitrust litigation against Visa and MasterCard, which resulted in a settlement paid to Discover valued at \$2.75 billion.
- Mr. Romaine co-directed CRA's work on behalf of Discover Financial Services in the European Union investigation of conduct by Visa.
- Mr. Romaine was an integral part of the CRA team engaged on behalf of Concord EFS (owner of the MAC ATM network) in its acquisition of the Star Systems ATM and debit network. He also worked on behalf on Concord EFS in its merger with First Data Corp.
- Mr. Romaine directed CRA's work on behalf of Discover Financial Services in its breach of contract litigation against Morgan Stanley.
- Mr. Romaine was an integral part of the CRA team engaged on behalf of Miller Brewing Company and Coors to analyze the economic effects of their joint venture.
- Mr. Romaine directed CRA's economic analysis on behalf of the parties for Google's acquisition of DoubleClick.
- In a case involving class-action allegations of price fixing among automobile dealers, Mr. Romaine directed CRA's work on behalf of defendants on both liability and damages issues.

- Mr. Romaine has worked on numerous mergers and other antitrust matters on behalf of information technology companies, including software developers and hardware manufacturers. Representative product lines at issue have included system software for personal computers, personal computer operating systems, embedded operating systems, middleware, data networking hardware, and storage devices/media.
- For a proposed acquisition of assets in the copper industry, Mr. Romaine performed an economic analysis of the competitive implications of the transaction.
- For a proposed merger of pharmaceutical wholesalers, Mr. Romaine assisted in the economic analysis of competition in the industry and provided litigation support to counsel for the merging parties during trial.
- Mr. Romaine has worked on a variety of antitrust issues, including merger analysis, involving the malt beverages industry, various chemicals, batteries, grocery products, and credit cards.
- In a major patent infringement case, Mr. Romaine helped formulate and estimate an economic model of the market for a consumer durable for the purpose of calculating damages. He also provided assistance to counsel for plaintiff during the trial.
- For an antitrust case involving coal transportation and cogeneration, Mr. Romaine assisted counsel for the defendant in analyzing and critiquing the plaintiff's claim for damages. The work involved conducting sensitivity analysis of forecast assumptions and estimating the cost of capital. Mr. Romaine's support extended through trial.
- Mr. Romaine played a role in the economic research for a securities fraud case involving the largest municipal bond default on record. His responsibilities included developing cash-flow spreadsheet models, analyzing electricity demand price elasticity, and determining the prudence of forecasts.
- In a tax case involving a major petroleum firm, Mr. Romaine helped determine the market value of natural gas in a thinly traded market. His analysis focused on energy markets in general and natural gas and LNG markets in particular.
- In an antitrust damages case involving a major airline, he estimated econometric models of market demand and calculated the cost of capital. Mr. Romaine also provided support to counsel during trial.
- In a copyright infringement damages case involving computer software, Mr. Romaine supported the expert witness in calculating monetary damages. During trial, he provided support to the expert witness and to counsel for plaintiff.
- For a client involved in a minority shareholder suit, Mr. Romaine helped to estimate the value of a block of stock. A central issue was the value of control and control premia.

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- In an antitrust damages case involving marine transportation, he developed estimates of the cost of capital for valuation of cash flows.
  - In a breach-of-contract damages case involving a major chemical company, Mr. Romaine prepared and submitted an affidavit on behalf of the claimant setting out the theory and application of economic damages. An important issue in the case was the effect of market structure on market shares and pricing. In addition, Mr. Romaine estimated the cost of capital for purposes of valuing cash flows.
  - For a 10b-5 securities fraud case in the computer software industry, Mr. Romaine assisted counsel for the defendant in structuring a theory and methodology for valuing damages. An important consideration involved the modeling of information flows and their effects on stock price.
  - He participated in the impact evaluation of proposed EPA regulations on a number of firms in the wood-preserving industry. In particular, Mr. Romaine developed estimates of the cost of capital for use in discounting future streams of uncertain costs.
  - For an electric utility client, Mr. Romaine co-authored a memorandum outlining the theory of the discount rate for evaluating nonutility power purchase agreements. A major issue involved consideration of levelized versus unlevelized payment terms.
  - In a vertical market foreclosure liability case involving a manufacturing firm, Mr. Romaine participated in the formulation of product and market definitions, then defined theories of breach-of-contract damages and vertical integration.
  - In an environmental damages case involving a major oil spill, Mr. Romaine participated in developing the theory of and taxonomy for non-use values.

## TESTIMONY

*David Roth, on Behalf of Himself and All Others Similarly Situated v. Aon Corporation, Patrick G. Ryan, Michael D. O'Halleran and David P. Bolger*, in the United States District Court for the Northern District of Illinois, Eastern Division, Lead Case No. 04-C-6835, Expert Report, 1/16/09; deposition 4/1/09.

*State of West Virginia ex rel. Darrell V. McGraw, Jr., Attorney General v. Visa U.S.A., Inc. and MasterCard International, Inc.*, in the Circuit Court of Ohio County West Virginia, Civil Action No. 03-C-551, Expert Report, 4/16/07.

*Funeral Consumers Alliance, Inc., et al v. Service Corporation International, et al*, in the United States District Court, Southern District of Texas, Houston Division, Civil Action No. 4:05 cv-03394 (KMH), Expert Report, 6/30/06; Reply Expert Report, 9/12/06; Deposition; hearing testimony.

*In Re: Mercedes-Benz Antitrust Litigation*, in the United States District Court, District of New Jersey, Master File No. 99-4311 (AMW), Affidavit 5/13/04.

*In Re: Visa Check/MasterMoney Antitrust Litigation*, United States Courts of Appeals for the Second Circuit, District Court Master File No. CV-96-5238, Declaration 2/27/04.

*Microsoft*, European Commission Case No. COMP/C-3/37.792, statement 2/4/04.

*Liebel-Flarsheim Company v. Medrad, Inc.*, United States District Court, Southern District of Ohio, Civil Action No. C-1-98-858; Expert Report, 11/30/00; Deposition 1/11/01; and Affidavit 4/4/01; and trial testimony.

*Pepsico, Inc. v. The Coca-Cola Company*, United States District Court, Southern District of New York, Civil Action 98 Civ. 3282 (LAP); Declaration, 1/20/00; Expert Report, 3/7/00; Expert Rebuttal Report, 6/12/00; Second Declaration, 8/8/00, and Deposition, 8/25/00.

*Entrust Technologies Inc., et al., v. Verisign, Inc., et al.*, United States District Court, Eastern District of Virginia, Alexandria Division; Civil Action, Affidavit, 1/4/00.

*Roche Diagnostics GmbH v. Rhone-Poulenc Rorer Pharmaceuticals, Inc.*, Zurich Chamber of Commerce Arbitration No. 240/93; Supplemental Witness Statement, 7/27/99.

*Boehringer Mannheim GmbH v. Rhone-Poulenc Rorer Pharmaceuticals, Inc.*, Zurich Chamber of Commerce Arbitration No. 240/93; Witness Statement, 9/18/98.

## PREVIOUS BUSINESS EXPERIENCE

1986–1987      *Staff Economist*, RCF, Inc., Chicago, Illinois (part-time)

Econometric estimation of postal demand for the U.S. Postal Service. Performed cost-benefit analyses of proposed environmental regulations. Presented testimony before the Illinois Pollution Control Board.

1985–1986      *Economic Analyst*, Bloch, Briggs & Associates, Baton Rouge, Louisiana, (part-time)

Acting as a consultant to the State of Louisiana, prepared an econometric study of the bonus bids for OCS leases to determine variation in bidding behavior across states, utilizing a federal government database on lease sales.

## OTHER RELATED EXPERIENCE

1986–1987      *Associate Editor*, Resources and Energy

1986, 1987      *Instructor*, Environmental Economics,  
University of Chicago undergraduate course

1986,1987	<i>Research Assistant</i> for Professor Ronald Coase, University of Chicago Law School
1986	<i>Teaching Assistant</i> for Professor James Snyder, University of Chicago
1985–1986	<i>Research Assistant</i> for Professor George Tolley, University of Chicago

## HONORS AND AWARDS

- *Pew Fellow*, University of Chicago, 1986, 1987
- B.S. awarded magna cum laude, Louisiana State University
- Centennial Honor Award (1979, 1980, 1981)
- Gertrude Bott Saucier Scholarship, 1980
- Phi Kappa Phi
- Beta Gamma Sigma (Business Administration)
- Mu Sigma Rho (Arts and Sciences)
- Omicron Delta Epsilon (Economics)
- LSU Freshman Honor Award

## PUBLICATIONS AND UNPUBLISHED PAPERS

“The Flawed Fragmentation Critique of Structural Remedies in the *Microsoft* Case.” With Steven C. Salop and Robert J. Levinson. *Antitrust Bulletin*, spring 2001.

“Alternative Remedies for Monopolization in the *Microsoft* Case.” With Steven C. Salop. *Antitrust Magazine*, summer 1999.

“Preserving Monopoly: Economic Analysis, Legal Standards, and *Microsoft*.” With Steven C. Salop. *George Mason Law Review* 7:3. spring 1999.

“Janis Joplin’s Yearbook and the Theory of Damages.” With F. Fisher. *Journal of Accounting, Auditing, and Finance*, vol. 5, nos. 1 and 2. winter/spring 1990.

“The Economics of Oil and Gas Leasing: Regret in a Risk Sharing Model,” June 1987.

"The Optimal Management of Publicly Owned Exhaustible Resources: International Variation in Information, Exploration, and Production Policies," April 1986.

**SERGE MORESI**  
Vice President

Ph.D. in Economics,  
Massachusetts Institute of Technology

Diplome en Economie Politique,  
Universite de Lausanne (Switzerland)

License en Economie Politique,  
Universite de Lausanne (Switzerland)

Serge Moresi is a Vice President and the Director of Competition Modeling of Charles River Associates. Dr. Moresi is an expert in applied microeconomics theory, including network effects and two-sided markets. He is an experienced developer of theoretical and simulation models dealing with strategic behavior. Dr. Moresi has provided clients with expert economic consulting services in many antitrust and regulatory proceedings spanning a number of industries, including airline global distribution systems and card payment networks.

Dr. Moresi has a Diplome Postgrade en Economie Politique from Universite de Lausanne, Switzerland and a Ph.D. in Economics from M.I.T. in 1991. He served as an Assistant Professor of Economics at Georgetown University from 1991 to 1998.

## PRIOR PROFESSIONAL EXPERIENCE

- 1991–1998     *Assistant Professor*, Georgetown University, Washington, D.C.
- Ph.D. courses: general equilibrium theory, game theory, contract theory.
  - B.A. courses: microeconomic theory, applied game theory.
- 1997     *Economic Consultant*, The Brattle Group, Washington, D.C.
- Development of a simulation method to calculate Ramsey prices.
- 1995     *Invited Professor*, Université de Lausanne, Switzerland
- Graduate lectures on the microstructure of financial markets.
- 1994     *Visiting Researcher*, University of Maryland, College Park, MD
- Research on the competitiveness of decentralized markets.
- 1994     *Economic Consultant*, World Bank, Washington, D.C.
- Analysis of the international competitiveness of Morocco.

## SELECTED CONSULTING EXPERIENCE

*In the context of regulatory proceedings on debit card interchange fees in Australia:*

Development of simulation models of the effects of reducing debit card interchange fees on:

- merchant profits and consumer welfare (under alternative assumptions on pass-through rates),
- prices of debit card services and other bank services (with and without cross-subsidization).

*In the context of DOT's NPRM proposals regarding computer reservation system regulations:*

Development of theoretical and simulation models of vertical foreclosure in bargaining markets.

*In the context of recent lawsuits:*

Development of a simulation model with pass-through and consumer harm from excessive royalties.

Development of a merger simulation model with colluding and non-colluding firms.

Development of a damage simulation model of bundled discounts.

*In the context of recent merger cases:*

Development of theoretical and simulation models of competition with dynamic demand spillovers.

Development of theoretical economic models of mixed bundling strategies.

Development of a theoretical model of the entry investment process in the programming industry.

## SELECTED CONSULTING REPORTS

"The Effects of Qualcomm's Excessive Handset Royalties on Retail Prices and Consumer Welfare: A Simulation Analysis." With John Hayes. Submitted to the European Commission on Behalf of Broadcom, 2008.

"Economic Analysis of the Competitive Effects of the Sirius-XM Merger." With Steven C. Salop, Steven R. Brenner and Lorenzo Coppi. Submitted to the Federal Communications Commission on behalf of XM, 2007.

"Vertical Competition Issues in the Proposed Toll/Patrick Merger." With Henry Ergas, Gary Roberts, Mike Smart, Chris Pleatsikas and Astrid Jung. Submitted to the Australian Competition and Consumer Commission on behalf of Toll Group, 2005.

"News Corporation's Partial Acquisition of DIRECTV: Economic Analysis of Vertical Foreclosure Claims." With Steven C. Salop, Carl Shapiro, David Majerus and E. Jane Murdoch. Submitted to the Federal Communications Commission on behalf of DIRECTV, 2003.

Technical appendix to "Economic Analysis of DOT's NPRM Proposals." With Steven C. Salop and John R. Woodbury. Submitted to the Department of Transportation on behalf of Sabre, Inc., 2003.



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## PUBLICATIONS

“Unilateral Effects of Mergers with General Linear Demand.” With Jerry Hausman and Mark Rainey. *Economics Letters*, forthcoming.

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## STEPHEN D. KLETTER

Principal

M.A.E. Economics, University  
of Michigan, Ann Arbor

B.A. Economics,  
Gettysburg College

Stephen Kletter is a Principal of Charles River Associates. With more than 15 years of consulting experience, has served as either project manager or principal investigator on numerous antitrust and regulatory studies at CRA. Mr. Kletter has worked on over half a dozen antitrust cases involving the payment card industry including In re: Visa Check/MasterMoney Antitrust Litigation on behalf of the plaintiff class of merchants, a large antitrust matter on behalf of the Discover Card and a number of PIN debit network mergers. As part of this work Mr. Kletter has developed a deep understanding of the competitive structure of the payment card industry and the data sources that track industry performance. Mr. Kletter has a Master's degree in Economics from University of Michigan and a B.A. in Economics from Gettysburg College.

### PROFESSIONAL EXPERIENCE

2006-Present *Principal*, Charles River Associates, Inc., Washington, D.C.

2003-2006 Associate Principal, Charles River Associates, Inc., Washington, D.C.

1998-2002 *Senior Associate*, Charles River Associates, Inc., Washington, D.C.

1996-1998 *Associate*, Charles River Associates, Inc., Washington, D.C.

1996 *Teaching Assistant*, Economics Department, University of Michigan, Ann Arbor, MI.

Mr. Kletter assisted in the preparation of course outlines and examinations, and taught two introductory microeconomics sections.

1990-1994 *Economic Analyst*, Louis Berger International, Inc., Washington, D.C.

Mr. Kletter prepared numerous environmental impact statements and assessments pursuant to the National Environmental Policy Act. Focusing on the socioeconomic and social impacts of major federal projects on the host community, Mr. Kletter employed an input/output model to quantify direct and indirect impacts in the region resulting from project expenditures.

## PRIOR PROJECT EXPERIENCE

### Electronic Payment Systems

- For the plaintiffs' class in the VisaCheck/MasterMoney antitrust litigation, Mr. Kletter served as the project manager and primary contact to the legal team. He supervised a team of researchers investigating the potential liability and damages associated with the actions of the Visa and MasterCard payment card associations. Mr. Kletter helped draft numerous expert reports and assisted both counsel and the economic expert witness prepare for trial. The litigation culminated in a settlement of over \$3 billion and an agreement by Visa and MasterCard to change the rules that were challenged by the plaintiffs' class. Mr. Kletter also devised the methodology and oversaw the process to allocate the settlement funds across the over one million class members.
- For Discover Financial Services in an exclusionary conduct case filed against the Visa and MasterCard networks, Mr. Kletter served as a project manager and primary contact to the legal team. He supervised a team of researchers investigating the anti-competitive effects of the rules of Visa and MasterCard in prohibiting their member banks from issuing Discover credit and debit cards. As a part of this work, Mr. Kletter directed the creation of numerous analyses as part of the drafting of expert reports and was a key senior member of the trial preparation team. The litigation culminated in a settlement of \$2.75 billion for Discover, one of the largest antitrust settlements ever.
- For a major merger investigation, Mr. Kletter supervised a CRA team of analysts who were assessing the competitive interactions between the suppliers of electronic payment services at both the system and retail levels. As part of this work, Mr. Kletter researched the technologies underlying such electronic payment systems, and studied the costs and revenues associated with the provision of such services. At the retail level, he also studied the technology required by participating merchants to accept electronic payment products as well as the costs entailed with network participation. For this case, Mr. Kletter surveyed all available forms of electronic payment, including credit cards, charge cards, debit cards, proprietary cards, and electronic truncation of checks.

### Consumer Products

- As part of a merger investigation, Mr. Kletter supervised a CRA team of analysts investigating the competitive effects of a proposed merger in the skin care products industry. The work included a detailed analysis of the potential relevant markets and a detailed study of historical firm and product entry into the market.

- As part of an antitrust class action case in the wholesale and retail casket markets, Mr. Kletter served as the project manager in the class certification phase as well as in the subsequent liability and damages phase. As a part of this work he supervised a large team of researchers investigating the potential anticompetitive effects of casket manufacturers' refusal to sell to internet casket retailers combined with the related imposition of restrictive shipping policies.

### **Internet Search Engines**

- As part of an assessment of the proposed revenue sharing deal between Yahoo! and Google, Mr. Kletter helped analyze the expected change in economic surplus for advertisers.

### **Brewing**

- As part of a tax reassessment for a large brewery, Mr. Kletter assisted in the development of a presentation on the economic history of the U.S. beer industry.
- For an international transfer pricing study, Mr. Kletter studied the contract brewing industry in Europe and the costs associated with marketing different beer brands in Japan.

### **Petroleum**

- For litigation involving breach of fiduciary obligation, Mr. Kletter constructed two models to estimate damages from lost oil revenues. The first of these, a netback model, developed a benchmark market price for crude oil in each month over a 20-year period. The second model calculated the difference between the royalty revenue actually received by the client and the market value of the royalty revenue at the benchmark prices, accounting for the time-value of money.
- For litigation involving illegal seizure and destruction of property, Mr. Kletter assisted in constructing a model to estimate damages owed from lost oil revenues and the destroyed assets.

### **Other Energy and Natural Resources**

- Mr. Kletter assisted in the analysis and preparation of a presentation regarding the implications of an interstate natural gas pipeline merger.
- Mr. Kletter conducted the work necessary to delineate relevant product and geographic markets in a potential merger in the copper industry.

## Health Care

- Mr. Kletter served as the project manager for an investigation into the competitive consequences of a proposed merger in the blood plasma fractionation industry. He was a primary contact to counsel and the two merging parties. Mr. Kletter assisted in the identification of various relevant product and geographic markets and potential efficiencies resulting from the proposed merger. In a related effort, Mr. Kletter co-authored a commentary in medical journal that detailed competition and pricing in the treatment of hemophilia.
- In a subsequent proposed \$3 billion merger in the blood plasma fractionation industry Mr. Kletter served as a project manager. Mr. Kletter oversaw the acquiring firm's response to the Federal Trade Commission's Second Request for additional sales and production data. Mr. Kletter also managed an investigation into the competitive consequences of the proposed merger.
- Mr. Kletter assisted in estimating merger-specific efficiencies resulting from the combination of four large pharmaceutical wholesalers. He also helped to prepare CRA's expert witness in the case for trial testimony.

## PUBLICATIONS

"Cost Trends in the Treatment for Hemophilia: Another View." *Thrombosis and Haemostasis*, Vol. 88, Number 4, October 2002.

## YIANIS SARAFIDIS

Principal

Ph.D. Economics,  
Yale University

B.A. Economics and  
Mathematics,  
Grinnell College

Yianis Sarafidis is a Principal with the competition practice at Charles River Associates. He has provided expert advice in the context of antitrust litigation and merger cases in a variety of industries, including network markets and two-sided markets such as real estate and Internet commerce. He has developed economic analyses, led large teams of consultants, and authored submissions to the Department of Justice, the Federal Trade Commission and the European Commission.

Prior to joining Charles River Associates, Dr. Sarafidis was an assistant professor of economics, at INSEAD and at Yale University. He has taught courses in microeconomics, game theory and industrial organization at the undergraduate, graduate and MBA levels. His research spans a variety of topics in microeconomic theory, industrial organization and behavioral economics, and his work has been published in leading academic journals.

### PROFESSIONAL HISTORY

2006 – *Principal*, Charles River Associates, Washington, DC (previously *Associate Principal*)

2005–2006 *Visiting Assistant Professor of Economics*, Yale University, New Haven, CT

2001–2005 *Assistant Professor of Economics*, INSEAD, Fontainebleau, France

### SELECTED CONSULTING EXPERIENCE

*In the context of a merger review by the FTC involving biological products:* Authored a white paper on merger efficiencies, helped the merging parties develop affirmative arguments, and developed merger simulation models.

*In the context of an investigation by the DOJ of a JV agreement in internet commerce:* Developed techniques for estimating the increase in advertisers' welfare due to the proposed JV agreement, and authored a white paper describing these techniques and the results.

*In the context of a merger review by the FTC and the EC in the chemicals industry:* Oversaw the data production associated with the Second Request and the Form CO, and helped the Parties develop affirmative arguments.

*In the context of a DOJ litigation against a national association of professionals:* Worked on a joint CRA/DOJ team supporting the economic expert witness, managed a large CRA team supporting three expert reports, and designed and executed econometric analyses of labor productivity.

*In the context of a merger review by the FTC involving natural gas providers:* Authored a white paper evaluating the merger effects on consumers.

*In the context of a merger review by the DOJ and the FCC in the media/communications industry:* Developed a game-theoretic model of pricing in the presence of word-of-mouth effects, and executed merger simulations with this model.

*In the context of a private litigation in the financial services industry:* Developed an economic model based on bargaining theory to estimate damages.

## PUBLICATIONS

“What Have You Done for Me Lately? Release of Information and Strategic Manipulation of Memories”, *The Economic Journal*, 117 (518), 307-326, March 2007

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“Advice from an Expert with Unknown Motives”, revise-and-resubmit at *Games and Economic Behavior* (with Vassilis Dimitrakas)

“Inter-temporal Price Discrimination with Time Inconsistent Consumers”, awarded the *EARIE 2004 Young Economist Award*

“Solution Concepts for Games with Time Inconsistent Players”, presented at the *Summer Meetings of the Econometric Society*, Durham, NC, 2007

“A Model of Ordered Bargaining with Applications” (with Serge Moresi and Steven Salop), presented at the *Summer Meetings of the Econometric Society*, Boston, MA, 2009



## PRESENTATIONS

### Seminars at Academic Departments

Harvard (HBS), HEC-Montreal, Heidelberg, Iowa, Maryland, McGill, Paris I, Penn State, Stony Brook, Toronto, Washington (Olin), Yale

### Academic Conferences

EARIE (2004, Berlin), Econometric Society World Congress (2005, London), Society for Economic Design (2004, Mallorca), Summer Meetings of the Econometric Society (2009, Boston, MA; 2007, Durham, NC; 2004, Providence, RI)

## TEACHING EXPERIENCE

### Undergraduate (Yale)

- Introduction to Economic Analysis (introductory microeconomics), fall 2005
- Microeconomics with Environmental Applications (introductory microeconomics for environmental studies majors), fall 2005
- Firms, Markets, and Competition (undergraduate industrial organization), spring 2006

### MBA (INSEAD and University of Maryland)

- Game Theory for Managerial Decisions (MBA elective course); spring 2010
- Prices and Markets (MBA core microeconomics course); spring 2002, fall 2002, fall 2003, spring 2003, and fall 2004
- Advanced Game Theory (MBA elective course); fall 2003, fall 2004, spring 2005

### Ph.D. (INSEAD)

- Game Theory (first-year Ph.D. course); spring 2002, spring 2003, spring 2005
- Microeconomics (first-year Ph.D. course), fall 2003

**MERCHANTS PAYMENTS COALITION, INC.**  
**325 7<sup>TH</sup> STREET NW, SUITE 1100**  
**WASHINGTON, D.C. 20004**  
**202-955-1400**

**SUBMISSION OF THE**  
**MERCHANTS PAYMENTS COALITION**

**TO THE**  
**BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM**  
**REGARDING**  
**SECTION 920 OF THE ELECTRONIC FUND TRANSFER ACT**

Constantine Cannon LLP  
*Counsel to the*  
*Merchants Payments Coalition, Inc.*

**TABLE OF CONTENTS**

- I. Executive Summary ..... 1**
- II. Background ..... 3**
  - A. Banks profit from issuing debit cards, even without a subsidy from merchants ..... 3
  - B. Current interchange structure for debit transactions in the United States is a function of network market power..... 3
  - C. Higher interchange fees have driven networks and issuers to encourage consumers to favor signature debit, despite the superiority of PIN debit ..... 4
  - D. Since Visa has acquired the Interlink PIN network, it has been using its market power to raise PIN debit interchange to signature debit levels..... 4
  - E. Exclusive deals between networks and debit issuers have cemented network power over merchants ..... 5
- III. Reasonable and proportional interchange fees should be based upon an “at par” default ..... 5**
  - A. At par interchange fees should be the default..... 5
    - 1. Efficiency: Positive interchange fees reduce consumer welfare..... 6
    - 2. Cost reduction: Issuers that have the ability to lower costs should have incentive to do so ..... 6
    - 3. Equity: Positive interchange fees result in a regressive tax ..... 6
    - 4. Necessity: Positive interchange fees are not necessary for a viable and successful debit system ..... 6
    - 5. Market competition: At par interchange would prevent network market power from bidding up prices above competitive levels ..... 7
    - 6. Regulatory challenges: Fee regulation imposes substantial burdens and is difficult to administer..... 7
  - B. Any positive interchange should be strictly limited ..... 7
    - 1. Statute limits the costs considered to an issuer’s incremental authorization, clearance, and settlement costs ..... 7
    - 2. Information asymmetry requires issuers to bear a heavy verification burden ..... 8
    - 3. Universal cap should decline over time from average level of signature debit ACS costs to average level of PIN debit ACS costs ..... 8

<b>IV. Fraud adjustment should be used to encourage adoption of low fraud technology in the United States</b> .....	<b>9</b>
A. Merchants bear a disproportionate share of the fraud costs generated by the current system .....	9
B. Current system limits issuer and network incentives to reduce fraud .....	10
C. Opportunity exists for a paradigm shift in fraud-reducing technology .....	11
D. Fraud adjustment should be limited to promoting low fraud technology .....	12
1. Eligible technology should be demonstrably fraud-reducing and cost-effective .....	12
2. Relative costs should determine amount and direction of adjustment .....	12
<b>V. Multiple routing options should exist for every debit transaction</b> .....	<b>13</b>
A. Network exclusivity arrangements currently restrict routing options .....	13
B. There should be options to route over at least two unaffiliated networks for each type of debit technology ( <i>e.g.</i> , signature, PIN) on the debit card .....	14
C. Visa and MasterCard should be treated as affiliates .....	14
<b>VI. Merchants should control routing of each debit transaction</b> .....	<b>15</b>
A. Merchants should be able to choose the network over which to route each debit card transaction .....	15
B. Issuers should ensure that merchants get routing options in real time for each debit transaction and get reports to verify compliance .....	16
<b>VII. Various means of potentially evading and circumventing interchange fee regulations should be prohibited and punished if detected</b> .....	<b>16</b>
A. Network market power likely will continue to be a factor post regulation .....	16
B. Monitoring needs to cover a wide range of potential avenues for evasion and circumvention .....	16
1. Network fees regarding debit transactions .....	17
2. Credit card fees as a circumvention device .....	17
3. Products designed to evade scope of regulations .....	17
C. Punishment should be substantial enough to deter misconduct .....	18
<b>VIII. Conclusions</b> .....	<b>18</b>

## I. Executive Summary

The Merchants Payments Coalition (the “MPC”)<sup>1</sup> respectfully submits the following analysis of the rulemakings and regulations that the Board of Governors of the Federal Reserve System (the “Board”) is required to undertake concerning debit interchange, fraud, network fees and debit network competition under Section 920 of the Electronic Fund Transfer Act (the “statute”). In support of these comments, we respectfully submit reports by Steven C. Mott, Steven C. Salop and Kenneth J. Morrison.

Our conclusions and proposals include the following:

- Consistent with the statute, there should be a strong, but rebuttable presumption that debit interchange shall be at par. That standard is reasonable because it would advance consumer welfare (*i.e.* benefit consumers) while maintaining issuer incentives to issue debit cards. At par debit systems thrive throughout the world, and are utilized by seven of the eight countries with the highest debit usage. Salop Report at ¶¶ 52, 68; Morrison Report at ¶¶ 2, 35-43.
- Networks and issuers should be able to rebut the at par presumption only by showing that a positive interchange fee would advance consumer welfare. Salop Report at ¶¶ 52, 59, 99-101.
- If the at par presumption can be rebutted, any positive interchange must be limited to the incremental costs of authorizing, clearing and settling debit transactions (“ACS costs”). Such costs are approximately 1.36 cents for signature debit and .33 cents for PIN debit. ACS costs can be segregated and identified with reasonable accuracy. Moreover, they do not vary materially by issuer or by merchant category. This reinforces the clear statutory conclusion that any recoverable costs be strictly limited to ACS costs. Salop Report at ¶¶ 103, 111; Mott Report at ¶¶ 33-35, 40-41.
- Any fraud adjustment to interchange should be limited to spurring investments in paradigm-shifting fraud prevention measures that are demonstrably superior to the low fraud experienced with PIN debit. Any such offset should take into account merchant and consumer investments to implement that technology, as well as any lingering fraud prevention or fraud loss costs that are borne by merchants under that technology. Merchants currently bear a majority of the fraud costs associated with debit transactions, particularly when the soaring costs of Payment Card Industry – Data Security Standards (“PCI DSS”) compliance and related network

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<sup>1</sup> The Merchants Payments Coalition is a group of retailers, supermarkets, drug stores, convenience stores, fuel stations, on-line merchants and other businesses who are fighting against excessive credit and debit card fees and for a more competitive and transparent card system that works better for consumers and merchants alike. The coalition’s member associations collectively represent about 2.7 million stores with approximately 50 million employees.

assessments and reimbursements are taken into account. Issuers are better positioned than merchants to police fraud because they control the functionality on the cards, make underwriting decisions, and usually have a detailed history of the cardholder. However, issuer incentives to take effective measures to limit fraud have been reduced by the current debit system. A fraud offset that rewards issuers for investments regarding the current magnetic stripe system, including most egregiously for investments related to signature debit, would merely perpetuate the skewed incentives of the current system. Salop Report at ¶¶ 129-136; Mott Report at ¶¶ 46-47, 49-66.

- Merchants must be able to choose between at least two unaffiliated networks to route any debit transactions. That means all debit cards with signature and PIN debit functionality should have at least two signature and two PIN networks on the cards to give merchants the ability to discipline pricing and inject competition into the debit network market. Cards with only one type of debit functionality (PIN or signature) must likewise have at least two unaffiliated networks available for routing. These requirements must be supplemented with standards that prevent networks and issuers from inhibiting merchants from directing the routing of debit transactions through rules, penalty fees, or programs that encourage processors or consumers to frustrate merchants' ability to control routing. Salop Report at ¶¶ 7(f), 145; 158-164.
- Vigorous oversight and penalties are needed to protect against evasion of the regulations. The network market power that has plagued this industry and the incentive to exploit it to compete for issuers almost certainly will remain intact after standards are set for debit interchange. This reality should influence the Board's approach to the network fee rulemaking. Networks have imposed numerous network fees on merchants in recent years, and such fees can be used in a host of ways to reward issuers and incent them to issue debit cards that utilize a particular network. In that way, network fees could prove to be a substitute for interchange as networks compete for issuers. Anti-circumvention standards should be crafted to prevent that and other ways of evading the regulations from occurring. Salop Report at ¶¶ 7(e), 11, 13, 49-55, 107-110, 137-146; Mott Report at ¶¶ 39, 40, 71-72.

We address each of these conclusions in greater detail below.

## II. Background

### A. Banks profit from issuing debit cards, even without a subsidy from merchants

Many bankers view the debit card as an access device with the demand deposit account (“DDA”) being the true product. Given debit cards’ positioning as the key access device to the DDA relationship, debit cards provide numerous benefits to banks that will continue to justify their issuance post-regulation. These benefits include: (i) displacing more costly alternative transactions; (ii) motivating cardholders to maintain greater balances, which banks can then lend; and (iii) helping the bank to cross-sell other lucrative services. Moreover, debit cards enhance the “stickiness” of the bank’s valuable relationship with their DDA customers. Mott Report at ¶¶ 1, 29-30; Salop Report at ¶¶ 19, 60-63.

Both historical and contemporary examples confirm that banks have strong incentives to provide debit cards even without income from interchange. When banks first began to offer PIN debit cards, they did not charge interchange fees. To the contrary, they paid merchants to provide debit services, a practice known as “reverse,” “negative,” or “issuer-paid” interchange. Banks that did not pay such subsidies provided debit services using at par interchange. This model prevailed until the mid-1990s, a period that saw widespread expansion of debit card services. Salop Report at ¶¶ 21, 45, 136; Mott Report at ¶¶ 7, 8, 9, 11, 14, 23.

The experience in other G-20 countries offers another example of how banks profit from offering debit even without high interchange fees. Tellingly, seven of the eight countries with the highest debit usage utilize an at par pricing model. For example, the Canadian debit system has always been based on an at par pricing model, and Canada has traditionally had higher per capita debit usage than the U.S., as well as higher debit penetration in merchant categories that do not accept PIN debit in the U.S. Morrison Report at ¶¶ 2, 13-14, 42-43, Salop Report at ¶¶ 48, 64-68.

### B. Current interchange structure for debit transactions in the United States is a function of network market power

Beginning in the early 1990s, Visa and MasterCard aggressively began to implement and enforce a strategy to leverage their market power and force merchants to pay higher debit interchange through their “Honor All Cards” rules. This policy forced merchants to accept signature debit as a condition of accepting the networks’ dominant credit cards. Crucially, Visa and MasterCard set the same or similar interchange for merchants’ debit transactions as they did for credit card transactions. Visa and MasterCard then used the lucrative interchange stream created by this practice to compete for bank issuance. As banks became accustomed to receiving high interchange rates for signature debit – rates which bore no relationship to costs – a competitive dynamic of merchants being forced to pay ever increasing interchange rates to underwrite network competition for issuers

became the norm for the industry. Mott Report at ¶¶ 12-14, 16; Salop Report at ¶¶ 4, 11, 24, 33, 43-44, 55, 139, 145.

**C. Higher interchange fees have driven networks and issuers to encourage consumers to favor signature debit, despite the superiority of PIN debit**

This dynamic had a perverse impact on issuer incentives in debit. By the early 1990s, there was a virtual consensus in the industry that PIN debit was the superior debit product because of the greater security associated with a PIN, and because of the efficiency and lower cost of the single message system that resulted in transactions posting to cardholder's accounts more or less instantaneously. Signature debit, by contrast, was perceived to be a niche product with a limited future. This prognosis stemmed from the security risks inherent in a signature-based system, which could lead to forged and counterfeit signatures being used to deduct money from consumers' accounts. It also stemmed from signature's inefficient processing system, which typically relied on two messages over a period of days. The time delay between the two messages created risks of float and over-drafting that did not exist with PIN debit. Mott Report at ¶¶ 10, 11, 33, 43-44; Salop Report at ¶¶ 7(d), 49-55, 89, 126, 129, 132, 157.

Despite these flaws, spurred by the high interchange for signature debit, banks have been encouraging the use of signature debit cards. In some cases, they have even taken steps to limit the growth of PIN debit. Banks that issue signature debit have put the Visa or MasterCard logo on the front of the card and moved the PIN debit marks to the back of the card. Many banks have charged penalty fees for PIN debit usage. Others have used promotions like "Skip the PIN and Win" to encourage signature debit over PIN debit usage. And others have used deceptive marketing materials suggesting that using a PIN number in public would expose the cardholder to security risks – when in fact that method of authentication is far more secure than using a signature. These tactics have almost certainly suppressed the growth of PIN debit in the United States, as compared to the situation in Canada, as noted above. Salop Report at ¶¶ 47, 92; Mott Report at ¶¶ 14, 16, 17, 18.

**D. Since Visa has acquired the Interlink PIN network, it has been using its market power to raise PIN debit interchange to signature debit levels**

Containing the growth of PIN debit has been a cornerstone of Visa's strategy in debit since the 1990s. During that time frame, Visa purchased Interlink, which was among the leading PIN debit network in the United States. Visa subsequently raised Interlink's interchange from zero to 45 basis points, an unprecedented increase at a time when all of the PIN debit networks offered at par interchange, or even paid merchants through reverse interchange. Visa's purchase of Interlink started a systematic effort by it to drive up PIN debit interchange, an effort that picked up steam after 2000. PIN debit fees are now so high that the interchange rates for PIN debit have, in some contexts, essentially converged with signature debit fees. Salop Report at ¶ 25; Mott Report at ¶¶ 22-26.



### **E. Exclusive deals between networks and debit issuers have cemented network power over merchants**

As a key aspect of its strategy to drive up PIN debit interchange rates, Visa entered into various deals with debit issuing banks. These deals, entered on exclusive or near-exclusive terms, made Interlink the exclusive or primary PIN debit acceptance mark on hundreds of millions of debit cards. Those deals gave Visa the power to raise Interlink's interchange rates after 2000, because even if a merchant tried to drop Interlink and its high rates, the merchant would pay *more* as Interlink transactions defaulted to the still pricier signature debit rates. There were no other options on the cards. Today, based on data compiled by merchants we estimate that Interlink is the exclusive PIN network on 42% of debit cards with PIN debit functionality. This translates to hundreds of millions of debit cards for which there are no competitive routing options. Mott Report at ¶¶ 25-28; Salop Report at ¶¶ 30, 31, 152-157, 162.

As Visa continued to drive up Interlink interchange rates, the competing PIN debit networks raised their rates to maintain levels of issuance under the pricing umbrella created by Visa's market power. The result has been the convergence of PIN and signature debit rates described above, a trend that has contributed significantly to the suppression of PIN debit acceptance in the United States. Mott Report at ¶ 24; Salop Report at ¶¶ 4, 5, 34, 36.

### **III. Reasonable and proportional interchange fees should be based upon an “at par” default**

#### **A. At par interchange fees should be the default**

The statute explicitly requires consideration of the similarity between electronic debit transactions and check transactions that are required to clear at par. Debit and check transactions are functionally equivalent means by which customers can access their DDAs, and both are valuable to banks. Further, debit transactions cost the banks less than check transactions. It is counterintuitive, therefore, that merchants must pay significant interchange fees for debit transactions while check transactions clear at par. This comparison to checks mandated by the statute suggests that at par interchange fees are appropriate for debit transactions. Salop Report at ¶¶ 69-71, 102; Mott Report at ¶¶ 2, 29, 32.

Economic theory also supports the conclusion that debit interchange is not necessary, and that it likely reduces consumer welfare. Network market power is responsible for the creation of the current debit interchange scheme under which interchange fees far exceed the competitive market level. The statute, however, is aimed at addressing these anticompetitive conditions, not codifying them. Salop Report at ¶¶ 7(a), 9, 52, 58, 60-71.

The statute calls for interchange fees that are “reasonable and proportional to the cost incurred by the issuer,” a standard that suggests a two step inquiry that first asks whether interchange is necessary at all, and if it is, then, whether it is proportionate to cost. As

detailed in the Salop Report, positive interchange fees are not economically reasonable. The following fundamental economic and regulatory principles each provide a separate basis for concluding that the regulations at issue in this proceeding should set the default debit transaction interchange fee at par. Salop Report at ¶¶ 60-71.

**1. Efficiency: Positive interchange fees reduce consumer welfare**

Setting debit transaction interchange fees at par would increase consumer welfare. Relative pass-through rates indicate that consumers would benefit because retail prices would decrease by more than debit card fees would increase (or debit card rewards would decrease). Moreover, consumer welfare would be enhanced by eliminating the inefficiencies inherent in a system where the costs and subsidization of debit issuers via interchange are externalized across all consumers as opposed to being levied on those that use the service. Finally, at par interchange fees would almost certainly motivate banks to push the more efficient and secure PIN debit product spurring further deployment of PIN pads, resulting in more widespread acceptance of PIN debit, as is the case in Canada. Salop Report at ¶¶ 5, 6, 7(a), 9, 16-17, 50, 72-76, 79-80, 119, 125-128, 143-146.

**2. Cost reduction: Issuers that have the ability to lower costs should have incentive to do so**

At par debit interchange would incent issuers to lower their transaction costs. For example, campaigns to suppress the less costly and more efficient PIN debit that are economically rational only under the current system in which issuers receive a higher subsidy from merchants for the higher cost signature debit product would no longer make sense to issuers. Issuers also would have an incentive to adopt new, lower cost technology and procedures. By placing these incentives for lower debit transaction costs on the issuers that are best able to control them, at par interchange would promote another key economic and regulatory principle. Salop Report at ¶¶ 74, 129-136.

**3. Equity: Positive interchange fees result in a regressive tax**

The inflated retail prices that result from high debit interchange fees under the current system effectively amount to a regressive “tax” that disproportionately harms low income consumers. Moreover, those same low income consumers are less likely to use debit cards or obtain debit card rewards. By eliminating this regressive “tax,” at par debit interchange fees would increase equity. Salop Report at ¶¶ 47, 50, 72, 81-82.

**4. Necessity: Positive interchange fees are not necessary for a viable and successful debit system**

Successful debit card systems exist around the world with at par interchange rates. Even in the United States, PIN debit card issuers actually paid merchants (*i.e.*, interchange fees were “negative”) prior to debit networks gaining market power over merchants. As noted earlier in this section, check transactions are functionally equivalent means by which

consumers can access their DDAs, and they also clear at par. Accordingly, a subsidy from merchants to issuers is not necessary for a debit network to be economically viable. While U.S. issuers have undoubtedly grown accustomed to debit interchange over time, that does not mean that positive interchange fees are necessary as a matter of economics or policy. Salop Report at ¶¶ 61-72.

### **5. Market competition: At par interchange would prevent network market power from bidding up prices above competitive levels**

At par debit interchange fees would prevent debit networks from exercising market power over merchants with respect to those fees. Salop Report at ¶¶ 35-42, 93. Networks and issuers would no longer be able to force merchant to pay supra-competitive prices for debit transactions, and this alone would promote market competition, innovation, and increased consumer welfare. Salop Report at ¶¶ 36, 93, 43-44, 115.

### **6. Regulatory challenges: Fee regulation imposes substantial burdens and is difficult to administer**

At par interchange is the best way for regulators to avoid a complex, ongoing, and burdensome series of ratemaking proceedings. Assessing whether debit interchange fees are “reasonable and proportional” to costs could require regulators to determine with confidence what issuers’ costs actually are and how to measure them, to disentangle complex allocation issues that likely vary widely by issuer, and to constantly adjust determinations over time as information changes. If the costs that banks apparently believe should be included in the calculus are incorrectly taken into account, these burdens will be particularly acute. At par debit interchange would eliminate all of these challenges for the regulators as well as the similar burdens facing networks, issuers, and merchants. Salop Report at ¶¶ 6, 9, 14-15, 55, 95-98; Mott Report at ¶¶ 45.

### **B. Any positive interchange should be strictly limited**

Any network or issuer wishing to deviate from at par interchange should bear the heavy burden of establishing that positive interchange would increase consumer welfare. Additionally, any positive interchange should be subject to the following. Salop Report at ¶¶ 7(b), 58, 99, 171(b).

#### **1. Statute limits the costs considered to an issuer’s incremental authorization, clearance, and settlement costs**

The statute clearly delineates between what costs may be considered and what costs may not. Specifically:

- *Only the costs of authorization, clearance, and settlement (“ACS”) may be considered.* ACS costs – which are the only costs the statute permits to be considered – are well defined. Mott Report at ¶ 34. While issuers may be able to identify other costs associated with a debit card program, because the statute specifically identifies ACS costs and nothing else it would be inappropriate to

consider any other issuer costs in determining a positive interchange fee. *Id.* at ¶¶ 33-46 (examples of excluded issuer costs are those related to network connectivity, back office support, customer service, and compliance); Salop Report at ¶ 111 (examples of excluded issuer costs are those related to marketing, fraud, and reward programs). Notably, ACS costs are flat transaction costs that do not vary materially by issuer or merchant, and thus are amenable to a single flat rate (*i.e.* not ad valorem) across the industry. Lastly, issuers also should not be able to evade this limitation by “unbundling” certain aspects of current debit transactions (*e.g.*, the payment guarantee for NSF/overdraft transactions) and charging extra for them.<sup>2</sup> Salop Report at ¶¶ 107-111.

- *Only incremental costs may be considered.* Incremental costs are those incurred with respect to the marginal debit transaction. No fixed, average, lifetime, indirect, or amortized costs should be considered.

Consideration of any costs that do not meet these statutory requirements would be inappropriate.

## **2. Information asymmetry requires issuers to bear a heavy verification burden**

Because any calculation of positive interchange presumably would be based on an issuer’s own costs, there is a substantial information asymmetry between that issuer and regulators (not to mention merchants). Subtle differences in cost definitions, allocations, and internal reporting conventions are among the many potentially complex issues that an interested party may address or interpret differently than an objective outsider would. Obviously, any given issuer’s incentives to maximize its reported costs would be strong, and no third party would be as familiar as the issuer with its cost data. Accordingly, any regulations should impose a heavy burden on issuers to verify the accuracy and propriety of their data in a uniform and auditable manner. Salop Report at ¶¶ 138-142.

## **3. Universal cap should decline over time from average level of signature debit ACS costs to average level of PIN debit ACS costs**

Any positive debit interchange fee should have a cap. Such a cap would both be a backstop to limit the effect of any potential information asymmetry and promote the reduction of debit card transaction costs over time. The cap could be set initially at the average ACS costs of signature debit transactions (estimated to be 1.36 cents per transaction) and reduced over three years to the average ACS costs of PIN debit

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<sup>2</sup> In this regard, it is worth noting that the current debit payment “guarantee” is limited to guaranteeing that merchants get paid when the cardholder’s account has insufficient funds at the time of settlement, a risk that is limited to signature debit. In addition to underwriting who qualifies for debit cards in the first place, banks profit from NSF/overdraft transactions and manipulate the postings of transactions to generate such charges. Against this backdrop charging merchants for this guarantee is particularly inappropriate. Mott Report at ¶¶ 43, 59.

transactions (estimated to be 0.33 cents per transaction currently). Mott Report at ¶¶ 33-37.

Establishing the cap initially at that higher level would accommodate issuers' current signature debit business. While signature debit transactions are more costly (as well as more fraud-prone) than PIN debit transactions, this initial cap level is a compromise to take into account the fact that signature debit is more widely accepted than PIN debit at present. Over time, however, a phased reduction of this debit interchange fee cap will create incentives for issuers to reduce transaction costs. The three-year phase-down of the cap to current PIN debit ACS cost levels should allow sufficient time for issuers to replace cards during normal reissuance cycles.

Maintaining a single interchange cap that applies to both signature and PIN debit transactions is important. If banks continue to earn more interchange for signature debit transactions than they do for PIN based on its higher costs, that would perpetuate the misaligned incentives that have distorted the development of debit over the past 20 years.

#### **IV. Fraud adjustment should be used to encourage adoption of low fraud technology in the United States**

##### **A. Merchants bear a disproportionate share of the fraud costs generated by the current system**

Merchants bear a substantial portion of the costs of fraud in the United States, contrary to claims made by banks that issuers absorb most of the fraud in the system. Merchants likely bear more of debit fraud costs than do issuers, even before PCI DSS compliance and liabilities are taken into account. Moreover, those costs substantially increase the extent to which merchants ultimately bear the costs of fraud in the payment system. Mott Report at ¶ 46.

Some details on the soaring costs of the PCI DSS system and its inequities provide helpful context. Merchants bear fraud costs associated with data breaches connected to the U.S. magnetic stripe technology system – which account for approximately 80% of payment card fraud – as a result of rules that networks like Visa and MasterCard create and apply in their sole discretion. Pursuant to these rules, the networks make key subjective determinations regarding payment card fraud and liability, including:

- What data security requirements to impose on merchants
- Which of the merchants' transactions are considered fraudulent
- Whether the merchants are in compliance with the data security standards
- How much merchants should pay the network and issuers for fraud losses

As a result, the networks control all aspects of the system currently used to allocate the costs related to payment card fraud, and therefore can force merchants to reimburse them for fraud-related costs.<sup>3</sup> Mott Report at ¶¶ 49-63.

Moreover, merchants have no practical ability to challenge any of these subjective determinations. Indeed, the networks and issuers have designed the system to avoid having any direct contractual relationship with the merchants.<sup>4</sup> This absence of any due process is striking given the large costs – both monetary and reputational – at stake for the merchants. For example, a network can unilaterally assert that certain claimed fraud losses suffered by issuers are the result of a data breach at a given merchant, resulting in that merchant paying substantial fraud-related assessments and reimbursements without the network having to offer any evidence at all supporting this assertion (typically the network suggests merely that the determination was made based upon certain “algorithms”). Mott Report at ¶¶ 49-63.<sup>5</sup>

In short, under the current system the networks have unbridled discretion in determining liability and allocating claimed costs for fraud losses. Mott Report at ¶¶ 49-51. Merchants have no recourse. In evaluating this skewed system last year at a congressional hearing examining payment card data security, the Chairman of the House Committee on Homeland Security expressed concern that the “payment card industry’s effort to shift risk appears to have contributed to our current state of insecurity” and that the networks appear to be “less interested in substantially improving their product and procedures than they are with reallocating their fraud costs.” Statement of Committee Chairman Bernie G. Thompson, *Do the Payment Card Industry Data Standards Reduce Cybercrime?* (Mar. 31, 2009).

## **B. Current system limits issuer and network incentives to reduce fraud**

As a matter of economics and policy, the party best able to control fraud should bear the costs. *See generally* Salop Report at ¶¶ 129-136. This creates the right incentives to reduce fraud. *Id.* Unfortunately, this is not the current state of affairs with respect to the current debit card system in the United States.

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<sup>3</sup> The networks even control the organization that creates and determines compliance with the PCI DSS that merchants must follow, even though PCI DSS compliance does not protect merchants from liability that results primarily as a result of the technology choices of issuers and networks.

<sup>4</sup> The networks impose their rules to shift liability through a series of contracts. The networks contractually shift the liability for fraud losses to the acquiring banks, the acquiring banks contractually pass the liability on to the processors, and the processors contractually shift the liability on to the merchants.

<sup>5</sup> Further, under the terms of the agreement that merchants must sign in order to accept payment card transactions, these costs can be seized from the merchant’s bank account (that contains funds related to other payment card transactions) without any advance notice to the merchant.

As described more fully in the Mott Report, issuers clearly are best able to control debit-related fraud. Most importantly, issuers choose the debit authentication technology and influence consumers' use of different authentication options (*e.g.*, signature versus PIN). Issuers also determine whether a particular customer should be issued a debit card in the first place, hold the customers' accounts, have access to their spending history, and in many cases have other financial relationships with the cardholder that enhance the issuer's ability to spot suspicious transactions. By contrast, merchants, for the most part, have a limited ability to police fraud, particularly in brick and mortar transactions. *See* Mott Report ¶¶ 64, 66-68.

As discussed above, issuers have favored signature debit despite the clear superiority of PIN debit with respect to fraud reduction. Indeed, some issuers have even taken steps to discourage consumers' use of PIN debit. Mott Report at ¶¶ 10-28; Salop Report at ¶ 169; *see also* Richard J. Sullivan, *The Changing Nature of U.S. Card Payment Fraud: Industry and Public Policy Options*, Federal Reserve Bank of Kansas City Economic Review (2d. Quarter 2010) 110, 114. At the same time, networks and issuers have been slow to adopt proven paradigm-shifting fraud reduction technology that would eliminate most fraud and chargeback risks, as well as virtually all of the onerous PCI compliance costs described above.

This history of misaligned fraud-reduction incentives with respect to debit card transactions should inform any fraud adjustment. A fraud adjustment related to technologies rooted in the current magnetic stripe system risks perpetuating the problematic incentives that have plagued the system to date. This is especially true with respect to signature debit. From a policy perspective it would make no sense for issuers to receive a positive interchange for making investments to police the fraud that is unnecessarily created by signature debit's weaknesses.

### **C. Opportunity exists for a paradigm shift in fraud-reducing technology**

Networks and issuers could dramatically reduce fraud simply by adopting payment card technology already in use in every other G-20 country. As discussed in the Mott Report at ¶ 68, there is such paradigm-shifting technology already proven in other nations that the networks and issuers could adopt in the U.S. *Id.* If they did, this new approach would make payment card transactions fundamentally more secure and, at the same time, eliminate most of the fraud-related liability merchants face and obviate the need for most of the data security expenditures currently required of merchants and processors.

Fundamentally, it is the networks' and issuers' choice of payment card technology that determines the likelihood of fraud and how secure the system will be. Recognizing this, the Chairwoman of the House Subcommittee on Emerging Threats, Cybersecurity, and Science and Technology concluded last year that "[m]agnetic stripe-based technology is outmoded and inherently less secure . . . [and] the payment card industry and issuing banks should be ashamed about the current state of play and doing everything possible to immediately institute improvements in infrastructure." Statement of Subcommittee

Chairwoman Yvette D. Clarke, *Do the Payment Card Industry Data Standards Reduce Cybercrime?* (Mar. 31, 2009).

Truly game-changing technology is available to reduce fraud, but under the current system the networks and issuers have no incentive to adopt it because they can shift fraud-related costs to merchants. Unfortunately, Committee Chairman Thompson's concern may be well founded that "as long as the card industry is writing the Standards, we will never see a more secure system." Statement of Committee Chairman Thompson (Mar. 31, 2009), *above*.

#### **D. Fraud adjustment should be limited to promoting low fraud technology**

##### **1. Eligible technology should be demonstrably fraud-reducing and cost-effective**

Against this backdrop, any fraud adjustment fee should be limited to technologies that have proven to be cost effective and substantially reduce fraud below the fraud levels afforded by PIN debit. In this context, cost-effective could simply mean that the costs of implementing a low fraud technology (for all players, including merchants and consumers) are less than the monetary value of the fraud it eliminates. Substantial fraud reduction could be measured in terms of average fraud loss per transaction. A low fraud technology could be one for which this average is substantially lower than the equivalent average for both PIN-authenticated magnetic stripe technology and any other debit technology that is used for at least 25% of electronic debit transactions in the United States. Currently, only PIN debit and signature debit magnetic stripe technology account for at least 25% of transactions, but new technologies may reach that threshold in the future.

##### **2. Relative costs should determine amount and direction of adjustment**

Any fraud adjustment could only be applied once the relevant low fraud technology has been in operation in the United States for at least a year so that it has a proven track record of reducing fraud by more than its implementation cost. The fee could be capped and based upon the relative costs incurred by the issuer and the merchants/consumers related to that low fraud technology. The fraud adjustment fee would be positive (*i.e.*, it would increase the debit interchange fee) if the issuer's costs exceed the collective costs of merchants and consumers, and the fraud adjustment fee would be negative (*i.e.*, it would decrease the debit interchange fee) if the merchants' and consumers' collective costs exceed those of the issuer.

The issuer's costs could include the incremental capital expenditures and incremental debit card reissuance costs incurred by the issuer that were required in order to implement the low fraud technology. Costs that were not truly incremental or required would not be included. Also, consistent with the statutory language, the costs would be issuer-specific rather than an average across all issuers because the fraud adjustment fee itself must be issuer-specific.



The merchants' and consumers' collective costs would be aggregated across all merchants and consumers, but only the appropriate pro rata share of those aggregate costs would be compared to the issuer's costs. The pro-rata could be based upon the issuer's share of debit card transactions in the United States (*e.g.*, if the issuer accounted for 5% of U.S. debit card transactions, then the pro rata share of merchants' and consumers' collective costs would be 5% of their aggregate total costs). The merchants' costs could be the sum of the capital expenditures incurred that were required in order to implement the low fraud technology and any fraud-related costs imposed upon merchants directly or indirectly by payment card networks or issuers. These fraud-related costs imposed on merchants could include the following:

- Fraud prevention costs (including those related to PCI DSS compliance)
- Fraud related chargebacks
- Network fines, assessments, charges, fees, and penalties
- Forensic investigation costs
- Payments pursuant to programs such as the "Visa Account Data Compromise Program"
- Funds withheld from merchants in reserve accounts
- Reimbursements (including those for debit card reissuance)

The consumers' costs could be any expenditures or fraud-related costs imposed on consumers directly or indirectly by payment card networks or issuers that are related to the implementation or use of the low fraud technology (*e.g.*, increased consumer card costs to compensate for issuer expenditures on the low fraud technology.)

## **V. Multiple routing options should exist for every debit transaction**

### **A. Network exclusivity arrangements currently restrict routing options**

On nearly 90% of all debit transactions, merchants have no network routing options for the debit authorization technology (either signature or PIN) ultimately used in the transaction. Almost two-thirds of debit transactions are routed over a signature debit network, and the merchant has no option to route over a competing signature debit network in any of those transactions (*i.e.*, only one signature network can be used with the debit card). Salop Report, Exhibit 2. For the remaining debit transactions that are routed over PIN networks, the merchant has no option to route over a competing PIN debit network approximately two-thirds of the time (*i.e.*, only one PIN network can be used with the debit card). *Id.*, Exhibits 3 and 5. *See also* Salop Report at ¶¶ 7(f), 7(g), 151-169; Mott Report at ¶¶ 25, 27.

Even for transactions in which a merchant can use either signature debit or PIN debit, the merchant has limited routing options. Merchants often favor PIN debit when it is available because signature debit historically has had higher interchange rates. Mott

Report at ¶¶ 12-21. However, Visa’s Interlink network successfully has entered into exclusive agreements with issuers pursuant to which Interlink is the only PIN debit option on the debit cards they issue, and other PIN networks have adopted this strategy as well. For example, Interlink is the exclusive PIN network on approximately 89% of the debit cards whose transactions can be routed over that network (which equates to hundreds of millions of debit cards in the U.S.). Salop Report at ¶¶ 31, 35, 154. Accordingly, even a leading merchant attempting to route away from signature debit and Interlink because of their high interchange fees still ends up routing approximately 42% of its PIN debit transactions over Interlink. *Id.*

In short, merchants cannot avoid these exclusivity arrangements that eliminate routing options. Mott Report at ¶¶ 25-28. Ending this exclusivity could help reduce network market power and possibly lead to greater competition over time. *See* Salop Report at ¶¶ 147-164.

**B. There should be options to route over at least two unaffiliated networks for each type of debit technology (e.g., signature, PIN) on the debit card**

The statute recognizes that merchants should have at least two routing options “on which an electronic debit transaction may be processed.” 15 U.S.C. § 1693 (b)(1)(A). Often it is not possible to use a certain debit authorization technology (either signature or PIN), as some merchants accept one technology and not the other and some cards bear one function but not the other. As a result, this statutory mandate requires the issuers and networks to permit merchants to route over at least two unaffiliated networks for each type of debit authorization functionality resident on a debit card. Accordingly, a debit card that supports both signature and PIN debit transactions should permit routing on at least two unaffiliated signature debit networks and at least two unaffiliated PIN debit networks. Salop Report at ¶¶ 7(f), 145, 158-164.

This is readily achievable. With PIN debit there are numerous existing competitors that could be added to the hundreds of millions of debit cards that have no PIN debit functionality other than Interlink on the card. With signature debit, Discover has an existing program that could compete for placement on the card and the PIN debit networks could easily compete in this space given their relationships with issuers, merchants and the fact that they are already offering debit functionality without a PIN (known as “PIN-less” PIN debit transactions) to compete with signature debit in certain categories. Opening up debit cards to such competitive options would clearly be pro-competitive.

**C. Visa and MasterCard should be treated as affiliates**

The statute prohibits issuing banks or payment card companies from restricting transactions to a single payment network or to a network owned by affiliates defining an “affiliate” as “any company that controls, is controlled by, or is under common control with another company.” The Visa and MasterCard networks qualify as affiliates under this test. As an initial matter, the banks still own substantial portions of the outstanding

shares of both networks with the remaining shares being held by a diffused collection of investors. Moreover, the banks are the leading customers of both Visa and MasterCard, which gives them continuing power over their direction. This enables the banks to continue to control their former associations, notwithstanding their change in ownership structure. Consistent with that, nothing material regarding interchange or network fees has changed since Visa and MasterCard went public. In fact, potentially conspiratorial activity has continued unabated with Visa and MasterCard interchange and networks fees moving in lockstep. This pattern of suspicious parallel conduct strongly reinforces the conclusion that Visa and MasterCard should be treated as affiliates for purposes of this provision.

Given Visa and MasterCard's pattern of tacit and overt collusion it would be problematic if this provision enabled the banks to issue debit cards that were limited to Visa's and MasterCard's signature and PIN debit networks. That result would almost certainly frustrate the intent of this provision.

## **VI. Merchants should control routing of each debit transaction**

### **A. Merchants should be able to choose the network over which to route each debit card transaction**

The statute also provides that issuers and networks shall not “by contract, requirement, condition, penalty, or otherwise, inhibit” merchants ability to “direct the routing of electronic debit transactions.” 15 U.S.C. § 1693 (b)(1)(B). Networks and issuers can impose routing rules to block merchants from exercising certain routing options as well as use financial incentives and disincentives applicable to acquirers and processors to control routing. Small merchants are particularly susceptible to having their routing choices constrained by acquirers or processors. Salop Report at ¶¶ 133 n. 129; 147-169. In addition, because networks and issuers have inhibited merchants' ability to direct routing in the past through penalty fees or programs that motivate consumers to insist on a method of initiating the transaction over other options, regulations should address that practice.

As detailed in the Salop Report, giving merchants control over routing options is a means of reducing the ability of networks to exercise market power over the merchants. Salop Report at ¶¶ 147-169. By forcing networks to start competing for merchant acceptance, merchant control over routing would promote market competition on price as well as non-price aspects of transactions such as network reliability, speed, and accessibility. *Id.* Giving merchants true control to route over a meaningful choice of options would help produce a more efficient debit card system and enhance consumer welfare.

For this reason, the statute explicitly prohibits debit card networks and issuers from imposing routing restrictions on merchants. A key focus of the regulations needs to be on avoiding any evasion or circumvention of this statutory mandate to give merchants routing control. Specific means by which networks and issuers could inhibit merchants' ability to direct the routing include, but are not limited to, inhibitions by: (i) rebate; (ii)

discount; (iii) penalty; (iv) assessment, fee or charge; (v) contract; (vi) requirement; (vii) condition; and (viii) rule. None of these means of evasion should be permitted to restrict a merchant's ability to route a debit transaction over any network supported by the debit card.

**B. Issuers should ensure that merchants get routing options in real time for each debit transaction and get reports to verify compliance**

To facilitate merchants' routing choices, networks or issuers should identify, or cause third parties such as acquirers or processors to identify, in real time the routing options available for every debit transaction. Providing merchants' access at no charge to bank identification numbers or another comparable table or technique to electronically identify routing options on debit cards prior to authorizations would facilitate merchant control over routing. It would also enhance detection of any evasion or circumvention of the routing regulations to require networks to provide or cause to be provided, each merchant regular reports at no cost verifying compliance with that merchant's routing instructions.

**VII. Various means of potentially evading and circumventing interchange fee regulations should be prohibited and punished if detected**

**A. Network market power likely will continue to be a factor post regulation**

Whatever the Board chooses to do with respect to the rulemakings and regulations at issue, the market power that has plagued this industry will remain intact at least for the short to medium term after the rules go into effect. Large networks will continue to have market power over merchants because virtually no merchant can drop the dominant networks without losing customers to competitors. Thus, the networks' ability to exploit their power over merchants to compete for issuers will continue unabated, and that should inform the Board's approach to the rulemakings, particularly the network fee and anti-circumvention prohibitions in the statute. Salop Report at ¶¶ 32-55.

**B. Monitoring needs to cover a wide range of potential avenues for evasion and circumvention**

There are a variety of ways in which reasonable interchange transaction fees could be evaded or circumvented by networks or issuers. Recognizing this, the statute prohibits such misconduct and mandates regulations both specifically addressing network fees and more generally addressing any number of other creative approaches.<sup>6</sup> While not exhaustive, the following three categories highlight potential means of evasion by networks and issuers that should be prohibited:

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<sup>6</sup> In this regard, Section 920(a)(1) provides that the Board may prescribe regulations "to prevent circumvention or evasion of this subsection" and that gives the Board latitude to establish regulations that address circumvention that may take forms other than network fees.

## **1. Network fees regarding debit transactions**

As discussed in detail in the Salop Report, if the ability of networks to raise interchange fees to attract issuers is curtailed, the networks have the incentive and market power to find other ways to extract money from merchants in order to make up for the reduction in interchange fees. Salop Report at ¶¶ 113-117, 171(e). While this is prohibited by the statute, determining exactly which fees constitute misconduct poses a significant challenge. In recent years, networks exercising market power have added numerous network fees that ultimately are paid by merchants. Mott Report at ¶¶ 38-39, 58-59, 63. Whether additional new fees, increases in existing fees, or even continuation of some fees at their current level constitute legitimate business practices or evasion of the interchange fee regulations will be difficult to determine. Prohibiting networks from imposing any fees on merchants would prevent exercises in market power designed to circumvent the regulations while easing regulatory burden. Regardless of how the statutory mandate is satisfied, however, it is crucial to take a rigorous approach to preventing networks and issuers from imposing additional fees on merchants as a means of evading or circumventing the interchange fee regulations.

## **2. Credit card fees as a circumvention device**

Unfortunately networks can devise other ways to subsidize issuers based upon their debit transactions. Salop Report at ¶¶ 113-117. One way to do that is through increases in credit card fees, including interchange, particularly as the major debit issuers are also major credit card issuers and the networks could cross-subsidize debit volumes with this credit card fee revenue. After an antitrust settlement that mandated reductions in signature debit interchange in 2003, Visa and MasterCard reacted by increasing credit card interchange rates in 2004. Given this track record, the Board should consider passing regulations to ensure that this does not happen again.

## **3. Products designed to evade scope of regulations**

Because the scope of the statute is limited to “debit cards,” it may be tempting for networks and issuers to make slight adjustments to some of their debit card programs in an attempt to technically avoid falling under the statutory definition. Examples already generating attention are so-called decoupled debit cards (whose use doesn’t lead to an immediate deduction of funds from the cardholder’s demand deposit account) and hybrid credit/debit cards (that similarly include at least a temporary credit option for transactions that previously have been considered debit card transactions). These and other novel card programs that are sure to follow share one common trait – they act like traditional debit cards but allow networks and issuers to point to some aspect of the transaction that arguably suggests these new cards fall outside the technical definition of debit card set forth in the statute. In fact, we are aware of MasterCard’s intention to introduce such a hybrid product and call it a “credit card” to avoid the statute.

### **C. Punishment should be substantial enough to deter misconduct**

Deterrence is a function of both the probability of getting caught and the punishment imposed if you are caught. Accordingly, in addition to focusing on detection of evasion and circumvention, the regulations should set forth the consequences of engaging in such prohibited behavior. With respect to misconduct involving issuers, they could be denied any opportunity to rebut the default presumption of at par interchange and to benefit from any fraud adjustment for a specified period of time. With respect to misconduct involving networks, the punishment need not be imposed directly on them, but instead could be in the form of prohibiting issuers from issuing new debit cards with that network as a routing option for a specified period of time. This would be analogous to a temporary debarment under federal contracting law. Facing potential consequences to their actions would further dissuade all networks and issuers from evading or circumventing these regulations.

### **VIII. Conclusions**

In sum, our conclusions are:

- Consistent with the statute, there should be a strong, but rebuttable presumption that debit interchange shall be at par.
- Networks and issuers should be able to rebut the at par presumption only by showing that a positive interchange fee would advance consumer welfare.
- If the at par presumption can be rebutted, any positive interchange must be limited to the incremental costs of ACS.
- Any fraud adjustment to interchange should be limited to spurring investments in paradigm-shifting fraud prevention measures that are demonstrably superior to the low fraud experienced with PIN debit.
- Merchants must be able to choose between at least two unaffiliated networks to route any debit transactions.
- Vigorous oversight and penalties are needed to protect against evasion of the regulations.

**MERCHANTS PAYMENTS COALITION, INC.  
325 7<sup>TH</sup> STREET NW, SUITE 1100  
WASHINGTON, D.C. 20004  
202-955-1400**

**SUPPLEMENTAL SUBMISSION OF THE  
MERCHANTS PAYMENTS COALITION**

**TO THE  
BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM  
REGARDING  
SECTION 920 OF THE ELECTRONIC FUND TRANSFER ACT**

## **Supplemental Submission by the Merchants Payments Coalition To The Board of Governors of the Federal Reserve System**

On behalf of the Merchants Payments Coalition (“MPC”), we write to respectfully address several issues discussed at our November 2, 2010 meeting. While each of these issues was discussed at some length during the meeting, we thought that a written summary of our responses and positions would be helpful to the Board as it crafts the various rulemakings and regulations pursuant to Section 920 of the Electronic Fund Transfer Act (the “statute”).

### **I. The At-Par Presumption Under the Statute**

As set forth in the MPC’s White Paper, we respectfully suggest that the Board implement a presumptive standard that debit interchange be set at par. Under that approach, the at-par presumption can be rebutted by a network or an issuer upon a showing that positive interchange received by the issuer would increase consumer welfare and that the issuer’s incremental cost of processing debit transactions exceeds the transaction costs of processing cash and checks. Any resulting positive interchange should be capped, however, to ensure that it does not exceed the incremental costs to the issuer of authorizing, clearing and settling debit transactions (“ACS costs”). In our view, this approach adheres closely to the statute’s explicit language while being faithful to Congress’s clear intent in passing this legislation.

The phrase “reasonable and proportional to the cost incurred by the issuer” is to be interpreted against the backdrop of stated Congressional objectives to restrict Visa’s and MasterCard’s ability to exercise market power over merchants by, among other things, forcing them to pay supra-competitive debit interchange fees.

Right now in the United States, there are zero transaction fees deducted when you use a check. The Federal Reserve does not allow transaction fees to be charged for checks. But when it comes to debit cards, Visa and MasterCard charge high interchange fees just as they do for credit. Why? Because they can get away with it. There is no regulation, there is no law, there is no one holding them accountable.

Cong. Rec. S3696 (May 13, 2010) (Remarks of Sen. Durbin).

Congress did not expressly mandate that debit clear at-par but it opened the door to standards implementing that result when it instructed the Board to consider the fact that checks clear at-par. “Reasonable” and “proportional” are separate concepts. Reasonable is best interpreted in a manner consistent with the goal of enhancing consumer welfare by constraining the exercise of market power, as embodied in U.S. antitrust law. Indeed, antitrust law has a long tradition of evaluating the “reasonableness” of restraints of trade.<sup>1</sup> Given Congress’s clear intent to cabin card networks’ exercise of

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<sup>1</sup> *Bd. of Trade of City of Chicago v. United States*, 246 U.S. 1 (1918) (creating the rule of reason that is applied to most restraints of trade to evaluate their legality); *Reiter v. Sonotone Corp.*, 442 U.S. 330, 343



market power over merchants, the statute's dictate that the Board consider the fact that check transactions clear at par, and Professor Salop's conclusion that positive interchange for debit transactions almost certainly harms consumer welfare, the rebuttable presumption standard proposed by the MPC is the approach that is most faithful to the intent behind the statute.

The MPC's proposal also has been calibrated to take into account the "proportional" prong in the statute, as well as both of the criteria that Congress directed the Board to consider in prescribing rules for debit interchange. First, that checks clear at par is reflected in the at-par presumption. That issuers have had adequate incentives to issue checks without interchange for decades reinforces the conclusion that interchange is not necessary to motivate debit card issuance. Second, the incremental cost incurred by issuers with respect to their role in authorizing, clearing and settling debit transactions is factored into networks' and issuers' opportunity to rebut the at-par presumption if an issuer's incremental debit card processing costs exceed the processing costs to the issuer of checks. A positive interchange fee that is truly "proportional" to issuers' costs thus could be awarded under our proposal if that test is met.

In configuring these standards the MPC believes it is very important for the Board to explicitly define "incremental cost" and "authorization, clearance or settlement of a particular debit transaction." We also believe the Board should define authorization to mean its well-accepted core meaning in the industry —the process of confirming the availability of funds. In so doing, the standards should make clear that all fraud prevention costs should be excluded from the calculation, and only included as part of the separate fraud prevention cost adjustment rulemaking.

Both to minimize fraud costs and to cabin networks' or issuers' ability to take advantage of their greater familiarity with the issuer cost data, the Board should consider setting a ceiling on any positive interchange that issuers can receive after the standards go into effect. Such a ceiling should be set at the incremental ACS costs for signature debit and reduced over time to PIN debit levels, for the reasons outlined in our White Paper. In our view, if positive interchange for debit is permitted by the regulations, a defined ceiling is the best way to facilitate greater efficiency and protect against network and issuers undermining the regulations to perpetuate their ability to overcharge merchants for debit transactions.

Finally, we would like to reemphasize our view that the use of "reasonable and proportional" in the statute is not analogous to its use in Section 149 of the Truth in Lending Act ("TILA"). In promulgating regulations regarding that provision the Board gave credit card issuers relatively broad discretion in justifying penalty fees based on their violation-related costs. While TILA Section 149(a) also used the "reasonable and

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(1979) ("Congress designed the Sherman Act as a 'consumer welfare prescription'"); *Cal. Dental Ass'n v. Fed. Trade Comm'n*, 224 F.3d 942, 958 (9th Cir. 2000) ("Under rule-of-reason analysis," where "restrictions do not harm consumer welfare, there is no antitrust violation."); *Brown v. Pro Football*, 50 F.3d 1041, 1054 (D.C. Cir. 1995) ("In an effort to give content to this reasonableness standard, courts have conceived of the Sherman Act as a consumer welfare prescription.").

proportional” language, it did so in a very different context. Individual banks vigorously compete for card issuance and there was no suggestion that excesses of market power drove them above competitive levels. TILA Section 149 was designed to ensure that “no individual consumer bears an unreasonable and disproportionate share” of issuer costs with respect to a violation of a cardholder agreement. 75 Fed. Reg. 37526, 37532 (June 29, 2010). Under Section 149(c), in addition to examining the creditor’s costs, Congress directed the Board to consider deterrence, the conduct of the cardholder, and “such other factors as the Board may deem necessary or appropriate.” In short, Congress’s objective was to *deter* inappropriate cardholder conduct, while granting the Board broad latitude to craft a standard that achieved this objective through penalty fees that are “reasonable and proportional to such *omission or violation*.” Section 149(a) (emphasis added).

Here, in stark contrast, the Board has been asked to consider only two factors and Congress has not given the Board open-ended discretion to consider other factors in fashioning an interchange standard. This reflects Congress’s concern that a standard be devised to restrict Visa’s and MasterCard’s ability to exercise market power over merchants through debit interchange going forward.

## II. The Relevance of Checks

During the November 2 meeting, we discussed various issues about check and debit transactions. For instance, we discussed the claim that merchants receive a payment guarantee on debit transactions, whereas the banks on which checks are drawn do not provide a similar guarantee and, thus, some merchants voluntarily purchase check guarantee services from third-parties. Some might erroneously conclude that this suggests that perhaps debit issuers should be able to charge merchants for the “payment guarantee” and that the market pricing of check guarantee services could somehow inform the level of debit interchange. While we appreciate that this suggestion does not necessarily reflect the views of the Staff, we, nonetheless, wanted to address this issue in more detail.

As an initial matter, the suggestion that debit transactions come with a meaningful payment guarantee cannot withstand scrutiny. As discussed in the MPC White Paper and at the November 2 meeting, merchants receive, at most, a limited guarantee from the networks against NSF risk — a risk that should be virtually non-existent with real-time authorization. With PIN debit, NSF risks are virtually non-existent. With signature debit, given that issuers authorize the vast majority of transactions online in real time and can memo post to the cardholder’s account to place holds on the purchase amount, NSF risk should be extremely limited, if not close to non-existent. NSF risks persist with signature debit, however, in large part because issuers may manipulate holds and the posting of various transactions against the DDA to encourage lucrative overdraft fees.<sup>2</sup> It would be

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<sup>2</sup> See, e.g., *Gutierrez v. Wells Fargo Bank, N.A.*, No. C-07-05923(WHA), 2010 WL 3155934, at \*1, 44, 61 (N.D. Cal. Aug. 10, 2010) (ordering Wells Fargo to pay more than \$200 million in restitution to affected account holders for engaging in unfair and deceptive bookkeeping practices (related to the bank’s 2001 switch to “high-to-low” resequencing, or posting debit transactions by highest dollar amount first) which

perverse to reward issuers for this contrived “risk” — which they have profited from at the expense of cardholders — with positive interchange under the regulations.

Indeed, under the illusory payment “guarantee” extended by the networks, merchants receive virtually no protection against fraud risks. As highlighted by the examples provided by the merchants at the November 2 meeting, the system is configured in numerous and sometimes idiosyncratic ways to force brick and mortar merchants to absorb fraud-related chargebacks, and the situation is even worse for card-not-present merchants that are virtually defenseless against chargebacks. The suggestion that merchants receive a real payment guarantee is demonstrably false. At the end of the day, any assertion that merchants should pay for this “guarantee” over and above the limited and nominal ACS costs incurred by the issuer simply does not withstand scrutiny. Contrast this with a purchased check guarantee service which does actually protect the merchant against fraud.

Moreover, in evaluating the relevance of check guarantee services to the statute, it is also worth noting that the statute clearly calls for a cost-based approach, with the relevant costs being those of the issuer. Because the statute does not permit Board adoption of a value-based (as opposed to a cost-based) standard, the value that checks provide to merchants should not bear upon the Board’s analysis of what might constitute “reasonable and proportional” debit interchange rates. That some merchants purchase protection against check fraud, for example, does not cast any light on issuers’ incremental costs of debit transactions.

In any event, the price of check guarantee services is inapposite for numerous additional factual reasons. For starters, these services are voluntarily purchased, they are not tied or bundled with check acceptance. They are also purchased by merchants that typically receive a high number of bad checks.<sup>3</sup> That fact creates an adverse selection problem that is reflected in the prices such merchants pay for these services. Moreover, the price of check guarantee services also reflects the higher risks of checks (relative to debit transactions), including the fact that checks typically have higher tickets, and the critical fact that, unlike electronic debit transactions, there is no real-time authorization with most checks.<sup>4</sup> Finally, check guarantee services are sold by third-parties, in a market that is not especially competitive.<sup>5</sup> For all of these reasons, the pricing of these services is simply not a relevant benchmark for debit interchange.

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the court determined, and Wells Fargo admitted, were explicitly “engineered” to increase the likelihood of overdrafts and therefore maximize the number of overdraft fees on any given account).

<sup>3</sup> The number of checks for which merchants purchase optional check guarantee or warranty services is barely 3% of all checks accepted by merchants. The Nilson Report (Issues 925 and 939). This fact, and the cost of the check guarantee, implies that it only makes sense for merchants to pay for this service when there is a higher-than-average likelihood that the check will be bad.

<sup>4</sup> The average debit transaction is \$39, while the average check transaction is more than double that, at \$81. The Nilson Report (Issue 939). The average *guaranteed* check is \$141. The Nilson Report (Issue 925).

<sup>5</sup> The top two vendors of check guarantee services, TeleCheck and Certegy, have a combined share of 67% of guaranteed checks. The Nilson Report (Issue 925).

Several other questions pertaining to checks strike us as being similarly irrelevant to the statute's mandate. For example, that consumers may challenge debit card transactions with debit card issuers, but may have to deal directly with merchants if they write a check, does not have any bearing on the incremental ACS costs of debit transactions. (Merchants, as an important aside, remain responsible to issuers for transactions challenged by cardholders through the chargeback system and this imposes substantial costs on merchants that must be taken into account in the fraud adjustment rulemaking and therefore provide reasons to reduce, not increase, interchange.)

We reiterate our appreciation for your time and attention to our concerns. If you have any questions regarding the materials we have submitted, please do not hesitate to contact us.