CT-2010-010

THE COMPETITION TRIBUNAL

IN THE MATTER OF the *Competition Act,* R.S.C. 1985, c. C-34, as amended;

IN THE MATTER OF an application by the Commissioner of Competition pursuant to section 76 of the *Competition Act*;

IN THE MATTER OF certain agreements or arrangements implemented or enforced by Visa Canada Corporation and MasterCard International Incorporated.

B E T W E E N :

THE COMMISSIONER OF COMPETITION

Applicant

- and -

**VISA CANADA CORPORATION and
MASTERCARD INTERNATIONAL INCORPORATED**

Respondents

- and -

**THE TORONTO-DOMINION BANK
THE CANADIAN BANKERS ASSOCIATION**

Intervenors

**EXPERT REPORT OF KENNETH G. ELZINGA
April 10, 2012**

CORRECTED JUNE 4, 2012

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I. Background and Qualifications

1. I am the Robert C. Taylor Professor of Economics at the University of Virginia, where I have served on the faculty since 1967.[1] Most of my academic career has been devoted to teaching and research in the field of antitrust economics. I have written dozens of scholarly publications, including articles on market definition and market power. I have served in the Antitrust Division of the U.S. Department of Justice as economic advisor to the Assistant Attorney General and I have been an economic consultant to the Federal Trade Commission and the Antitrust Division, the two federal antitrust enforcement agencies in the United States. On several occasions I have lectured to federal judges in the United States on antitrust economics. I was a special consultant to Judge Lewis A. Kaplan in the Christie's-Sotheby's Auction Houses Antitrust Litigation. The U.S. Supreme Court has cited my work in antitrust economics, and I was the economic expert in three prominent antitrust cases that have been decided by the U.S. Supreme Court.[2] This is, however, my first engagement involving competition issues in Canada.
2. I have been asked by Visa Canada Corporation (hereafter Visa) and MasterCard International Incorporated (hereafter MasterCard) to assess the economic issues in the Commissioner's Notice of Application and to reply to the reports of Professor Dennis

[1] I have received several honours at Virginia, including the Thomas Jefferson Award, the highest award the University confers. I also was the original holder of the Cavaliers Distinguished Teaching Professorship, the first endowed chair at the University awarded specifically to honour teaching. Outside UVA, I have received the Commonwealth of Virginia Outstanding Faculty Award, the Templeton Honor Roll Award for Education in a Free Society, and the Kenan Award for Teaching Economics, among other teaching honours. In 1990, I was selected to be the Thomas Jefferson Fellow at Cambridge University.

[2] *Matsushita Elec. Industrial Co. v. Zenith Radio*, 475 U.S. 574 (1986); *Brooke Group v. Brown & Williamson*, 509 U.S. 209 (1993); and *Leegin Creative Leather Products v. PSKS, Inc.*, 551 U.S. 877 (2007).

W. Carlton and Dr. Alan S. Frankel.[3] Prior to this endeavor, I was engaged by Visa U.S.A., Inc. and MasterCard International Incorporated to conduct an analysis of the economic issues in *In Re Payment Card Interchange Rate and Merchant-Discount Antitrust Litigation* and filed an expert report in that case. In the course of that project, I became familiar with the scholarly literature about the payments industry and documents of record in the matter. Also, I had the opportunity to interview Mr. William Sheedy, currently the President of the Americas for Visa Inc., and Mr. Steven Jonas, formerly Vice President of Interchange for MasterCard Inc. That project formed a backdrop for my analysis of card payment systems in Canada.

3. In completing this report, I had full access to the written material produced in this matter; I also have continued to read economic literature on the payments industry, with a particular focus on the Canadian experience. By way of example, for several years now, I have been a subscriber to the *Nilson Report*, the leading trade periodical on payment systems.

4. In performing my analysis, I was given free rein to conduct my studies by the lawyers representing Visa and MasterCard and I was assisted by Princeton Economics Group, Inc., an economic consulting firm in Princeton, New Jersey and Professor David E. Mills of the University of Virginia. No resources of the University of Virginia were used in preparing this report.

5. A copy of my curriculum vitae is attached as Appendix A. Past cases in which I testified or submitted a report can be found in Appendix B. Appendix C and the

[3] Notice of Application of the Commissioner of Competition filed before the Competition Tribunal, CT-2010-010, 12/15/10 (hereafter "Notice of Application"), Expert Report of Dennis Carlton, Ph.D., 3/14/12 (hereafter "Carlton Report"); Expert Report of Alan S. Frankel, Ph.D., 3/9/12 (hereafter "Frankel Report").

footnotes to my report list the material relied upon in forming my opinions. Appendix D is my signed Acknowledgement of Expert Witness statement.

II. Summary of Assignment and Conclusions

6. As mentioned earlier, I was asked by counsel for Visa and MasterCard to assess the economic issues in this matter. In my report I address the following questions:

   (i) Does the economic evidence indicate[4] that the operating rules of Visa and MasterCard[5] challenged by the Commissioner amount to price maintenance of the card acceptance fees charged to merchants by the acquirer?[6]

   (ii) Does the economic evidence indicate that this supposed price maintenance, or alternatively, the operating rules[7] adversely affect competition in a properly defined relevant market?

   (iii) What is the economic rationale and what are the economic effects of the rules challenged by the Commissioner?[8]

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[4] As Professor Carlton and Dr. Frankel assert.

[5] The rules challenged are "no surcharge," "honor all cards," and "non-discrimination." (See Visa International Operating Regulations Core Principles, 10/15/11, § Surcharges 5.1.C, § Cardholder Choice, Honor All Cards – Canada Region, Core Principle 6.3; MasterCard Rules, 12/7/11 §§ 5.11.1, 11a.5.8.1, and 11a 5.11.2).

[6] I am not an attorney. When I assess legal concepts, such as "price maintenance," I do so with the toolkit economists use to study competition and monopoly or what in the United States is called antitrust economics.

[7] As Professor Carlton and Dr. Frankel assert.

[8] I have read two other expert reports that have been filed on behalf of the Commissioner: one by Mr. Mike McCormack and one by Professor Ralph A. Winter (Expert Report of Mike McCormack, 3/14/12 and Expert Report of Ralph A. Winter, 3/12/12). I understand that Professor Jeff Church is responding directly to the report of Professor Winter. Based on my reading of Professor Winter's report, much of his analysis and his conclusions are similar to those of Professor Carlton and Dr. Frankel. For that reason, portions of my report may be seen as responsive to Professor Winter, given the overlap among the Carlton, Frankel, and Winter reports. Because I do not address every statement or conclusion in the expert reports of Professor Carlton and Dr. Frankel does not necessarily mean I agree with these statements or conclusions.

7. An important element of my assignment is assessing the expert reports filed by Professor Dennis Carlton and Dr. Alan Frankel on behalf of the Commissioner. While I agree with much that these experts say about how the Visa and MasterCard networks process credit card transactions in Canada, I part ways with the conclusions they draw about several core issues in this case. Specifically, I disagree with the Carlton and Frankel reports' conclusions about: (i) the alleged "upward influence" on card acceptance fees of the contested operating rules of Visa and MasterCard, (ii) the alleged adverse effect these rules have on competition, and (iii) the proper definition of the relevant product market to assess whether Visa and MasterCard possess market power.

8. It is significant that Professor Carlton and Dr. Frankel first considered whether the contested operating rules adversely affect competition and only then considered whether these operating rules, or more precisely, whether the adverse effect on competition said to result from these operating rules, influence upward card acceptance fees. In my judgment this is not the appropriate analysis to undertake as a matter of antitrust economics and policy. Professor Carlton and Dr. Frankel have not claimed that the alleged price maintenance adversely effects competition. Nor have I seen evidence that it does.

9. The Commissioner's Notice of Application and the Commissioner's expert reports frame the economic issues in this case in a narrow and misleading fashion. In so doing, they misrepresent, dismiss or gloss over several important features of the economic landscape in the credit card business that bear directly on the Commissioner's allegations.

10. One such misrepresentation is the neglect of the fact that Visa and MasterCard operate in a *network* business that links together two distinct kinds of customers. Both the Commissioner's Notice of Application and the Commissioner's experts pay lip service to the "two-sided" nature of a network business. But after taking notice of this central feature of the Respondents' operations, the Commissioner and her experts sweep aside any consideration of this feature on the pretext that the competitive effects of the Respondents' conduct on one side of the business can be assessed without giving thought to how that conduct affects the other side of the business.

11. To understand the economic rationale and effects of the contested operating rules of Visa and MasterCard, it is essential to include the cardholder side of the credit card business as well as the merchant side in the analysis. Instead of being dismissed, two-sided market analysis deserves to be center stage in an economic analysis of the issues in this case. The Respondents' operating rules govern intra-network credit card transactions that serve the interest of cardholders as much as the interest of merchants. An economic analysis of the effects of a rule change that examines only the merchant side is incomplete, because such a change alters the product that the Respondents can offer to cardholders.

12. In the Canadian Football League (CFL), teams play on a field that is 65 yards wide and 150 yards long including two 20-yard end zones; in the National Football League (NFL) in the U.S., teams play on a smaller field that is 53 and 1/3 yards wide and 120 yards long including two 10-yard end zones. This is a difference in the rules of the game that affects both offensive and defensive play. Examining the

effect of this difference on offensive strategy, while ignoring defensive tactics, is not the way to assess how the size of the field affects the game. It is the rules that define the game. Indeed it is not an exaggeration, in the case of credit card networks, to say that the operating rules of Visa and MasterCard define the product that the Respondents provide their customers. By the same token, a change in the rules of football simultaneously affects more than one group of stakeholders. For example, by changing from the larger CFL field to the smaller NFL field, CFL team owners might have more room to install additional seats in front of the end zones and along the sidelines. But a smaller field would lead to less scoring, which changes the quality of the product for the fans (which, in turn, affects team owners' ability to fill those seats).

13. The Commissioner's Notice of Application and the Commissioner's experts blur the distinction between Visa or MasterCard and the institutions that contract with merchants to acquire payments via the Visa or MasterCard network. The relevant product market proposed by the Commissioner's experts consists of "card acceptance services." It is the acquirers who provide these services to the merchants and who set and receive "card acceptance fees" from the merchants in exchange. Neither Visa nor MasterCard set or receive card acceptance fees. In effect, the Commissioner's experts propose a relevant product market in which, oddly enough, the Respondents are not even direct participants. This peculiarity is an artifact of the Commissioner's constricted focus on a single, narrow aspect of a transaction that in reality involves five economic agents (*i.e.*, cardholder, merchant, issuer, acquirer, and network). The role of acquirers must not be seen as connected just to the

merchants, and somehow distinct from the role of the networks and the issuers. The entire transaction must be incorporated into a proper relevant product market definition.[9]

14. While the Commissioner's experts propose a relevant product market no more inclusive than card acceptance services for credit card networks, one of the Commissioner's objectives in pursuing this litigation is to give merchants more leverage to make it more attractive for their customers to put their credit cards aside and make purchases with other payment means such as debit cards, cash, and cheques. This also is peculiar. When it comes to defining the relevant product market, the Commissioner and her experts do not regard these alternative means of payment as viable substitutes for credit cards. But when it comes to predicting the effects of tampering with the Respondents' operating rules, they anticipate that consumers will be induced to switch to these same means of payment, presumably the closest substitutes for using credit cards. This position has all the marks of the Commissioner trying to have it both ways.

15. Dr. Frankel contends the market power held by Visa and MasterCard is demonstrated by indirect evidence and by direct evidence.[10] The indirect evidence is threefold: (1) that the market is concentrated;[11] (2) the so-called merchant restraints diminish Visa and MasterCard's incentives to compete[12] and (3) entry is difficult.[13]

[9] I do agree that the relevant geographic market in which to assess the issues in this case is all of Canada (but not beyond).

[10] Frankel Report, ¶ 88.

[11] Frankel Report, ¶ 89.

[12] Frankel Report, ¶ 91.

[13] Frankel Report, ¶¶ 92-4.

In Section IV.E.ii., through the teaching illustration of a three-legged stool, I address two of these forms of indirect evidence (SOM[14] and entry conditions) plus a third: supply elasticity. In Sections IV.A.,V. B. and V.C., I address the competitive character of the operating rules of Visa and MasterCard.

16. The Commissioner's complaint about the Respondents' contested operating rules, based on section 76[15] of the Canadian Competition Act, is a complaint about "price maintenance." While the Carlton and Frankel reports conclude that these operating rules allegedly have an adverse effect on competition and influence upward or discourage the reduction of card acceptance fees (opinions I do not share), their reports do not explicitly attribute these consequences to price maintenance as is generally understood in antitrust economics. In fact Professor Carlton does not even mention price maintenance in his report. Price maintenance is a well-defined and widely understood pricing practice. In this report I shall explain what price maintenance involves and elaborate on why the Respondents' conduct has nothing to do with price maintenance.

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[14] Or share of market.

[15] "76. (1) On application by the Commissioner or a person granted leave under section 103.1, the Tribunal may make an order under subsection (2) if the Tribunal finds that

(a) a person referred to in subsection (3) directly or indirectly

(i) by agreement, threat, promise or any like means, has influenced upward, or has discouraged the reduction of, the price at which the person's customer or any other person to whom the product comes for resale supplies or offers to supply or advertises a product within Canada, or

(ii) has refused to supply a product to or has otherwise discriminated against any person or class of persons engaged in business in Canada because of the low pricing policy of that other person or class of persons; and

(b) the conduct has had, is having or is likely to have an adverse effect on competition in a market."

Canadian Competition Act, Section 76 (hereafter, "Section 76").

17. The first question I address is does the economic evidence indicate that the operating rules of Visa and MasterCard amount to price maintenance of the card acceptance fees charged to merchants by the acquirer? I conclude that the operating rules do not maintain the price of card acceptance services as price maintenance is conventionally understood in competition policy. Even if they did, what undermines the Commissioner's analysis, and that of Professor Carlton and Dr. Frankel, is that Visa and MasterCard do not charge (much less maintain) a price for card acceptance services. They are not sellers of this service.

18. The second question I address is does the economic evidence indicate that the alleged price maintenance, or alternatively, the operating rules adversely affect competition in a properly defined relevant market? I conclude that the relevant market for analyzing the issues in this case is broader than card acceptance services and that to draw proper conclusions about the operating rules one should consider both the issuing as well as the acquiring side of the Visa and MasterCard networks. I also conclude that Visa and MasterCard compete vigorously between themselves, that to focus only on the cost of card acceptance services to merchants overlooks the benefits to cardholders, and that a full-blown analysis of the market in which Visa and MasterCard operates does not show the Respondents to have undue market power, let alone the ability to maintain any such market power due to the rules.

19. The third question I address is what is the economic rationale and what are the economic effects of the rules challenged by the Commissioner? I conclude that the operating rules for both Visa and MasterCard have, at their economic taproot, the objective of helping Visa and MasterCard maximize volume across their networks

and making the Respondents stronger competitors against other payment mechanisms. Maximizing volume is the economic objective of each firm and the pursuit of this objective, as I show, helps explain the output expansion of each firm in competition with other payment mechanisms. I also conclude that the interchange rate, viewed from an economic perspective, is best understood not as a price, but as a balancing device to optimize the issuing and acquiring sides of the Visa and MasterCard networks.

20. The most likely consequence of the Commissioner's proposed remedy (to suspend or substantially alter the contested operating rules of Visa and MasterCard) is that thousands of Canadian consumers will find their credit cards a less attractive and less convenient means of payment. This change would be more likely to decrease rather than increase credit card transaction volume—and I have seen no evidence that any cost savings will be passed on to Canadian consumers.

III. The Economics of General Card Payment Systems

A. Card Payment Systems are a Two-Sided Business

21. Let me start my analysis by indicating (confessing?) that I am a vintage car enthusiast. One of the magazines to which many such enthusiasts subscribe is *Hemmings Motor News*.[16] The economics of a magazine like *Hemmings Motor News* are of particular interest to an economist because *Hemmings* serves two distinct but related kinds of customers. Car enthusiasts purchase this magazine to learn about automobiles and accessories, and to read ads for restored and custom cars, parts,

[16] A typical issue of the periodical is over 500 pages.

accessories and related products, some of which are quite esoteric.[17] At the same time, firms and individuals, who sell automobile-related goods and services, purchase advertising in *Hemming Motor News* because the magazine offers them access to a large audience of potential customers. This business model creates value by bringing these two kinds of customers together. Both kinds of customers are willing to pay *Hemmings* for this service. Economists call a market that provides this kind of service a *two-sided market*.[18]

22. What does all this have to do with Visa and MasterCard? The operation of a card payment system is conceptually similar to *Hemmings Motor News.* The magazine is produced to attract readers (buyers) and advertisers (sellers) and to facilitate transactions between them. A card payment system is established to attract and facilitate transactions between cardholders and merchants.[19] More specifically, a general purpose card payment system is set up to authorize, clear, and settle transactions between cardholders and those merchants who enter into an agreement to

[17] See, for example, the advertisement for Kanter Auto Products' Engine Parts for Ford automobiles with flat head engines, 1932-1953, or the advertisement offering a 1955 Jaguar XK 140 in mint condition with superb paint and chrome. *Hemmings Motor News* (1/12), pp. 406 and 455.

[18] For an introduction to two-sided markets, see David S. Evans, "The Antitrust Economics of Multi-Sided Platform Markets," *Yale Journal on Regulation* 20 (2003), p. 325. A more technical perspective is Jean-Charles Rochet and Jean Tirole, "Platform Competition in Two-Sided Markets," *Journal of the European Economic Association* 1, no.4 (2003), p. 990. The taproot paper regarding the economics of two-sided markets as applied to interchange rates is William F. Baxter, "Bank Interchange of Transactional Paper: Legal and Economic Perspectives," *Journal of Law & Economics* 26 (1983), p. 541. For a recent treatment of two-sided markets and their connection to payment cards, see Jean Tirole, "Payment Card Regulation and the Use of Economic Analysis in Antitrust," *Competition Policy International* 7, no. 1 (2011), p. 137.

[19] General purpose card payment systems are distinguished from proprietary credit card programs that are operated by particular merchants (*e.g.*, department stores and gasoline retailers). Proprietary cards are accepted at a limited selection of merchant locations specified by the issuing merchant and otherwise generally work like a general purpose credit card. For example, the Sears store card in Canada is accepted at Sears as well as "partners" such as Petro-Canada (gas stations) and PHARMASAVE (pharmacies) and the cardholder can earn points at the partners as well. See http://searscard.sears.ca/compare.html (accessed 3/26/12). Visa and MasterCard, the Respondents in this matter, operate general purpose credit card systems, as does American Express.

accept payment by means of that system.[20]

23. A card payment system is, in economic parlance, a *network* that joins together a large number of cardholders and merchants. It does this by marketing itself to cardholders *and* merchants and by developing rules and procedures that govern: (i) the *acquisition* of payments from merchants who accept any of the network's cards, (ii) the *issuing* of cards to consumers, and (iii) the provision of *network services* that authorize, clear, and settle transactions between merchants and cardholders.

24. A cardholder who chooses to use a payment card (*e.g.*, a credit or debit card) usually has the option of paying for merchandise in cash. In many situations it also is possible to pay by cheque or by means of an electronic funds transfer system. In the case of merchants who accept the cards of two or more networks, the cardholder can choose among any of the cards issued on those networks.

25. The benefits to the cardholder of using a payment card, instead of cash or a personal cheque, include safety, convenience, dispute resolution, record keeping and, in the case of a credit card, the option to postpone payment by purchasing "on credit." In addition to these benefits, cardholders may be the beneficiaries of the issuers' reward programs and other benefits such as car rental insurance and warranty extensions. Although the features of these programs differ among issuers, "rewards" often include cash or non-cash discounts off the sales price of goods purchased.

26. Merchants consider the costs and benefits of accommodating different payment methods by their customers. Dr. Frankel claims that some merchants have no choice

[20] There are two kinds of general purpose cards: debit and credit. When a cardholder uses a debit card, funds are drawn on the cardholder's chequeing account with the institution that issues the card. In the case of a credit card, funds are drawn from the institution that issued the card but the cardholder can reimburse the card-issuing institution within a (typically) 25 day payment cycle, or postpone payment and utilize a line of credit the issuer extends.

but to accept credit cards.[21] That is no more true than to say that some merchants have no choice but to accept cash, and for others there is no choice but to accept debit cards, and for others there is no choice but to accept cheques.[22] The policy issue is not whether a particular product or service is *necessary*. That happens all the time. One cannot bake bread without having flour; one cannot make windows without glass. The relevant question is whether the flour, the glass, and in this instance, the credit cards supplied by Respondents, are available under workably competitive conditions. In the case of credit cards marketed to merchants and cardholders, I show that they are.

27. For many merchants, of course, a variety of payment mechanisms are available to their customers. Those merchants who accept several payment mechanisms can steer their customers to one over the other by offering discounts that favor one over another. In the case of cards, some merchants elect to issue proprietary credit cards to their customers as an alternative to competing payment options, including the Visa and MasterCard card payment systems.

28. Card payment systems provide merchants with multiple benefits. These include safety (protection against loss, theft and counterfeiting), convenience, record-keeping services, guaranteed payment and dispute resolution. By accepting a general purpose card, merchants enjoy these benefits without having to develop and administer their own proprietary card programs as well as the significant cost associated with running a card system and absorbing bad debt losses. With the introduction of cards that can

[21] Frankel Report, ¶¶ 69-73.

[22] For example, it would be difficult to operate a newsstand without taking cash and it would be difficult to run an airline without taking credit cards.

be electronically read, merchants and consumers often can consummate transactions with cards more efficiently (*i.e.*, in less time and at lower cost) than with cheques (which take time to write and may be "bad") or cash (which requires making change and adds security costs to the merchant's operation).

29. Another significant benefit a merchant enjoys in accepting general purpose cards is the incremental sales generated by cardholders whose liquidity and willingness to buy is augmented by their payment cards.[23] In this respect, accepting payment cards is similar to other services and amenities that merchants provide to prospective customers to gain their patronage in competition with other merchants. Examples include parking, free delivery, liberal return policies, and technical assistance with products. Some merchants even provide free child care services to shoppers.[24] Merchants incur the cost of services like these because they contribute to incremental sales.

30. The focus of the Commissioner's case is about the cost merchants incur to acquire the benefits that come with accepting the Respondents' payment cards, barely acknowledging that general purpose card payment systems operate in a two-sided market.[25] The Commissioner essentially denies that the economics of two-sided

[23] Merchants have found that accepting credit cards has led to higher average purchases at McDonald's restaurants ("McDonalds & Cards," *CardFlash Daily Payment Card News*, 7/22/05, CardWeb.com), Sonic restaurants (Brian Brus, "Catching the Cashless Wave; With Credit Buyers Soaring, Fast-Food Restaurants Swallow Costs to Savor Benefits," *The Journal Record*, 7/14/05), and from vending machines ("Card Payments At Vending Machines Boost Sales," http://www.epaynews.com/item.php?news_id=3782 (accessed 12/7/09)).

[24] See, for example, "Ikea Montreal In-Store Services Child Care Center," http://www.ikea.com/ca/en/store/montreal/events (accessed 1/27/12).

[25] Reply of the Commissioner of Competition before the Competition Tribunal, CT-2010-10, 2/14/11 (hereafter "Reply of the Commissioner").

markets has any bearing on this case.[26] Professor Carlton and Dr. Frankel recognize that Visa and MasterCard operate in a two-sided market but they then act as though what really counts is only one side: what they call the market for card acceptance services.

31. For example, to support his conclusion that the relevant product market involves only merchants and the Respondents' acquirers, and that one can simply pay lip service to the two-sided character of the Respondents' business, Dr. Frankel introduces an analogy.[27] He contends that the roles of acquirers and issuers in the Respondents' networks can be viewed as complementary products – similar to the nuts and bolts sold at the local hardware store. Dr. Frankel argues that it is possible for a "hypothetical monopolist of bolts" to harm competition even if there are "many competing suppliers of nuts," a claim that appears to support the notion that there is a relevant market in bolts alone. On the strength of this analogy, he goes on to claim that the same reasoning supports the notion that "the existence of competing card issuers would not protect a merchant from harm due to a hypothetical monopolist acquirer" so that the Respondents' acquirers comprise a relevant market all by themselves. As a consequence, Dr. Frankel continues, it is unnecessary to pay attention to the two-sided character of the credit card business.

32. Notwithstanding the complementary relationship between acquirers and issuers, Dr. Frankel's analogy is inapposite and misleading. While nuts and bolts are complementary, they are also manufactured to non-proprietary standards. This means

[26] Reply of the Commissioner, ¶¶ 17-21.

[27] Frankel Report, ¶¶ 80-1.

that nuts sold by one manufacturer can be paired with bolts sold by another manufacturer to form a usable “fastening mechanism.” Thus, if there were many suppliers of nuts, as in Dr. Frankel’s analogy, a single bolt manufacturer could capture all the profit that could be derived from the sale of nut and bolt fastening mechanisms. The bolt monopolist would not even have to manufacture nuts to achieve this, because all the nuts produced under competitive conditions “work” with the monopolist’s supply of bolts.

33. The complementarity between the services of acquirers on the merchant side of a credit card network and the services of issuers on the cardholder side comes with an additional feature that undermines Dr. Frankel’s argument. Unlike nuts and bolts, the services of acquirers and issuers are not interchangeable across networks. A Visa-only acquirer cannot secure payment for a merchant who accepts Visa credit cards from a MasterCard-only issuer. The entire transaction must be completed on the Visa network. The same holds true for MasterCard.

34. To make Dr. Frankel’s analogy accurate and complete, suppose nuts and bolts were not interchangeable. Suppose, hypothetically, each manufacturer produced complementary nuts and bolts that conformed to its own proprietary specifications. These hypothetical manufacturers would not compete on a “nut-to-nut, bolt-to-bolt” basis; they would compete as suppliers of substitute fastening mechanisms. In such an instance, there would be no need to assess the market power a manufacturer held in only one complementary good if that good could be used only with the complementary output of that manufacturer. One would examine the market power of the manufacturer’s line of proprietary nuts and bolts, as this line competes with

other fastening systems. In the same way, the Visa network "mechanism" is a substitute for other payment mechanisms, such as MasterCard and American Express, debit cards, cash, and cheques. Looked at this way, there can be no such thing as Dr. Frankel's hypothetical bolt monopolist unless that firm happens to be a nut monopolist as well. To become a bolt monopolist, a manufacturer would have to acquire exclusive rights to every proprietary manufacturing standard, and of course this would make the firm a nut monopolist as well. Where nuts and bolts are not interchangeable – and this is the relevant analogy, not Dr. Frankel's analogy – the only thing that could be monopolized would be fastening mechanisms.

35. Reasoning along similar lines, for a hypothetical monopolist to gain exclusive rights to acquire payments for every credit card network, the monopolist would have to exercise similar control on the issuer side of every network as well. The least inclusive thing that could be monopolized includes both the acquiring and issuing components of credit card services. In short, nuts and bolts cannot absolve Dr. Frankel of neglecting a two-sided analysis of the Respondents' networks when he sets out to define the relevant market. Dr. Frankel's illustration is not "nuts," because it includes bolts. But it is mistaken and misleading. His line of reasoning is admirably simple, but it was none less than Albert Einstein who once warned: "Everything should be made as simple as possible, but not simpler."[28]

36. By taking their eyes off the two-sided character of card payment systems, the Commissioner and Professor Carlton and Dr. Frankel confuse who is the buyer and who is the seller. Neither Visa nor MasterCard is a seller in a market for card

[28] See http://www.aphorismsgalore.com/aphorists/Albert%20Einstein (accessed 4/3/12).

acceptance services. Acquirers (or their agents) are the sellers. Visa and MasterCard do not "maintain" a "price" to merchants because they do not sell their network services to merchants. Their customers are on two sides of their business: acquirers and issuers. As I show later in my report, questions such as "what is the price?" "what is the market?" and "what would vigorous competition (or an adverse effect on competition) look like?" are properly answered only if one considers the both the merchant and consumer sides of the Visa and MasterCard business.

B. Visa and MasterCard Operate *Open* Card Payment Systems

37. There are two basic business models for providing card acceptance services: closed and open. In the former, one firm defines the card brand, promotes the brand to cardholders *and* merchants, operates the network by which transactions are authorized and settled, issues cards to cardholders, and acquires card transactions from merchants. American Express historically has operated a closed card payment systems in Canada and elsewhere.

38. Visa and MasterCard, by contrast, operate *open* systems. These systems were formed as joint ventures that integrated the resources and efforts of numerous independent financial institutions into a central network.[29] Cardholders, on one side of the network interact with independent institutions known as issuers. On the other side of the network, merchants interact with independent institutions know as acquirers.

39. Both Visa and MasterCard have contracts with their issuer and acquirer institutions that define their mutual endeavors. This contractual integration is necessary for an

[29] For many years the Visa and MasterCard networks were directly owned by their members. In recent years both Visa and MasterCard became public corporations. Regardless of their ownership configuration, Visa and MasterCard do not interact directly with the cardholders and merchants on their networks.

open payment card network to operate efficiently and to compete with closed payment card systems (such as American Express) as well as compete with other forms of payments (such as cash and cheques).

40. Visa and MasterCard each define their card brands, establish network rules and operating procedures, and clear transactions throughout their networks. In both networks, issuers and acquirers must conform to the set of rules crafted and enforced by the network. Indeed, compliance with these rules is what establishes and maintains the payment system as a functioning network. *It is not an exaggeration to say that these rules and operating procedures define Visa and MasterCard and the product they provide.*

41. A failure to understand the connection between the rules and operating procedures (or to dismiss them as "merchant restraints") is the economic fork in the road where the analysis in this report diverges from the description of the industry in the Notice of Application and the reports of Professor Carlton and Dr. Frankel.

42. While Visa and MasterCard each promote their card brands to consumers and merchants, they also rely on the resources and efforts of issuers and acquirers to aggregate cardholders and participating merchants. Moreover, the organizational form of Visa and MasterCard allows each acquirer and each issuer who participates in the network to offer better card products and more comprehensive acceptance services than any of them could offer alone. If issuers and acquirers were not joined in a network, then issuers would not be able to offer cardholders universal acceptance within the network. Instead, an issuer could offer a card that would be accepted only at those merchants whose acquirers had individually negotiated bilateral agreements

with that issuer. Likewise, acquirers would be able to offer merchants card acceptance services only on cards where the issuers and the acquirer had individually negotiated bilateral agreements.

43. Each issuer and acquirer that participates in a card network brings with it a collection of customers on one side of the network or the other. But even for the largest issuers and acquirers, the number of common customers would be small compared to either of the Respondents' networks. Participation in the Visa or MasterCard networks, however, allows each issuer to offer its customers a card that is accepted at the merchant customers of *every* acquirer in the network. And each acquirer is able to offer its merchant customers card acceptance services for cards that are issued by *every* issuer in the network. This arrangement facilitates entry of small issuers and acquirers as well as transactions between millions of merchants and hundreds of millions of cardholders worldwide.[30]

44. Visa and MasterCard are sometimes called four party networks: the cardholder, the issuing institution, the acquiring institution, and the merchant. A four-party honour all cards payment system allows small or innovative issuers to enter the market on a small scale and provide competitive discipline.

45. The rules, procedures and practices disparagingly referred to as "merchant restraints"

[30] For example, Peoples Trust Company is a small Visa and MasterCard issuer in Canada. Its total cards outstanding in 2010 represented 3.3% of the total number of Visa and MasterCard credit cards issued in Canada. By contrast, Peoples Trust Company issues only a fraction of the number of Visa credit cards issued by TD Canada Trust or in comparison to the number of MasterCard credit cards issued by BMO Bank of Montreal. Nonetheless, a small issuer like Peoples Trust can still offer its customers a Visa card that is as widely accepted as a Visa card issued by much larger issuers and can compete with the likes of American Express. Similarly, an acquirer like TD Merchant Services notwithstanding its relatively modest acquisition presence, can offer its merchant customers card acceptance services for cards issued by any issuer that participates in the networks of Visa or MasterCard. "Visa & MasterCard Credit Issuers in Canada 2010," *The Nilson Report* 967 (3/11), p. 7; "Participant Profile: TD Merchant Services," Deloitte, *Canadian Payments Landscape, Prepared for the Task Force for the Payments System Review*, (9/10), p. 96 (hereafter "*Canadian Payments Landscape*").

challenged in the Notice of Application are what make the integration possible.

46. Because the Law of Diminishing Marginal Utility presumably applies to reading descriptions of the flow of funds in card payment system, and several of these descriptions have already appeared in the Notice of Application and expert reports sponsored by the Commissioner, I have lodged my descriptive endeavor in Appendix E. The next section of my report addresses the principal issues raised by the Commissioner's case: the role of interchange rates and operating rules and their alleged consequences for price maintenance.

C. The Role of Interchange rates

47. For an open card payment system such as Visa and MasterCard to work smoothly, or indeed work at all, it is necessary that every cardholder in the network knows that his or her card will be accepted by every merchant in the network regardless of who issues the card and who acquires the merchant's payments. A Visa card issued by Peoples Trust would not be as desirable, in a potential cardholder's eyes, if it will not be accepted by as many merchants as a TD Canada Trust Visa card, or if its acceptance is subject to a surcharge on that card's transactions. The coordination that assures every cardholder and every merchant that they will receive uniform treatment by the various parties to a transaction does not occur spontaneously. It requires that the issuer and acquirer institutions enter into and adhere to carefully structured agreements with Visa or MasterCard. The terms of these agreements – the Respondents' operating rules – govern how issuers and acquirers participate in the network and help to establish the value that issuers and acquirers can offer to cardholders and merchants. If the rules were not adhered to, this would undermine

the value cardholders and merchants derive from the Respondents' payment systems, and would reduce transaction volume on their networks.

48. The default interchange rate established by each of the Respondents in their respective networks is a vital component of their operating rules.[31] This interchange rate applies to all transactions except those between member institutions who have negotiated their own terms for interchange.[32] By establishing the interchange rate, the networks can balance the merchants' and cardholders' shares of the burden of paying for the services of the payment card network. As Kevin Stanton, a MasterCard executive, explained:

> MasterCard must ensure that a MasterCard transaction or products associated with transactions are attractive to Issuers so that they increase the number of Cardholders they put into the network and, at the same time, the default interchange rate must represent value for Acquirers and Merchants compared to the cost. If MasterCard fails in its value proposition to Acquirers, MasterCard runs the risk of losing Merchants, and if the network loses Merchants, the Cardholder value proposition is lost. If fewer Cardholders use MasterCard credit cards, MasterCard loses the Merchant value proposition. [33]

49. As in any two-sided business, establishing how this burden is distributed is important for building transaction volume.

50. Conceptually the situation is the same for the publisher of *Hemmings Motor News*, who must decide how much revenue to attempt to collect from advertisers versus subscribers. When setting advertising rates and subscription fees, the publisher must

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[31] The fee set by the network is called the default interchange rate because it applies unless the acquirer and issuer have a bilateral agreement for a different rate. The issuer cannot unilaterally impose a higher rate.

[32] Visa sets interchange rates that "may be customized where members have set their own financial terms for the Interchange of a Visa transaction" Visa International Operating Regulations Core Principles, 10/15/11, §10.0.; MasterCard's rules are similar MasterCard Rules, 12/7/11, §§ 9.4 and 9.5.3 (hereafter, "MasterCard Rules").

[33] Witness Statement of Kevin J. Stanton, ¶ 98.

take into account the interdependence between readers and advertisers' demands. The more readers there are, the more likely the seller of, say, a 1932 Ford coupe will find a buyer if the car is advertised in the magazine. The more vendors there are who advertise in *Hemmings Motor News,* the more valuable the magazine becomes to readers who might be looking for a 1932 Ford coupe. The more readers there are, the more valuable the magazine is to advertisers, and more advertisers make the magazine more valuable to readers. The Respondents' card payment networks exhibit the same kind of demand interdependence. The more consumers who carry and use a Visa credit card, the more valuable it becomes for merchants to accept the card; in like fashion, the more merchants who accept the card, the more valuable the card becomes to consumers who might carry it.

51. These interactions make establishing fees for a two-sided business a complicated affair. When considering an increase in the subscription price of *Hemmings Motor News*, the publisher must consider how the price increase will affect the number of subscribers, how a reduction in the number of subscribers will affect the demand for purchasing ads in the magazine, how fewer ads will affect the demand for subscriptions, and so on. To sustain a periodical like *Hemmings Motor News*, the optimal subscription price is kept low in relation to costs in order to sustain a large number of readers, with advertising revenues "making up the difference." In fact the magazine's survival may require a significantly asymmetric sharing of the burden of its publication costs. Setting subscription prices and advertising rates to assure the magazine's success is a careful balancing act.

52. Often, the optimal pricing policy for a two-sided business is to charge much more to

customers on one side of the business than the other. Adobe Systems' popular software for producing and displaying electronic documents in the company's "pdf" format is a revealing example of payment asymmetry in a two-sided business. One group of users wishes to *produce* electronic documents; another group wishes to *read* electronic documents. The company gives away *Adobe Reader* to the readers, but sells *Adobe Acrobat* to producers for a not inconsiderable price. Here, Adobe has determined that it can earn more profit by placing 100% of the burden of payment on document producers. Readers get a free ride. Evidently, Adobe understands that were it to shift the pricing burden to document readers, this would result in such a loss of readers that the value of the *Acrobat* platform would deteriorate. The platform would become significantly less valuable to document producers.[34]

53. The operator of a card payment system must strike a similar balance, only here the question becomes: how much of the total price of a transaction should cardholders pay and how much should merchants pay? According to the theory of two-sided markets, there is no reason to expect that the distribution of the pricing burden will reflect the distribution of costs incurred on each side.[35] Maximizing output and achieving efficient operations requires the same kind of asymmetric distribution that

[34] A similar example is seen in the newspaper business. Metro newspapers are ubiquitously available at zero price to readers, but advertisers must pay for space in the newspapers.

[35] Marc Rysman conjectures that the distribution of the pricing burden between merchants and cardholders in payment card systems stems from the fact that merchants often accept several general purpose payment cards while most consumers prefer to use only one card "for months at a time." He writes, "[C]ompetition between platforms can have large price effects on the side of the market that uses a single platform and little or no effect on the side that uses multiple platforms. This result might explain why payment card pricing has increasingly favored consumers over time rather than merchants (for instance with the rise of rewards programs), since consumers and not merchants typically use a single network..." Marc Rysman, "The Economics of Two-Sided Markets," *Journal of Economic Perspectives* 23, no. 3 (2009), pp. 130-1.

characterizes car magazines and Adobe's document production platform.[36] This means that merchants bear more of the pricing burden in a card payment system than cardholders because shifting more of the burden to cardholders would reduce transaction volume.

54. In the Visa and MasterCard networks, the interchange rate serves as the networks' *balancing device*. The rate itself is an intra-network transfer payment that is used to build and sustain transaction volume in the Respondents' networks. Visa and MasterCard cardholders' fees are low in comparison to merchant fees (or even negative if cardholder benefits are taken into account) because this sustains a large population of cardholders and encourages card use. Widespread merchant acceptance is achieved, even though the interchange rate ultimately affects merchant costs, because merchants attach so much value to having access to the large population of consumers who use credit cards. Kevin Stanton emphasized that MasterCard's goal in establishing interchange rates is to achieve a balance between the "value propositions" that MasterCard provided to issuers on the one hand and acquirers and merchants on the other so as to achieve maximum possible volume on the MasterCard network.[37] Visa and MasterCard are eager to maximize transaction volume, because the maximization of volume across the Visa and MasterCard networks is consistent with the notion of profit-maximization in the conventional economic theory of the

[36] Asymmetry is common in payment systems other than credit cards. For example, "[t]he Canadian banks decided jointly in 1984 to establish a PIN debit network [Interac], in part to defray the very high costs of cheque use they were incurring. They agreed on a zero interchange fee to encourage merchants to install the necessary technology." David S. Evans, Howard H. Chang, and Margaret Weichert, "Economic Analysis of Claims in Support of the 'Durbin Amendment' to Regulate Debit Card Interchange Fees," *Interchange Fees: The Economics and Regulation of What Merchants Pay for Cards*, Competition Policy International (2011), p. 199. There is still no interchange rate for Interac, and consumers typically pay $0.50 to $1.25 per transaction to use a debit card at the POS. (*Canadian Payments Landscape*, p. 41).

[37] Witness Statement of Kevin J. Stanton, ¶ 95.

firm.

55. In 2008 the United States Department of Justice (DOJ) recognized the role of the interchange rate as a balancing device in response to an inquiry from the ranking member of the House Judiciary Committee. According to the DOJ,

> The credit and debit card markets are complex, so-called 'two-sided' markets in that each network needs to attract both cardholders and merchants. Pricing on one side of the market impacts the pricing on the other side. For example, newspapers charge less to readers in order to increase sales and circulation, thereby making their paper more attractive to advertisers. Revenues from advertisers support the lower prices to readers. Similarly, credit card networks forced by regulation to collect less from merchants may well respond by charging more to cardholders in card fees, or reducing card rewards programs and other features that are attractive to consumers [38]

56. In 2009 the Organisation for Economic Co-operation and Development (OECD) also recognized the role of interchange as a balancing device noting that "competition has the potential to decrease price on one side of the market, while raising it on the other." [39] The OECD acknowledges the probable asymmetry of rates in two-sided markets.

57. The *total price* of a transaction on a payment card system is the sum of the fees the system charges the cardholder and the merchant. Because a cardholder and a merchant jointly use the system for each transaction, this service cannot be performed for one of the parties without the other, and consequently it would be misleading to

[38] Keith B. Nelson, Principal Deputy Assistant Attorney General, Letter to The Honorable Lamar Smith, Ranking Member of the Committee on the Judiciary of the United States House of Representatives, 6/23/08.

[39] Organisation for Economic Co-operation and Development, "Competition Committee. Roundtable on Two-Sided Markets," 6/4/09, ¶ 11.

refer to either party's fee in isolation as the "price" of the transaction.[40] Each party's contribution is only part of the total price the system charges for the services it performs. In an open card payment system, the total price is the sum of what the merchant pays the acquirer (card acceptance fees) plus what the cardholder pays the issuer (essentially fees less rewards).[41]

58. I recognize that Professor Carlton and Dr. Frankel, in their focus on the merchant side of the two-sided business, argue that some cardholders are subsidized by customers who do not pay with credit cards. I shall address this claim later in my report (See Section IV.F.).[42]

59. According to the theory of two-sided markets, increasing an interchange rate may not result in *any* increase in the total price of a transaction. If an increase in an interchange rate were passed along to the merchant through the merchant discount and the same amount were passed along to the cardholder in the form of enhanced rewards or reduced fees, there would be no change in the total system price of using a

[40] Just as it would be misleading and incomplete to refer in isolation to either the issuer's costs or the acquirer's costs of processing the transaction as "the cost of the transaction."

[41] Significantly, the card acceptance fee is only one component of the total price. It is an economic error to argue that the prices charged by retailers for their goods and services will be higher because of the interchange rates that they incur. See Notice of Application, ¶ 4; Concise Statement of Economic Theory within Notice of Application of the Commissioner of Competition, 12/15/10 (hereafter, "Concise Statement of Economic Theory"), ¶ 10. Even if the Commissioner were correct in contending that the interchange is "passed on" by merchants to their retail customers, this does not mean that customers necessarily pay higher retail prices. The other component of the cost cardholders face for the use of the card is in their net fees. Only if the sum of the card acceptance fees (assumed to be passed on) and the cardholder fees were to go up, and there were no other consumer welfare benefits from the networks, would it be correct to say that cardholders pay a higher price.

[42] I note here that the subsidy allegation against Visa and MasterCard ought to be placed in context. When it comes to the enjoyment of subsidies, the payment mechanism of cash, against which Visa and MasterCard must compete, is subsidized by the government in both Canada and the United States. As a result, Visa and MasterCard both had to enter the payment industry against the headwinds of subsidized competitors and then take market share from rivals that continue to enjoy subsidies. In their concern about engineering just the right price signals to correct the alleged subsidies caused by Visa and MasterCard, the Commissioner, Professor Carlton, and Dr. Frankel are silent about the existence and the consequence of other subsidies found among payment mechanisms.

payment card. If the interchange rate increase were not passed along to the cardholder to the same extent that it was passed along to the merchant, then the increase in the total price is the difference between the amount passed along to the merchant and the amount passed along to the cardholder – not the full amount of the interchange rate increase. Focusing only on an interchange rate increase and interpreting it as an increase in the price of using a payment card either presumes or overstates the amount of any price increase because it overlooks the way in which incremental interchange revenue fuels competition between the issuers to increase transaction volume by increasing benefits that flow to the cardholder.

60. While Visa and MasterCard establish default interchange rates to distribute the total price of a credit card transaction to cardholders and merchants, it is the market for payment systems that establishes the total price. The total price of a credit card transaction on one network is disciplined by competition among credit card networks, as well as by competition from other payment systems such as debit cards, cash, cheques, and emerging payment technologies.

61. There are limits, of course, to how far a card payment system will want to go in shifting the burden of payment onto merchants rather than cardholders. Just as an interchange rate structure that tips too much in favor of merchants will reduce cardholders' demand for credit cards, a fee structure that tips too much in favor of cardholders will reduce merchants' demand for card acceptance. If merchants are reluctant to accept the cards of a card payment system, this will make the system's cards less attractive to cardholders. The trick is to find a fee structure, and a set of complementary operating rules, that avoid falling off the horse on one side or the

other.

62. It is not in the interest of Visa or MasterCard to maintain so much asymmetry in their default interchange rates that it compromises transaction volume.[43] Rather, Visa and MasterCard seek out the balance that will maximize volume on their networks, recognizing that "getting this wrong" will mean less volume.

63. Understanding the economic logic behind the interchange rate further explains why such rates often are lower for some merchant sectors of the economy than others. Interchange rates for supermarkets are lower than for other merchants because supermarkets can rely more on alternative forms of payment (*e.g.*, cheques and cash) than firms in some other sectors. In other words, higher interchange rates would jeopardize card acceptance more among supermarkets than in the travel and entertainment sector.[44] The optimal balance between cardholder and merchant fees is achieved by different default interchange rates in different sectors of the economy.

64. Although it operates a closed card payment system, and therefore does not explicitly set interchange rates, American Express realizes that asymmetric charges are optimal for its business as well.[45] In 2010, the average American Express cardholder

[43] In order to maximize volume, the purveyor of a two-sided service, such as a payment card network, must compare price sensitivity on both sides of the two-sided market as well as the feedback or interaction between the two sides. If there is a disparity, volume may be increased by lowering the component of price on the side that is more sensitive and raising the component of price on the side that is less sensitive.

[44] Visa's default interchange rate for Classic, Gold, or Platinum Visa credit cards at supermarkets that do not meet large volume "Performance Program" criteria is 1.36%, whereas the standard default interchange rate for these cards is 1.65%. MasterCard's default interchange rate for "core" consumer cards at supermarkets that meet large volume criteria is 1.36% while default interchange rate for consumer cards at all other merchant locations (other than gas stations) that meet large volume criteria (bellow 1 billion) is 1.45%. The rate is 1.59% for electronically captured "card present" transactions at supermarkets and gas stations that do not exceed annual MasterCard volume in Canada in excess of $400 million. Visa Canada Interchange Reimbursement Fees (GSSS2581_00007363-4). MasterCard Interchange Rate Overview (1/11).

[45] The nature of the total price is simpler to understand in the case of a closed or three-party system where a single entity (for example, American Express) collects the acceptance fee from merchants and cardholder fees from cardholders for the same transactions. Both parties pay a portion of the total system price for handling the

generated card acceptance fees of US$338 and paid a cardholder fee of only US$38.[46] Although small in relation to card acceptance fees, the cardholder fee at American Express probably overstates the cardholder's true cost because using an American Express card more than likely endowed the cardholder with a variety of benefits, such as cash back on purchases, the float, travel rewards (*e.g.*, companion airline tickets or roadside assistance), hotel rewards (*e.g.*, upgraded accommodations), and extended warranty coverage.[47] The asymmetry of American Express' charges to its cardholders and merchants works well because it sustains a large population of cardholders and encourages them to use their cards. An abundant supply of cardholders, in turn, is what makes accepting an American Express card (and paying the card acceptance fee) attractive to merchants.

65. In the economic logic of an open card payment system, the default interchange rates afford Canadian merchants access to a large population of consumers who use their cards to make purchases. The more that customers use their cards to make purchases, the more valuable cards are to merchants.[48] This is especially true of incremental purchases, *i.e.*, purchases that cardholders would not make from a particular merchant if the merchant did not accept the card. In that respect, merchants and issuers have a

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transaction. From the perspective of a merchant and a cardholder using a payment card to complete a transaction, there is no economic distinction between paying a merchant discount and a cardholder fee to one entity (like American Express) and paying the same merchant discount and cardholder fee to an acquirer and an issuer that are both part of an open system (like Visa or MasterCard).

[46] American Express Company Annual Report (2010), p. 31.

[47] Information on benefits associated with American Express cards is available at http://www212.americanexpress.com/dsmlive/dsm/int/ca/en/personal/membershipbenefits_pr.do?vgnextoid=bde2e452a54e4110VgnVCM100000cef4ad94RCRD&page=PR (accessed 4/3/12).

[48] Just as car magazines are more valuable to sellers of automobiles and automotive products to the extent that more customers read them to make purchases.

common interest. Issuers, who earn interchange revenue and fees from cardholders' use of cards, also value cards to the extent that cardholders want to use them to make purchases.

66. When interchange rates are higher, cardholders and card use become more valuable to issuers. Therefore issuers have an incentive to compete more intensely for cardholders by offering attractive card programs (*e.g.*, better rewards). The Commissioner, and Professor Carlton and Dr. Frankel, ignore the benefits consumers (*i.e.*, cardholders) on the issuing side receive as a result of interchange rates. If one is interested in consumer welfare, this side of the market, with literally millions of cardholders, should not be overlooked. We should count their noses too. When issuers use the revenues generated by interchange revenues to compete for cardholder patronage, they dissipate economic "rents" that might accrue to them. In the face of this competition, any issuer who attempts to pocket too much interchange revenue, rather than pass it along to cardholders in more attractive card programs, risks losing business to its competitors. Competition among issuers limits their ability to profit from an increase in the interchange rate.[49]

67. Professor Carlton and Dr. Frankel acknowledge that cardholders can benefit from interchange revenue, but point out that cardholders will not receive the full amount. No doubt this is true, but this should not be a surprise. After all, issuers incur costs in supplying the rewards and other features that cardholders value. No one questions

[49] Issuers compete for cardholders via service offerings and rewards programs, which are costly to maintain. See, for example, Sarah Phelps, "Strategies for Managing Rewards Program Costs," First Annapolis *Navigator* (2/08), pp. 1-4; Megan Johnston, "It's Payback Time," 12/1/03, http://money.cnn.com/magazines/moneymag/moneymag_archive/2003/12/01/354918/index.htm (accessed 4/4/12); Nisha Ramachandran, "Harvesting Rewards," 7/31/05, http://www.usnews.com/usnews/biztech/articles/050808/8rewards_4.htm (accessed 4/4/12).

that *some* portion of interchange revenue is passed on to consumers. Similarly, no one can question that there is not intense competition among issuers – and that as a consequence millions of cardholders take note of and value the rewards and other features that their cards provide.

68. In addition, because there are two sides to the credit card business, cardholders are not the only beneficiaries of an increase in interchange rates. Merchants also benefit because they gain incremental sales from the heightened propensity of cardholders to purchase goods and services.[50]

69. In the magazine industry, advertisers pay more so that subscribers may pay less. This increases the number of subscribers and thereby makes advertising in the magazine more valuable. Similarly, in the credit card industry, card usage is increased by low fees to cardholders (or even negative fees once reward programs are taken into account) and higher fees to merchants.[51] In the case of both magazines and payment cards, less asymmetry in fees would diminish volume.

70. Based on the Notice of Application, the Commissioner appears to argue that interchange rates, instead of being a balancing device that sustains large customer

[50] See Sumit Agarwal, Sujit Chakravorti, and Anna Lunn, "Why Do Banks Reward their Customers to Use their Credit Cards?" Federal Reserve Bank of Chicago Working Paper 2010-19 (12/20/10); and Andrew Ching and Fumiko Hayashi, "Payment Card Rewards Programs and Consumer Payment Choice," *Journal of Banking & Finance* 34 (2010), p. 1773.

[51] According to a July 2009 survey of Canadian adults conducted by the Bank of Canada, "60 percent [of survey respondents] pay monthly fees, 72 percent have more than 20 free debit transactions and 66 percent of those paying monthly fees have more than 20 free transactions. In terms of credit card plans, the data shows that consumers are divided into those with no annual fees but high interest rates, many whom use their credit cards for convenience as they pay their credit card balances in full at the end of the month. In particular, 62 percent of the survey respondents do not pay annual fees, 63 percent face 15-20 percent interest rates or higher and 59 percent have paid their balance in full at the time of the survey. Finally, among those that have access to a credit card, 71 percent have some type of reward program … amongst the respondents there were 178 different credit card types. Of these, roughly 50 percent are associated with some sort of *ad valorem* reward program which either falls in the broad category of: cash-back, reward points redeemable for a selection of merchandise, travel or gift cards, and air miles principally for travel, but which may also be converted to merchandise." Carlos Arango, Kim P. Huynh and Leonard Sabetti, "How Do You Pay? The Role of Incentives at the Point-of-Sale," Bank of Canada Working Paper 2011-23 (10/11) (hereafter "How Do You Pay?") pp. iii, 7-8.

populations on both sides of the business, are a mechanism for gouging merchants. But Visa and MasterCard do not charge the interchange rate to merchants. They do not directly sell to merchants. More fundamentally, the Commissioner ignores the benefits merchants enjoy from this balancing device, in particular the value of additional business that merchants gain from this arrangement. Economists are taught to look at cost and benefits. When it comes to card acceptance fees, the Commissioner, and Professor Carlton and Dr. Frankel, consider only the costs.

71. This case is about certain operating rules and their connection, if any, to the exercise of market power. Exercising market power is about *reducing* output relative to competitive levels. But the Respondents do not raise (or lower) their interchange rates in order to *reduce* transaction volume. When the Respondents adjust these rates, the goal is to *increase* the transaction volume over their networks. It is the relentless pursuit of network transaction volume that has made card payment systems such a robust competitor against other payment mechanisms, generating ever-increasing shares of the payment industry. Those who promote competition typically are found on the side of fostering output expansion, not reduction. After all, antitrust economists and law enforcers alike generally agree that the defining feature of anticompetitive conduct is output reduction, not expansion.

IV. Price Maintenance

A. Opening Notes

72. In this section I address the economic aspects of the Commissioner's claim that the operating rules of Visa and MasterCard constitute anticompetitive price maintenance

in violation of Section 76 of the Competition Act.[52] While an important distinction between my analysis and that of Professor Carlton and Dr. Frankel is the lack of relevance they ascribe to the two-sided nature of card payment networks, and my recognition of the importance of this framework, in my analysis of the price maintenance element of this case I do not rely on two-sided market analysis, or market definition for that matter. This is because if, as I conclude, the conduct which is the subject of the Commissioner's complaint does not constitute price maintenance, there is no need to consider whether such conduct results in an adverse effect on competition which is the element of Section 76 that I understand brings consideration of market analysis into play.

73. According to the Commissioner's theory of the case, if it were not for certain operating rules of Visa and MasterCard, merchants in Canada would be able to steer consumers away from using their premium credit cards, or for that matter from using any Visa and MasterCard credit cards, by surcharging or selectively refusing to accept the Respondents' credit cards, or by otherwise discriminating against individuals who present those cards for payment.

74. The Commissioner alleges that because these Respondents' operating rules stand in the way of merchants being able to discriminate against Visa and MasterCard cardholders, these rules constitute anticompetitive price maintenance. This characterization of these operating rules misrepresents the economic rationale and effects of these rules. The Commissioner's price maintenance claim stands apart from any conventional economic theory of anticompetitive price maintenance of

[52] An economist has no expertise in judging whether the conduct of the Respondents actually violates Section 76 of the Competition Act.

which I am aware. In apparent recognition of this conundrum, the Commissioner's experts contort the analysis by endeavoring to show that the pertinent Visa and MasterCard operating rules adversely affect competition, thereby influencing prices upward, rather than endeavoring to show that the conduct influences prices upward, thereby adversely effecting competition, which I understand to be the appropriate sequence. In what follows, I shall assess the various elements of the Commissioner's price maintenance theories.

75. First, I shall explain how economists analyze price maintenance, and how this case is incompatible with economic theory of price maintenance. Next I shall address the Commissioner's theory that the rules influence upward or discourage the reduction of prices. Finally, I will address the Commissioner's theory that the rules have an adverse effect on competition.

B. The Commissioner's Complaint is Not About Price Maintenance

76. Price maintenance is understood by economists as a business practice whereby an upstream firm constrains its customers' downstream prices. The Commissioner contends in her Notice of Application that because the Respondents enforce compliance with operating rules that prevent participating merchants from discriminating against consumers who carry their credit cards, the Respondents purportedly influence upward the price that merchants pay acquirers for card services.[53] Indeed, the Commissioner's experts argue that the "price" that is

[53] Notice of Application, ¶¶ 69, 70.

influenced upward is the price that Visa and MasterCard charge acquirers.[54] In other words, the allegation is that Visa and MasterCard's conduct influences their *own* prices upwards, which is contrary to the conventional economic perspective on price maintenance. But the transactions between acquirers and merchants are driven by competition among the acquirers for merchant accounts. Acquirers do not answer to the Respondents for their card acceptance fees. Moreover, the interchange rate is not a price that is "maintained" by the Respondents in the price that acquirers charge merchants (*i.e.*, the merchant discount or the card acceptance fees).

i. Card acceptance services are sold only once.

77. The economics of price maintenance typically focuses on the terms under which an upstream firm's product is *resold* by a downstream firm. That is, price maintenance, as an economist defines it, applies to a commercial setting in which the ownership of a product is transferred at least twice among vertically-arranged agents. The canonical example is a manufacturer who sells goods to retailers who resell those goods to consumers or end-users at some price the manufacturer seeks to maintain or control.[55] The Commissioner's price maintenance allegations try to depict the upstream relationship between the Respondents and their acquirers and the downstream relationship between the acquirers and merchants as a commercial setting where there are successive sales of the same product. The shoe does not fit.

78. Card acceptance services are performed only once for each transaction, not twice.

[54] Frankel Report, ¶ 154; Carlton Report, ¶ 64-6.

[55] Nothing changes in the analysis if there are additional agents among the vertically-arranged agents, such as a wholesaler.

Even if the dealings among Visa (or MasterCard), and an acquirer and a merchant, involve more than a single, arms-length transaction, these dealings do not involve successive sales of the same service.

ii. There is no maintenance of downstream prices.

79. Influencing one of the costs of a downstream firm – even the largest cost – is not the same thing as setting or maintaining the downstream firm's prices. If a bakery raises its price of bread as the price of wheat increases, this does not mean that wheat farmers "maintain" or set bread prices. If an electrical power company raises the price of electricity to a bakery, this does not mean the power company "maintains" or sets the retail price of pastries. Similarly, if *Hemmings Motor News* requires that advertisements meet certain standards, this may impose costs on the advertising party, but it does not "maintain" the price of that party's product downstream. The transmission of cost changes into downstream price changes is not "price maintenance" as the term is used in economic analysis.

80. For example, franchisors such as McDonald's use contractual provisions to exercise control over many important aspects of their franchisees' business operations, including appearance, hours of operation, location, and product quality.[56] There is no doubt that some of these provisions have the economic effect of increasing the costs borne by franchisees. For example, a franchisor may require that a franchisee purchase certain inputs from it or from a set of approved suppliers. The economic rationale for this is not to prevent the franchisee from offering lower prices. It is to

[56] Roger D. Blair and Francine LaFontaine, *The Economics of Franchising*, (Cambridge University Press, 2005), pp. 119-20.

prevent the franchisee from using lower cost, lower quality inputs that would harm not only the franchisor but other franchisees as well. For example, McDonald's requirement that its franchisees offer Coke as its brand of cola likely results in higher prices for soft drinks purchased separately and as part of Extra Value Meals and Happy Meals than if its franchisees could offer a lower cost, lower quality brand of cola. Yet, it would seem to strain credibility to suggest that such contractual provisions constitute "price maintenance."

81. The Commissioner and her experts may argue that, while a merchant may choose to offer free parking, free child care, or free gift wrapping, merchants have no choice but to accept and comply with the Respondents' operating rules. But the same could be said of a McDonald's franchisee: there is no choice but to offer Coke as its brand of cola. That is, a McDonald's franchisee has no choice over the brand of cola *having decided to be a McDonald's franchise*. But a prospective franchisee is free to choose whether or not to become a McDonald's franchisee. In the same way, a merchant has no choice but to comply with the operating rules once he or she has decided to accept Visa or MasterCard. But the merchant is free to choose whether or not to accept Visa or MasterCard, and many merchants in Canada do not accept Visa or MasterCard, and many accept neither.[57]

82. It also is inaccurate to characterize the interchange rate as the price that is maintained in the form of card acceptance fees. As I have previously shown, interchange rates are intra-network transfer payments that are implemented to build and sustain transaction volume in the Respondents' networks. Furthermore, the function of interchange rates

[57] Merchants who already accept these cards are also free to drop them.

is markedly uncharacteristic of prices for goods or services as economists usually define and analyze them. To illustrate, Visa has a greater share of credit card transactions in Canada than MasterCard, but MasterCard establishes a higher default interchange rate. American Express has an even higher fee for merchant participation in its network, even though American Express has a smaller share than Visa or MasterCard. As if the point needed clinching – that the interchange rate is not a price – MasterCard and Visa receive no revenue from interchange.[58]

83. Acquirers in the Visa and MasterCard networks compete with each other to provide card acceptance services for merchants. In what he calls his direct evidence, Dr. Frankel states that interchange fees affect card acceptance fees.[59] But this is true of any supplier of inputs where the input affects downstream costs. The interchange rate paid to the issuer is one of the *costs* the acquirer incurs when it performs card acceptance services on behalf of merchants and cardholders. While Visa and MasterCard directly influence interchange rates, they do not impose constraints such as a floor or a ceiling on acquirers' card acceptance fees any more than the telephone company or manufacturers of card scanning equipment set a floor or ceiling price on acquirers' card acceptance fees.[60] If the indirect effect that the interchange rate has on card acceptance fees is a form of "price maintenance," then so is the price charged by suppliers of any input. In terms of the underlying economics, nothing is added by saying an input cost increase "maintains" a price over and above saying a cost affects

[58] Witness Statement of Kevin J. Stanton, ¶ 88, and Witness statement of Brian Weiner, ¶ 21.

[59] Frankel Report, ¶¶ 95-113.

[60] In fact, Kevin J. Stanton, a representative of MasterCard testified that MasterCard does not monitor or keep a record of "card acceptance fees" paid by merchants to acquirers. Witness Statement of Kevin J. Stanton, ¶ 37.

or influences a price.

84. What the Respondents' operating rules maintain is the essential character of a general purpose payment card network by assuring that every issuer's and every consumer's credit cards are accepted on the same terms by every merchant who chooses to participate in the network, and that the consumer pays the merchant's posted price, not the posted price other consumers pay plus a merchant-determined surcharge. The Respondents' operating rules assure that consumers receive uniform treatment wherever their cards are accepted, and that their cardholder privileges are not subject to the whims of individual merchants.

85. The operating rules of Visa and MasterCard also prevent merchants from discriminating against consumers who use the networks' premium credit cards by declining them, discouraging their acceptance, or adding a surcharge to their use.[61] Premium credit cards offer consumers the most attractive rewards and have been shown to generate incremental transaction volume on the networks. The Respondents observe that consumers who carry credit cards with rewards use those cards in lieu of other credit cards and, other things equal, use them more intensively than they would use other credit cards.[62]

86. If merchants are allowed to discriminate against consumers who prefer to use credit cards, or who want to use a rewards card rather than another credit card, consumers would become uncertain about where a credit card is accepted and about the prices

[61] The Visa Infinite and MasterCard World Elite cards are singled out in the Notice of Application. See Notice of Application, ¶ 10.

[62] Kevin J. Stanton testified that the sector of consumers who typically do not carry a monthly balance on their MasterCard credit card tend to "spend more and more frequently. They also tend to expect benefits and be attracted to rewards from their payment cards." Witness Statement of Kevin J. Stanton, ¶ 106.

that apply when the card is accepted. Permitting merchants the discretion to discriminate among Respondents' cardholders opens those consumers to bait-and-switch tactics. For example, customers might then enter a store that accepts Visa, only to discover that they cannot pay with their *particular* Visa card, or that it will cost more. This would undermine core features of the Respondents' credit card networks and harm consumers whose cards would no longer be as convenient or reliable as before. The Commissioner's tenuous characterization of the Respondents' operating rules as price maintenance ignores the real economic logic of these rules: to promote and sustain the competitive character of general purpose card payment systems relative to other payment mechanisms.

87. In conventional economic analysis, when an upstream firm uses price maintenance to control a downstream price, the firm usually enters into a vertical agreement with its customers or else upholds the arrangement by issuing threats or promises to control the pricing of those customers. But neither Visa nor MasterCard enters into vertical agreements with their acquirers that control the acquirers' card acceptance fees. Nor have Visa or MasterCard issued ultimatums to their acquirers about the structure or level of card acceptance fees. The way in which cost changes, such as changes in interchange rates, get transmitted into price changes is at the discretion of acquirers.[63] Consequently, it is inaccurate and misleading to characterize the application of the rules as "price maintenance."

[63] See Witness Statement of Brian Weiner, ¶ 6, and Witness Statement of William Sheedy, ¶¶ 19 and 81.

C. Economic Theories of Price Maintenance

88. Economists recognize several economic theories that explain the use of price maintenance. Some of these theories identify procompetitive consequences while others identify anticompetitive effects. The direct effect of price maintenance is to limit "intrabrand" price competition among a firm's downstream resellers. Were this limitation the only consequence of price maintenance, a textbook analysis would suggest that consumers would likely be harmed. But in many situations, curtailing intrabrand price competition among downstream firms has the effect of inducing both intrabrand and (especially) interbrand non-price competition that enhances consumer welfare. Thus, the task for economic analysis in these cases is to compare and evaluate the effect of reduced intrabrand competition downstream and the effect of enhanced intra- and inter- brand non-price competition to determine whether price maintenance enhances or harms consumer welfare.[64]

89. The Commissioner's allegations about price maintenance do not rely on any of the conventional economic theories of anticompetitive price maintenance. And the experts who submitted reports on her behalf do not even attempt to show that competition has been diminished in the relevant market they propose, namely the market in which acquirers provide network services to merchants. To be sure, the

[64] This literature is reviewed in Kenneth G. Elzinga and David E. Mills, "The Economics of Resale Price Maintenance," in Wayne Dale Collins (ed.) American Bar Association, Section of Antitrust Law, *Issues in Competition Law and Policy* III (2008), pp. 1841-1880. We have applied this analysis in "*Leegin* and procompetitive resale price maintenance," *The Antitrust Bulletin* 55 (Summer 2010), p. 349. Professor Ralph Winter has made important contributions to the scholarly literature on price maintenance. See Frank Mathewson & Ralph Winter, "The Law and Economics of Resale Price Maintenance," *Review of Industrial Organization* 13 (1998), p. 57. By my exegesis, there is nothing in Professor Winter's writing on resale price maintenance that supports the Commissioner's theory of price maintenance in this matter. The maintenance of downstream prices, in Professor Winter's work, does not occur when an input price increases, but rather when a seller contracts to maintain the resale price of a product by a downstream distributor.

Commissioner and Professor Carlton and Dr. Frankel have alleged a diminution of competition, which they allege is attributable to the challenged rules. But, the competition that they allege to be diminished is not the competition among acquirers for the business of merchants. If price competition at that level were reduced, then one should observe an increase in acquirer's margins, *i.e.*, in the gap between the card acceptance fee and the interchange fee. In fact, far from arguing that competition *among acquirers* has been diminished, Professor Frankel actually relies on the proposition that competition among acquirers is robust to argue that changes in interchange rates are likely to be passed on by acquirers to merchants.[65]

90. In order to argue, as a matter of economics, that the challenged rules constitute anti-competitive price maintenance, the Commissioner and/or the economic experts supporting her case would need to show that the anticompetitive effect of diminished intrabrand price competition in the downstream market exceeds the procompetitive effect of enhanced non-price intra- and interbrand competition that the alleged price maintenance encourages. In the absence of any indication of reduced downstream competition, this inquiry strikes me as over before it starts. If there is no downstream competitive harm to be offset by benefits elsewhere, the challenged rules cannot be anticompetitive price maintenance.

91. In other words, the Commissioner's anticompetitive price maintenance claim really is not even about price maintenance. If the Commissioner believes that the Visa and MasterCard operating rules harm competition, the basis for that conclusion must lie in some other anticompetitive mechanism. It is not price maintenance. Elsewhere in

[65] See Frankel Report ¶ 96 and the sources that Professor Frankel cites therein.

my report I address the alleged anticompetitive effects of the challenged practices more generally.

D. The Price Maintenance Test

92. The Commissioner and her experts allege that the merchant restraints influence upward or discourage the reduction of the card acceptance fees paid by merchants. The implication the Commissioner and her experts draw is that absent the merchant restraints, the prices paid by merchants would be substantially lower than the prices that have existed, and that currently exist, in the presence of the so-called merchant restraints.[66]

93. One analytical test for determining if the challenged rules "influence upward or discourage the reduction" of card acceptance fees is to examine the counterfactual or "but-for" world and test whether prices would be lower if these rules were suspended. This is precisely the type of test the Commissioner and her experts propose. Unfortunately, their applications of the test are erroneous.

94. The Commissioner's and her experts' contention is that if the challenged operating rules of Visa and MasterCard were suspended, Canadian merchants could use their ability to discriminate against or among Visa and MasterCard's credit cards to pressure the Respondents to reduce default interchange rates. Here, according to the Commissioner and her experts, is how it would work: discriminatory tactics would include "selectively" accepting the Respondents' cards or surcharging some or all of those cards. This supposedly would cause some consumers to use other forms of payment in lieu of credit cards, or low-interchange credit cards in lieu of high

[66] Notice of Application, ¶ 69.

interchange credit cards in the case of discrimination against premium cards. Then, faced with contracting transaction volume on their cards, the Respondents purportedly would revise their credit card programs, concentrating on lower default interchange rates. With lower default interchange rates, the acquirers in both networks, it is suggested, would reduce card acceptance fees to the merchants they serve. As the final step in the Commissioner's hypothetical sequence of events, merchants would respond to lower card acceptance fees by reducing retail prices – so that consumers become the ultimate beneficiaries. The Commissioner and her experts characterize this chain of events, predicated on merchants' discriminatory treatment of the networks' credit cards, as supplying "competitive discipline on Card Acceptance fees."[67] This line of reasoning, however, is incorrect. Assuming merchants were permitted to discriminate among the Respondents' credit cards, and assuming merchants and consumers behaved as the Commissioner's proposed remedy conjectures, Visa and/or MasterCard might make different adjustments than those described in the Commissioner's hypothetical chain of events. For example, if merchants' discriminated against the Respondents' premium cards, reducing transaction volume on those cards, Visa and MasterCard would not necessarily shift their focus to cards with lower interchange rates. Instead of reducing default interchange rates on premium cards, the Respondents might raise default interchange rates on their other cards. This would confront merchants with the choice between surcharging *all* Visa or MasterCard credit cards or none. Faced with this decision, merchants may be reluctant to surcharge any of the Respondents' cards. If merchants

[67] Concise Statement of Economic Theory, ¶ 8; Carlton Report, ¶ 44; Frankel Report ¶ 151.

are disinclined to surcharge the Respondents' cards across-the-board, this renders more plausible that the Commissioner's remedy would create *upward* rather than downward pressure on the Respondents' default interchange rates.

95. Dr. Frankel contends that initially, card networks confronted by reduced usage of their branded cards due to surcharging, will have an economic incentive to reduce those fees that does not exist in the presence of no-surcharge rules. He points to evidence from Australia that he claims confirms this effect. According to Dr. Frankel, in Australia, American Express has reduced its card acceptance fees since 2003 by even more than Visa and MasterCard despite the fact that Visa and MasterCard interchange fees were reduced significantly by regulatory order, while American Express' fees remained unregulated (aside from elimination of no-surcharge and no-discrimination rules).[68] I find this evidence unpersuasive. While the reduction in American Express' fees may have occurred subsequent to the elimination of the no-surcharge and no-discrimination rules, Dr. Frankel provides no evidence that the elimination of those rules in turn caused the reduction in those fees. Other factors may have led to the observed reduction, such as American Express lowering fees to change the balance between the two sides of their network, to promote acceptance of American Express in segments of the economy where cards had not traditionally been accepted, or to attempt to avoid regulation.

96. Many years ago, in his study of the U.S. Robinson-Patman Act (which endeavored to regulate price differentials), F. M. Rowe warned: "If a seller by law must lower all his

[68] Frankel Report, ¶ 140.

prices or none, he will hesitate long to lower any."[69]

97. Here are two illustrations of how a remedy as extreme as the one the Commissioner seeks may have unintended consequences. The first involves a recent regulatory episode in the U.S. In 2011, the "Durbin Amendment" of the Dodd-Frank Act capped the merchant discount rate on debit card transactions in the U. S.[70] An unanticipated consequence of this law was that interchange rates that were low for some lines of business actually increased.[71] The second illustration is taken from Australia, where "regulation of interchange rates by the Reserve Bank of Australia resulted in unintended consequences including higher costs for consumers."[72] If the Commissioner's remedy were enacted, allowing across-the-board merchant discrimination against their credit cards, the unintended consequence would just as logically be that the Respondents raise some default interchange rates, causing merchant's card acceptance fees to increase rather than fall.

98. Causing an increase rather than a decrease in default interchange rates is not the only unintended consequence that could disrupt the course of events predicted by the Commissioner's proposed remedy.

99. As a *gedanken* experiment, assume that the acquirers as well as Visa and MasterCard

[69] Frederick M. Rowe, "Price Discrimination, Competition, and Confusion: Another Look at Robinson-Patman," *The Yale Law Journal* 60, no. 6 (6/1951), p. 956.

[70] See Board of Governors of the Federal Reserve System Press Release, 6/29/11, at http://www.federalreserve.gov/newsevents/press/bcreg/20110629a.htm, (accessed 4/3/12).

[71] For example, "Jim English, who works with a group of 17 vending-machine operators, says that their interchange fees have jumped from roughly six or seven cents a transaction to the federally regulated 21 cents. About 150,000 U.S. vending machines accept credit and debit cards." Many of these merchants have responded by increasing retail prices, or refusing to accept credit cards entirely. "Debit-Fee Cap Has Nasty Side Effect," *Wall Street Journal*, 12/8/11, http://online.wsj.com/article/SB10001424052970204319004577084613307585768.html (accessed 4/3/12). "Merchants now are trying to offset their higher rates by raising prices, encouraging customers to pay in cash or dropping card payments altogether."

[72] *Canadian Payments Landscape*, p. 30.

followed the script in the Commissioner's hypothetical chain of events. It would still remain to be seen to what extent merchants would pass the savings from reduced card acceptance fees along to consumers in the form of lower retail prices. Rhetorical question: why would merchants want to have interchange rates fall, and card acceptance fees reduced, if the entire cost reduction were passed on to consumers?

100. There are three reasons to believe that merchants will pocket all or some of the hypothetical reduction in interchange rates (or, for that matter, the surcharge) assuming there is a reduction in interchange rates. First, many merchants have some degree of market power in the sense that their demand curve is downward sloping, due to their size, location, or some other distinguishing characteristic.[73] When costs fall, a firm with even modest market power may not pass the entire savings on in the form of lower prices. For instance, if the wholesale price of bananas were to fall by $0.15/lb., supermarkets cannot be counted on always to reduce the retail price by $0.15/lb.

101. Second, the savings realized by merchants would be small in relation to the prices generally charged for goods and services. David Evans, Howard Chang, and Daniel D. Garcia Swartz observe that the empirical "literature on price rigidities makes it doubtful that a decrease in cost of this small magnitude would be passed on to consumers quickly."[74] The pass-through of merchants' savings to consumers was

[73] In some lines of business, merchants have a measure of market power in the sale of one good because consumers shop for bundles of several goods. Shopping for bundles of goods to reduce shopping costs, as at a supermarket, reduces consumers' in-store demand elasticities for particular goods. It is unlikely that this kind of market power poses a serious threat to competition in retail markets.

[74] 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," *Interchange Fees: the Economics and Regulation of What Merchants Pay for Cards*, Competition Policy International (2011), p. 71.

anemic when The Reserve Bank of Australia capped the interchange rates of Visa and MasterCard in 2003. These authors conclude that merchants have tended not to pass through the reduction in the merchant discount in the form of lower prices.[75]

102. Third, if consumers did not have the option to make purchases using their premium cards, those consumers might choose a different payment system that is not costless for merchants. For example, merchants who accept payment by cheques incur a cost of up to $3.00 per cheque, depending on the merchants banking arrangements. These costs are due to the nontrivial costs for processing, handling, and fraud avoidance.[76] Also, cheques can take 1-3 days to clear and "the recipient's financial institution may hold the funds beyond this period before granting clear access to funds."[77] Merchants who accept payment in cash also incur significant costs of handling, paying bank fees and the risk of theft. The 2010 Canadian Payments Landscape report indicates that merchants who accept cash incur storage costs, transactional costs (*e.g.*, cash management), opportunity costs (*e.g.*, forgone interest) and security risks for holding cash (*e.g.*, shrinkage, theft and counterfeit currency).[78] Moreover, because the Commissioner's remedy will not reach American Express, to the extent that customers shift from Visa or MasterCard to American Express, merchants are likely to pay higher card acceptance fees, as the fees that American Express imposes are generally higher than those associated with the

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[75] 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," *Interchange Fees: the Economics and Regulation of What Merchants Pay for Cards*, Competition Policy International (2011), p. 71.

[76] *Canadian Payments Landscape*, p. 8.

[77] *Canadian Payments Landscape*, p. 36.

[78] *Canadian Payments Landscape*, p. 34.

acceptance of Visa or MasterCard.

103. Both Professor Carlton and Dr. Frankel conclude that the challenged operating rules raise prices to consumers. The conclusion they draw rests on two critical assumptions. The first assumption is that a single merchant, unilaterally, has no choice but to accept a major credit card (say, a Visa card) because failure to do so would mean a loss of sales to rival merchants who stand ready to accept the card. To not accept Visa, in a Carlton-Frankel view of the world, would be unprofitable.[79] Consequently, if a single merchant tried to use the threat of dropping a particular card as a lever to force down the card acceptance fee, the threat would not be viewed as credible. The threat would only be credible if all (or some sufficient number of) rival merchants committed to drop acceptance of the card as well, so that no one merchant would lose sales to another. Economists recognize this as a collective action problem. Without collective action, the threat by a single merchant would fail.

104. In their second assumption Professor Carlton and Dr. Frankel maintain that a threat by a single merchant to surcharge a particular credit card (say one on the Visa network) *would be viewed* as a credible threat and succeed in forcing down the card acceptance fee for that card.[80] The problem here is that in collective action problems, what is sauce for the goose may also be sauce for the gander. Nowhere do Professor Carlton and Dr. Frankel explain why the threat to drop is incredible but the threat to surcharge is credible. Both are examples of a collective action problem.

105. Consider the threat by a single merchant to surcharge a particular credit card. Just

[79] Carlton Report, ¶¶ 45-6; Frankel Report, ¶¶ 69-70.

[80] Carlton Report, ¶ 64; Frankel Report, ¶¶ 141 and 147.

as in the case of the threat to drop, if that merchant surcharges and rival merchants do not, that action would be unprofitable due to the loss of sales to rivals. Of course, not every customer need scurry out of the store (or fail to return to the store at all) in order to make the surcharge unprofitable. All it takes is enough customers who are "steered" to rivals because of the charge itself, or the bad reputation the merchant would have with those customers who are disgruntled by the bait-and-switch nature of the surcharge. Whichever is the case, the consequence is that a threat to surcharge would become credible only if all (or some sufficient number) of rival merchants committed to surcharge as well, so that no one merchant would lose sales to another. Without the proper collective action, the threat by a single merchant to surcharge would fail.

106. In short, there is no coherent theory that suggests retail prices would be lower if the Respondents' operating rules were suspended, even under the Commissioner's scenario. This follows, in part, because the issuers in the Respondents' credit card networks would significantly reduce or even eliminate rewards, making credit cards less attractive for consumers to use. Even if some part of the interchange rate savings that acquirers supposedly realized under the Commissioner's scenario makes its way downstream through the hands of acquirers and merchants to consumers in the form of slightly reduced prices, the withdrawal of rewards (or increase in cardholder fees) will have an offsetting effect on these savings and effectively raise prices for consumers.

107. Consider a consumer who carries a credit card (such as Visa Infinite or MasterCard World Elite) with significant rewards. These rewards are financed in part

by interchange rates the issuer receives when the card is used. If Visa and MasterCard issuers, reduce or eliminate these rewards, consumers may substitute a Visa or MasterCard credit card without rewards – or substitute another form of payment. This will make those consumers worse off with every purchase by an amount equal to the value they attach to the forgone rewards. For example, if the premium card that consumers were accustomed to use provided a 1% cash back reward that the substitute card or other payment device does not pay, it is as though consumers faced a 1% price increase. Again, such consumers might switch to American Express to retain the foregone rewards, in which case, it is the cost to the merchants which would be expected to rise.

108. It might be the case, under the Commissioner's scenario, that those consumers who do not use credit cards would enjoy lower retail prices, if retail prices in fact actually fall. But for many merchants, non-credit card-paying consumers are a minority – even a small minority. Most of the customers of merchants such as online vendors, hotels, restaurants and airlines will not be beneficiaries of the Commissioner's intervention. Nor, for that matter, will those merchants be better off whose lines of business are especially dependent on consumers who pay with credit cards. If the course of events runs the way the Commissioner intends, and consumers no longer have the incremental incentive to spend afforded by rewards cards, or if consumers reduce their use of credit cards generally in favor of other payment mechanisms, the merchants in credit card-intensive lines of business will be worse off; they will not be beneficiaries of the Commissioner's intervention. These merchants have little to gain from the disappearance of rewards cards or from being

able to surcharge or discriminate against certain credit cards because so much of their business is transacted with credit cards.

109. It is possible that the issuers of the Respondents' cards will continue to issue rewards cards even though some merchants surcharge or refuse to accept them. In this instance, rewards cardholders will shop without the assurance that their cards will be honoured wherever Visa or MasterCard cards are accepted. Even if a merchant accepts premium cards, holders of particular cards can no longer rely on the merchant's posted prices.

110. These two changes – uncertainty about acceptance and confusion about prices – compromises the value consumers attach to their accustomed cards, undermining two core features of the Respondents' credit card networks, and as a consequence, would "harm the welfare of consumers whose credit cards would no longer be as convenient or reliable as they were before."[81] These would be unintended consequences of the Commissioner's proposed remedy**.**

i. Apples to Apples and Transaction Costs

111. Professor Carlton, Dr. Frankel and various witnesses in their statements contend that the cost to merchants of a credit card transaction is higher than the cost of a debit card or cash transaction of the same size.[82] This contention is made with such frequency that there is the danger it will be accepted as true. In point of fact, the cost comparisons are difficult to make because they are not "apples to apples."[83]

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[81] Witness Statement of Kevin J. Stanton, ¶ 142.

[82] Carlton Report, ¶ 48; Frankel Report, ¶ 28.

[83] I focus my analysis on comparisons between cash and debit cards, in that the marginal cost of credit cards (the merchant discount rate) combines transactional as well as lending costs transferred to the merchant. Because cash and debit cards do not have lending attributes, the comparison with credit cards may not be valid. Carlos Arango

112. In order to make the comparison more like "apples to apples," one should subtract lending costs from the cost of credit cards, because this is a feature of credit cards not found with cash or debit. Suppose instead of accepting credit cards and paying a 2 percent "payment processing fee," the merchant was the economic agent who extended the credit instead of the card company and one asked the question: what would the cost of lending be to the merchant? One cost of lending is the cost of nonpayment by borrowers. The Canadian Bankers Association publishes a quarterly measure of this cost for Visa and MasterCard issuers, the so-called *net loss rate* (which is defined as the total gross write off amount less recoveries divided by the total outstanding balance on an annualized basis) for the period from 2004 through 2011. During this time, the net loss rate ranged from 2.85 percent in the last quarter of 2006 to 5.38 percent in the last quarter of 2009.[84] The amount is not trivial.

113. To see how accounting for this cost would affect the comparison of the cost of credit cards versus other forms of payment, consider the example offered by Carlos Arango and Varya Taylor in their analysis of survey respondents regarding the costs of payment to the merchant for a transaction of $36.50 (the median cash transaction in the survey). By their estimates, the cost of debit is $0.19, the cost of cash is $0.25, and the cost of credit is $0.82, the latter due in large part to $0.73 in "payment processing fees" accounting for 2 percent of the transaction value (the median fee in

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and Varya Taylor noted this in their comparison of the cost of different types of payments from a survey of merchants in Canada. Carlos Arango and Varya Taylor, "Merchant Acceptance, Costs, and Perceptions of Retail Payments: A Canadian Survey," Bank of Canada Discussion Paper, 2008-12 (8/08), p. 21.

[84] "Credit Card Delinquency and Loss Statistics - Visa and MasterCard," Canadian Bankers Association, accessed 2/15/12.

the survey they considered).[85]

114. The survey used by Arango and Taylor was conducted between March and May of 2006, and, according to the Canadian Bankers Association, the annualized net loss rate for Visa and MasterCard during the two quarters ending April 30, 2006 averaged 3 percent.[86] Assume (very conservatively) that a merchant's net loss rate would be 1.5 percent of the purchase amount. In that case the cost of lending for the merchant would be 1.5 percent x $36.50 = $0.55. Thus, taking the $0.82 estimate of Arango and Taylor, and subtracting $0.55 as the cost of lending, results in a cost of credit card acceptance to the merchant of $0.27 per transaction, which is not a whole lot higher than the cost of cash ($0.25) or debit ($0.19). This analysis is conservative in that it does not account for other benefits to the merchant associated with credit cards such as any demand expansion credit cards generate that debit cards, cash, and cheques do not.

ii. Coke and Pepsi and Credit Cards

115. To illustrate his view that Visa and MasterCard operating rules increase retail prices, Dr. Frankel offers an example using the soft drink industry.[87] In his illustration, supermarkets sell Coke, Pepsi and a less popular brand of cola, such as a store brand. Initially, the cost of the store brand to the store is less than the cost of Pepsi and Coke, and the price at which the supermarket sells the store brand is less than the price it charges for Coke and Pepsi. Dr. Frankel then asks the reader to

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[85] Carlos Arango and Varya Taylor, "Merchant Acceptance, Costs, and Perceptions of Retail Payments: A Canadian Survey," Bank of Canada Discussion Paper, 2008-12 (8/08), p. 22.

[86] "Credit Card Delinquency and Loss Statistics - Visa and MasterCard," Canadian Bankers Association, accessed 2/15/12.

[87] Frankel Report, ¶¶ 120-3.

consider a situation in which Coca-Cola and Pepsi-Cola institute a rule under which supermarkets are not permitted to charge a higher price for their brands than for any other brands including the store brand. He argues that a supermarket that wanted to carry all three brands, Coke, Pepsi, and the store brand, would have to offer them at the same price.

116. A supermarket could avoid the rule by not offering Coke and Pepsi and sell only the store brand at the lower price point. Dr. Frankel notes, however, that if this supermarket's competitors continued to stock Coke and Pepsi, that would drive a significant fraction of shoppers to switch retailers. As a result, the original supermarket would lose the incremental profit that it would have earned on all of those customers' purchases, not just on soft drinks. Dr. Frankel's illustration merits reconsideration.

117. Assuming that most supermarkets continue to sell Coke and Pepsi, Dr. Frankel's contention is that the rule he hypothesizes has two effects. First, Coca-Cola and Pepsi-Cola would be able to raise their prices to the supermarket since the competitive constraint imposed by the store brand would be lessened by the rule. The consequence presumably would be higher retail prices paid by consumers of these brands. Second, consumers who buy the store brand also would pay higher prices, supposedly because the store brand exists under a higher price umbrella of the national brands of Coke and Pepsi. As a result, retail prices for all brands would be higher with the rule than without the rule.

118. Dr. Frankel's example, however, comes up short for at least three reasons. First, for purposes of evaluating a price maintenance claim, the hypothetical rule employed

by Coca-Cola and Pepsi-Cola is not the same as the "no surcharge" rule employed by Visa and MasterCard. Under the Coca-Cola and Pepsi-Cola rule, supermarkets are not permitted to charge a lower price for brands other than Coke or Pepsi. The "no surcharge" rule employed by Visa and MasterCard, however, does not restrict merchants from applying a discount for using various other payment methods. Consequently, under the "no surcharge" rule a customer who pays with cash for a purchase can be offered a discount which effectively lowers the transaction price. In other words, Dr. Frankel's example ignores the possibility (under the rules employed by Visa and MasterCard) that the store brand could be sold at a discount to Coke and Pepsi, which is an important obvious consideration in evaluating a claim of price maintenance.

119. The second reason Dr. Frankel's analogy falls short is because, unlike Coke and Pepsi, which are physical goods sold at retail by supermarkets, merchants are not in the business of supplying, or offering to supply, services provided by Visa or MasterCard or the acquirers with which merchants contract. Rather, such services are inputs into a merchant's business operations and, in this regard, are more akin to air-conditioning or electricity.

120. The third reason Dr. Frankel's example comes up short is because he does not carry it through. Dr. Frankel fails to point out that the economic forces of substitution travel along a two-way street. Consider three supermarkets in the same town (Loblaw, Safeway and Sobeys) and let the initial prices of Coke and Pepsi be $1.00 per liter and the initial prices of the store brands be $0.75 per liter. Further, suppose under Dr. Frankel's "no surcharge" rule the prices of all three brands rise to $1.25 per

liter.

121. Recall that, according to Dr. Frankel, if Loblaw fails to stock Coke and Pepsi, and that drives a significant fraction of shoppers to switch retailers, then Loblaw would lose all of the incremental profit that it would have earned on all of those customers' purchases, not just on soft drinks. This supposedly drives Loblaw to continue to stock Coke, Pepsi, and the store brand at $1.25 per liter. The same calculus also drives Safeway and Sobeys to continue to stock Coke, Pepsi, and the store brand at $1.25 per liter.

122. What Dr. Frankel fails to consider, however, is that if Loblaw dropped Coke and its store brand, then it could continue to offer Pepsi for $1.00 per liter since it would not be subject to the rule. This would now be less than the price charged by Safeway and Sobeys for Pepsi, $1.25. As a result, Loblaw would *gain* all of the incremental profit on shoppers who switch from Safeway and Sobeys to Loblaw in order to buy the attractively-priced Pepsi. Thus, consumers who wish to purchase Pepsi are no worse off under the rule. They continue to purchase it for $1.00 – only now exclusively at Loblaw instead of at Safeway or Sobeys.

123. What about consumers who wish to purchase Coke and the store brand? Initially, the price for Coke and Pepsi was constrained to be $1.00 per liter due to the competition between them and the store brand. That constraint is back in place, because Pepsi is now available at Loblaw for a price of $1.00. This means Safeway and Sobeys cannot continue to sell Coke and Pepsi at $1.25. To the extent some consumers prefer Coke to Pepsi, one chain, say Sobeys, will drop Pepsi and its store brand, and continue to offer Coke for $1.00 per liter since it will not be subject to the

rule. To the extent some consumers prefer the store brand at $0.75 to either Coke or Pepsi at $1.00, one chain, say Safeway, will drop Coke and Pepsi, and continue to offer its store brand for $0.75 per liter since it will not be subject to the rule. In the end, retail prices are the same under the rule as without the rule. *In other words, the Coca-Cola and Pepsi-Cola "no surcharge" rule has no upward effect on retail prices.*

124. Let's go from soft drinks back to credit cards, because the same economic logic applies to methods of payments. Suppose, for purposes of argument, that Visa and MasterCard credit cards are more costly to merchants than other forms of payments and the operating rules result in the retailers increasing prices to all customers. While a merchant who drops Visa and MasterCard may lose customers, it gains a competitive advantage over its rivals who continue to accept those cards through the ability to offer lower prices. Consumers who value the ability to pay using cards on the Visa or MasterCard networks will patronize merchants who accept those cards. Consumers who value lower prices over the ability to pay for their purchases on the Visa or MasterCard networks will patronize merchants who do not accept these cards, and therefore will not be injured by the rules.

125. This suggests that the real reason so many merchants accept credit cards is not because they have no choice. It is, rather, because credit cards offer value to the merchants. As just explained in my report, the cost to a merchant of accepting credit cards is not that much different than for cash and debit. The benefits of credit cards often are greater than cash or debit.

126. The Commissioner's presumption about the credit card industry is that the only

meaningful competition between credit card networks and other payment systems is at the point of sale – and that the operating rules of Visa and MasterCard are a barrier to effective competition among payment mechanisms. This supposition ignores the inter-network competition that occurs on the cardholder side of the two-sided market, where issuers compete with each other to issue cards and promote their use by consumers, and where the networks compete to induce issuers to promote their own card programs. In his soft drink example, Dr. Frankel ignores this competition on the cardholder side because interchange rates help fuel that competition.

E. The Adverse Effect on Competition Test

127. The Commissioner alleges that the so-called merchant restraints implemented and enforced by the Respondents in their arrangements with acquirers have had, are having, or are likely to have an adverse effect on competition in the market for the supply of credit card network services.[88]

128. As I understand competition policy in Canada, an adverse effect on competition could come through the creation of market power, the preservation of existing market power, or the further enhancement of existing market power. This case, essentially, is about alleged preservation. One analytical test for determining if the rules have a preservative effect on market power is to examine whether they allow Visa and/or MasterCard to possess and exercise "market power" in the first place. If not, there is nothing to preserve.

129. The Commissioner contends that Visa and MasterCard each have market power in

[88] Notice of Application, ¶ 79.

the supply of credit card network services in Canada.[89] She bases this in part on her observation that Visa and MasterCard each represent a significant proportion of the supply of credit card network services in Canada. Visa represents at least 60% and MasterCard at least 30% of all purchases made on credit cards in Canada, with American Express accounting for the majority of the remaining credit card purchases.[90] Professor Carlton and Dr. Frankel (in particular) also allege that the contested operating rules have an adverse effect on competition by preserving market power that, they claim, Visa and MasterCard already possess.[91]

130. In economic parlance, the term “market power” refers to how much control a firm has over the prices it charges.[92] In the textbook version of perfect competition, individual firms cannot choose what price to charge for their product because “the market” sets the price. These firms are referred to as “price takers.” In teaching introductory economics, I often use farmers who grow and sell wheat as examples of price takers. No wheat grower individually can affect the market price because there are so many growers, none of whom accounts for a sizable share of total sales. Lacking the ability to influence prices, wheat growers individually are without market power.

131. The majority of commerce, however, does not take place in an environment of perfect competition. It takes place in markets where competition is “imperfect,”

[89] Notice of Application, ¶ 88.

[90] Notice of Application, ¶ 89.

[91] Carlton Report, ¶ 66-7; Frankel Report ¶ 88 and 90.

[92] Monopoly power sometimes is distinguished from market power. Technically, a monopolist is the sole seller of a good. But a firm need not be the only seller in the market to have monopoly power. The distinction between the two terms is not critical to the analysis in this report.

because firms produce products that are differentiated. As a result, these firms have some control over their prices. Unlike a wheat farmer, such firms can raise prices somewhat without losing all their customers, and they can lower prices somewhat without being completely overrun by customers. Because product differentiation is so common in North America, many business firms possess some measure of market power.

132. Although market power gives a firm some control over its prices, this usually does not pose a threat to competition, as Louis Kaplow and Carl Shapiro explain:[93]

> In practice almost all firms have some degree of technical market power. Although the notion of a perfectly competitive market is extremely useful as a theoretical construct, most real-world markets depart at least somewhat from this ideal. An important reason for this phenomenon is that marginal cost is often below average cost, most notably for products with high fixed costs and few or no capacity constraints, such as computer software, books, music, and movies. In such cases, price must exceed marginal cost for firms to remain viable in the long run.

133. Market power matters when a firm's market power threatens competition by insulating the firm's pricing decisions from the restraining influence of competing firms. Unless a firm's market power is so great that its pricing decisions are free from the restraining influence of rival firms – existing competitors as well as new entrants – the firm's market power is of no consequence to antitrust or competition regulators.

[93] Louis Kaplow and Carl Shapiro, "Antitrust," ch. 15 in *Handbook of Law and Economics,* v. 2 (Amsterdam: North Holland, 2011), p. 1079.

i) Economic Approach to Market Power: Two Sides of the Same Coin

134. To assess whether a firm has sufficient market power to threaten competition,[94] economists usually engage in two kinds of inquiry. The first involves examining the conduct and performance of the firm (or firms) under consideration. The question here becomes: does this firm exhibit behavior that is anticompetitive? This is the "by their fruits ye shall know them" strand of analysis. The second strand of analysis involves examining the market conditions in which the firm operates. Here one asks: given the structure of the market, does an allegation of significant market power make "economic sense"?[95] The two strands are not mutually exclusive. In most real world analyses of alleged market power, both methods are used.

135. The Commissioner's Notice of Application and the expert reports of Professor Carlton and Dr. Frankel reflect both strands of analysis. The Notice also claims that by enforcing certain operating rules, the Respondents maintain or enhance market power.[96] The Notice claims that this alleged market power is further demonstrated by structural indicia.[97]

136. In claiming that the Respondents' allegedly problematic market power is laid bare by the structure of the market, the Commissioner focuses on the Respondents' market shares and on purported barriers to entry. This is an incomplete approach because it

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[94] For example, through the imposition of rules as alleged by the Commissioner.

[95] "Economic sense" is the expression used by the United States Supreme Court as an appropriate analytical filter. Given the structure of the market, if the disputed conduct makes no "economic sense" as an anticompetitive strategy, the matter is dropped. See *Matsushita Elec. Industrial Co. v. Zenith Radio*, 475 U.S. 574, 587 (1986).

[96] The Commissioner and her experts also claim that price discrimination is an indication of market power. I address price discrimination in section V.C.vi of my report.

[97] The Notice of Application addresses market structure in ¶¶ 1, 9, and 92, and the operating rules of Visa and MasterCard, which involve firm conduct, in ¶¶ 15 and 53-56. The Concise Statement of Economic Theory also addresses market structure in ¶¶ 1 and 11, and market conduct in ¶¶ 6-7 and 12.

neglects a third indicator of problematic market power, namely the supply elasticity of rival firms. It also relies on the wrong share data.

ii) Structural Indicators of Alleged Market Power

137. Proving market power is something like sitting on a three-legged stool. I bring such a stool to class to illustrate the concept that there are three necessary elements to proving that a firm has enough market power to worry about. The three legs are:

1: the firm in question must have a large share of the market;

2: the supply elasticity of other firms in the market must be small;

3: there must be barriers to new entry

138. In order for a firm to have substantial market power, *i.e.*, be able to raise its price without provoking a response that undermines the effort, all three legs of the stool must be in place. Just as gravity makes a stool with less than three legs unstable, competition undermines a claim of market power if one of these legs is missing. This is why a three-legged stool is a fitting analogy. If one of the legs of the stool is missing, you cannot sit on the stool.

a. Market Share

139. The Notice of Application ascribes to Visa "at least 60%" and to MasterCard "at least 30%" of "purchases made on credit cards in Canada."[98] By defining the relevant market as "the supply in Canada of credit card network services,"[99] the Commissioner concludes that the Respondents' combined SOM (share of market) of "more than

[98] Notice of Application, ¶ 89.

[99] Notice of Application, ¶ 80.

90%" means "Visa and MasterCard each have market power" in the relevant market so-defined.[100]

140. By focusing exclusively on these individual and combined market share figures, the Commissioner neglects to take stock of the vigorous competition *between* the Visa and MasterCard networks in every aspect of the payment card business. Specifically, the Commissioner fails to account for the competition between Visa and MasterCard to persuade issuers to issue their cards, and for the competition among issuers in the two networks to persuade consumers to carry and use their cards. Nor does the Commissioner take into account the competition *between* Visa and MasterCard for merchant acceptance. The fact that the networks compete with each other to persuade cardholders to use their own cards and not another card, also is not reflected in the Commissioner's individual and combined market share figures. To infer on the basis of these share figures that Visa establishes its interchange rates and drafts its operating rules without regard to competitive reaction from MasterCard, or vice versa, is simply wrong.

141. Emphasizing the combined SOM of Visa and MasterCard also has the consequence of deemphasizing the fact that the Respondents compete with other card and non-card payment mechanisms in Canada. Kevin Stanton testifies that MasterCard considers its "'competitive positioning' against other forms of payment as one of the factors when establishing default interchange rates."[101] These payment mechanisms include but are not limited to other credit cards such as American

[100] Notice of Application, ¶¶ 1 and 88-9.

[101] Witness Statement of Kevin J. Stanton, ¶ 100.

Express, debit cards, proprietary and pre-paid cards, cash, chequeing and automated funds transfer (AFT) systems.[102] A SOM figure that does not reflect the contours of competition among these payment mechanisms is an unreliable indicator of market power.

142. In making a case for her narrow market definition, the Commissioner claims to apply what is known as the hypothetical monopolist test.[103] This procedure defines a relevant market as the smallest set of products over which a hypothetical single provider could profitably impose a significant increase in price.[104] To apply the test, one considers a candidate set of firms and products and asks if a hypothetical monopolist over the products could sustain a small but significant non-transitory increase in price – and profit from the endeavor.[105] If there is sufficient substitution away from the candidate products to other products that renders the price increase unprofitable, then the initial set of firms and products is too narrow to be a market. More products – specifically those products that are the closest substitutes for the initial products – should be included and the process repeated until a collection of firms and products is found that could sustain a small but significant non-transitory increase in price that is profitable.

[102] Brian Weiner, a representative of Visa, testified that "Visa has actively studied the substitutability of other forms of payment and used the results to guide its business strategy…Visa Canada also views e-commerce/mobile alternative payment providers like PayPal as a significant competitive threat." Witness Statement of Brian Weiner, ¶¶ 10-11. See also ¶ 7, and Witness Statement of William Sheedy, ¶ 29.

[103] Notice of Application, ¶ 83.

[104] This test is used by the Canadian Competition Bureau, *Merger Enforcement Guidelines*, issued 9/1/04 (revised 10/6/11), ¶ 4.3.

[105] Drawing on the initials of the phrase, Small but Significant Non-transitory Increase in Price, the test is sometimes called the SSNIP test. Canadian Competition Bureau, *Merger Enforcement Guidelines*, issued 9/1/04 (revised 10/6/11), ¶ 4.3.

143. The Commissioner puts it this way: "Under the hypothetical monopolist test of a proposed relevant market, the question is whether a hypothetical monopolist in the market could profitably raise its price by a small but significant amount (usually taken to be 5%), for a non-transitory period of time. If customers would substitute other products in sufficient amounts to render such a price increase unprofitable, then the proposed relevant product market should be expanded to include such substitutes."[106] This is an accurate statement of this market definition test. It is in the execution of the test that the Commissioner errs. In the Notice of Application, where the Commissioner claims to apply the hypothetical monopolist approach, there is no attempt to apply the methodology quantitatively.[107] The Notice of Application simply asserts: "Even a large increase in card acceptance fees . . . would not provide a meaningful incentive for merchants to cease accepting the Respondents' credit cards."[108]

144. The Commissioner's relevant market analysis applies the logic of the hypothetical monopolist test to the question of whether *merchants* could defeat a hypothetical increase in interchange rates by processing transactions using "another method of payment, such as a wire transfer or text message."[109] This is the wrong question to ask – for two reasons.

145. First, the Commissioner applies the logic of the hypothetical monopolist test only to the question of whether *merchant* decisions could defeat a hypothetical increase in

[106] Reply of the Commissioner of Competition, ¶ 8.

[107] Notice of Application, ¶ 83.

[108] Notice of Application, ¶ 83.

[109] Reply of the Commissioner of Competition, ¶ 10.

interchange rates.[110] This means the hypothetical monopolist test is applied only to one side of the two-sided market. As a result, the test is flawed because the role of competition on the other side of the market is neglected. This would be the equivalent of concluding that *Hemmings Motor News* gouges advertisers because they pay high rates to place ads in the magazine while failing to observe that readers are drawn to the magazine in droves by low subscription prices. Focusing on transactions on one side of a two-sided business, and ignoring transactions on the other side, is misleading. By limiting the hypothetical monopolist analysis to the merchant side of the business, the Commissioner draws the contours of market competition too narrowly.

146. The second reason the Commissioner asks the wrong question is this: even if the hypothetical monopolist test were to be applied only to the merchant side of this two-sided market, the relevant decision maker is not the merchant but the consumer. While a merchant decides whether to accept Visa or MasterCard credit card as a method of payment *across the board*, consumers are the ones who decide whether to use a credit card or an alternative payment mechanism when making a specific purchase.

147. In other words, the competition in which the Commissioner wants a larger role for merchants is the competition for consumers' choices among payment mechanisms when consumers are in the act of purchasing goods and services from merchants. To see whether the Commissioner's proposed credit card market passes the "one-sided hypothetical monopolist test," would mean investigating how tenaciously consumers

[110] Notice of Application, ¶ 27.

would cling to their credit cards if it meant paying 5% or 10% more than with an alternative payment mechanism at the point of sale.

148. The Commissioner argues that permitting merchants to impose surcharges on credit card purchases large enough to shift the interchange rate component of card acceptance fees onto consumers would induce many consumers to switch to alternative payment mechanisms. According to the Commissioner, surcharges of this magnitude would be so costly for the Respondents (in terms of reduced transaction volume) that they would reduce interchange rates in order to prevent such a loss in consumer patronage.

149. To apply this line of reasoning, but to keep the arithmetic simple, imagine a situation where a merchant imposes a surcharge on every credit card purchase equal to the interchange rate component of the card acceptance fee that the merchant pays its acquirer. Let the merchant's cash price for an item be $100. If a consumer pays for an item using a premium credit card that has a 2% interchange rate, the consumer must pay $102. If the $2 surcharge would cause so many consumers to switch to paying with cash that the credit card networks would reduce their default exchange rates, this would mean that a 2% increase in the price of "paying with a credit card" cannot be profitably sustained. In other words, a hypothetical credit card network monopolist could not sustain a 2% price increase – let alone a 5% or 10% price increase.

150. In such a circumstance, the Commissioner's proposed credit card market would fail this one-sided hypothetical monopolist test. The test's own economic logic would imply that the relevant market must include at least those payment mechanisms

that would threaten credit card transaction volume if merchants were to impose surcharges. This line of reasoning means Respondents' credit cards would compete in a broader relevant market than the one the Commissioner proposes.

151. In any first-leg-of-the-stool analysis, the analytical weight that can be attached to market share statistics is a function of the confidence one has in the relevant market definition from which the SOM is derived. Visa's "share" or MasterCard's "share" of anything other than a proper market is economically irrelevant.[111] The Commissioner has proffered a relevant market that extends no further than general purpose credit cards. It excludes debit cards and every other form of payment, including proprietary and prepaid cards, cheques, cash, and various electronic payment methods. In her relevant market, the Commissioner makes no mention of emerging payment technologies.

152. A properly defined relevant market should include all substitutes that supply a meaningful constraint on the pricing of a prospective monopolist. To that end, consider the other payment options consumers and small businesses have at their disposal in Canada. If the Commissioner's proposed credit card relevant market is expanded just to include debit cards, Visa's credit card share of consumer and small business transactions by dollar volume is 38% in 2009. Similarly, MasterCard's credit card share of these transactions by dollar volume is 19% in 2009.[112] These

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[111] Business people may sometimes talk about "market share" of product segments that do not map properly defined economic markets. These calculations may be useful for corporate planning purposes, but they do not properly define relevant markets for antitrust purposes.

[112] The shares of payment types were taken from the *Canadian Payments Landscape*, p. 21. The share of Visa, MasterCard, and American Express were calculated using their relative volumes as reported in *The Nilson Report* 944 (3/10). The *Canadian Payments Landscape* reports credit cards used by consumers and small businesses.

SOMs remain nontrivial, but neither Visa nor MasterCard has a majority share when the relevant market is expanded to include debit cards.

153. Of course, credit and debit cards are not the only payment options consumers may use to consummate transactions. Exhibit 1 presents shares of various payment mechanisms. In 2009, cheques accounted for 18% of the dollar value of all consumer and small business transactions in Canada, while cash accounted for 7%. Automated funds transfer through the Canadian Payments Association accounted for 48%. Together, Visa and MasterCard's shares total 12% of a market that embraces these payment alternatives. These figures are markedly below the threshold that would signal significant market power.

154. These share figures for the credit card segment do not include either proprietary cards or Discover (which is accepted at a number of merchants in Canada) as the *Nilson Report* does not provide data on these credit cards for Canada. There are numerous merchants with proprietary cards in Canada, such as Best Buy, Birks, The Brick, Home Depot, Home Hardware, Hudson's Bay Company, IKEA, Sears (whose card can also be used at Petro Canada gas stations and PHARMASAVE pharmacies), and Staples.[113]

[113] Home Depot http://www.homedepot.ca/content/credit-centre (accessed 4/3/12), Sears http://www.searsfinancial.ca/CreditCards/AboutSearsCreditCards.aspx (accessed 4/3/12) and http://retail.petro-canada.ca/en/petropoints/170.aspx (accessed 4/3/12), Best Buy http://www.bestbuy.ca/en-CA/bbycard.aspx?path=982bd80b502b2f2b75362baa1a641036en99 (accessed 4/3/12), Hudson's Bay Company http://financial.hbc.com/en/credit/benefits.shtml (accessed 4/3/12), Birks http://www.birks.com/en/static/info/credit.htm (accessed 4/3/12), The Brick http://www1.thebrick.com/brickb2c/jsp/ancillary/bodyOnlyTemplate.jsp;jsessionid=C7647A5306998EA2A64ACC394C69CE30.app2ps2?pageName=brick_card&_requestid=884634 (accessed 4/3/12), Home Hardware http://www.homehardware.ca/en/index/home-credit-card.htm (accessed 4/3/12) , IKEA http://www.ikea.com/ms/en_CA/customer_service/ikea_card/IKEA_card.html (accessed 4/3/12), Staples http://www.staples.ca/ENG/Static/static_pages.asp?pagename=creditcentre (accessed 4/3/12).

155. While the Commissioner never acknowledges substitutability between cash or cheques and payment cards, Visa and MasterCard certainly do. Both Visa[114] and MasterCard[115] executives described cash as a competitor for their products; both Visa[116] and MasterCard[117] have adopted product innovations in Canada that improve their ability to handle transactions formerly done predominantly with cash. One of these is eliminating the need for a cardholder's signature on small purchases, another is developing contactless systems.

156. The results of a 2009 Bank of Canada survey on payment choice are consistent with a broader market for payments. In an analysis based on the survey data, Carlos Arango, Kim P. Huynh, and Leonard Sabetti compare payment type choices across various types of consumers.[118] Their analysis shows an "average payment profile where cash dominates for payments below 25 dollars. Above this range, credit and

[114] Witness Statement of Brian Weiner, ¶¶ 7-10 and Witness Statement of William Sheedy, ¶ 29.

[115] Witness Statement of Kevin J. Stanton, ¶ 51.

[116] See "In Pursuit of the Small Ticket," *Chain Store Age*, 12/1/05; "Visa Reports More Consumers Are Using Its Payment Cards for Small Ticket Items," *Wireless News Closeup*, 8/25/06; "More and More Consumers Use Visa to Make Small Purchases; New Survey Reveals Generation 'P' Leads Migration to Payment Cards for Purchases Under $25," *Business Wire*, 8/24/06; and "Visa Takes a Bite out of Small Ticket Payments," *Business Wire*, 9/28/06; Visa payWave "Visa payWave is a convenient feature that lets you pay with your Visa® card simply by waving it over a secure reader instead of inserting or swiping it. The purchase will then be authorized, processed and billed in the same secure way it is today." http://www.visa.ca/en/personal/visa-paywave/index.jsp (accessed 4/3/12).

[117] See MasterCard PayPass http://www.mastercard.ca/paypass.html (accessed 4/3/12). "PayPass is a payment method that lets you make everyday purchases without having to swipe the magnetic strip on your card or provide your signature*. It's faster than fumbling with paper money or waiting for change, and it makes checkout easier than ever. All you have to do is Tap & Go™."

[118] Though the 2009 survey includes cheques, this analysis is limited to cash, debit, and credit. "How Do You Pay?," p. 6. The 2009 survey was "a two-part survey among adult Canadians containing a detailed questionnaire and a three-day shopping diary." "How Do You Pay?," p. iii. "The sample was drawn from two access panels; an online panel of about 200,000 households, from which 2,000 diaries were targeted, and an offline mail out panel with close to 50,000 households, from which 1,000 diaries were targeted…Stratified random samples of adults 18 to 75 years old were drawn from both panels in order to meet quota targets towards a national representative sample. The surveys were sent out in waves spread out across different days of November 2009, so that the diaries could be representative of a month's worth of transactional data." "How Do You Pay?," p. 4.

debit cards are the preferred payment instruments but neither dominates."[119] The Arango-Huynh-Sabetti analysis shows similar patterns when the sample is limited to the "*credit card intensive user*." Though "credit card usage starts to increase at transaction values as low as 25 dollars,"[120] the probability of using a debit card remains higher than the probability of using a credit card for transactions less than $50. This customer is also likely to prefer cash or debit for lower value transactions.[121]

157. The 2009 Bank of Canada survey shows that cardholders, including those who use their cards regularly, are not locked-in to credit cards as a means of buying goods and services. They demonstrate that excluding non-card payment systems from the relevant market is a mistake because consumers regard these means of payments as substitutes. The survey also did not include forms of payment that provide additional competition to traditional forms of payment, such as digital wallets, also known as e-wallets. These wallets are software that can hold digital cash, billing, shipping, and payment information that allow users to make electronic commerce transactions quickly and securely.[122] The most well-known provider of these wallets is PayPal, which has over 4 million active accounts in Canada, although both Facebook and Google offer such wallets as well.[123] While digital wallets have been utilized for online commerce, developments in technology indicate they will be available for use

[119] "How Do You Pay?," pp. 13-4.

[120] This is an individual who pays credit card annual fees, earns rewards but does not pay a debit monthly fee and does not receive free debit transactions. Italics in original. "How Do You Pay?," pp. 15.

[121] "How Do You Pay?," Figure 6, p. 35.

[122] *Canadian Payments Landscape,* p. 69.

[123] *Canadian Payments Landscape,* pp. 145-8.

offline as well.[124] MasterCard gathers competitive intelligence on the development of these payment systems to consider its position in the market.[125] When these substitutes are accounted for, Visa and MasterCard's SOMs are not sufficiently high to raise concerns about the market power. This itself calls into questions whether Visa or MasterCard could have attributed to them significant market power.

158. Dr. Frankel contends that merchants who accept Visa and MasterCard credit cards cannot effectively substitute other payment methods because Respondents' credit cards have distinct attributes from the perspective of the merchants' customers. These distinguishing characteristics include deferred payment, revolving credit, protection against fraudulent transactions, and the ability to make purchases remotely.[126] Product differentiation alone, however, is not enough to conclude that the relevant market is limited to credit card network services. Dr. Frankel adds that credit cards cost more for a merchant to process than debit cards and this supposedly underscores the case for a distinct relevant market for credit cards.[127]

159. Many products do not sell for the same price and they have differentiating characteristics but nonetheless belong in the same relevant product market. An example is beer, where there are many different varieties (*e.g.*, light versus dark) and different price points (*e.g.*, premium vs. popular-priced). Yet, the various brands and types of beer are sufficiently good demand-side substitutes that the relevant product

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[124] See "Digital Wallets are coming to Canada." http://www.backbonemag.com/Magazine/2011-09/digital-wallets-are-coming-to-canada.aspx (accessed 4/3/12).

[125] See MCW_CCB_00061187-8 and MCW_CCB00124160.

[126] Frankel Report, ¶ 64.

[127] Frankel Report, ¶ 66. Professor Carlton also claims that the price differences between payment mechanisms augurs for lodging credit cards in a separate relevant market. See Carlton Report, ¶ 46.

market in which to analyze the conduct of one or more brewers is comprised of all beer.[128] There are many other examples, such as textbooks, coffee, bread, women's fashion accessories, disposable diapers, and photocopiers. This point is recognized in the Canadian Merger Enforcement Guidelines where dollars are used to calculate market shares in the case of differentiated products.[129]

160. Dr. Frankel also claims that merchant cards (*i.e.*, proprietary cards) are not substitutes for Visa and MasterCard credit cards because they can only be used at a single merchant's location.[130] I do not understand this claim. Returning to Dr. Frankel's example of soft drinks, a consumer can only buy Safeway's store brand of cola at a Safeway store in Canada; one cannot purchase this product at Loblaw or Sobeys. But this does not mean the price of Safeway's store brand does not constrain the price of Coke and Pepsi at rival stores – even stores that do not offer a store brand soft drink. Not all retailers must offer a store brand in order for competition in the soft drink industry to work.

161. There is another point about proprietary cards that is worth making, in the context of the Commissioner's affection for surcharging and the endorsement of surcharging by Professor Carlton and Dr. Frankel. I am aware of no retailer who offers a store card, (*i.e.*, a proprietary card) who places a surcharge on the use of *its* card, or offers a discount to customers who pay cash or pay with a cheque instead of using the store's

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[128] See Kenneth G. Elzinga, "Beer," in *The Structure of American Industry,* 12th ed., James Brock, ed. (Upper Saddle River, NJ: Pearson Prentice Hall, 2009).

[129] Canadian Competition Bureau, *Merger Enforcement Guidelines*, ¶ 5.5, issued 9/1/04 (revised 10/6/11).

[130] Frankel Report ¶¶ 67-68. This is not always the case. For example, the Sears store card in Canada is accepted at Sears as well as "partners" such as Petro-Canada (gas stations) and PHARMASAVE (pharmacies) and the cardholder can earn points at the partners as well. See http://searscard.sears.ca/compare.html (accessed 4/3/12).

proprietary card. Furthermore, I know of no retailers who offer their own cards then communicates to *their* customers, "we want to avoid the subsidization of some of our customers by other customers of ours, so we are actively discriminating against those customers who use our store card and discriminating in favor of those who pay by cash/cheque/debit card by placing a surcharge over and above our posted prices to be paid by these customers using our store card." Retailers with their own proprietary cards do not inform their customers of this discrimination and then charge their cardholders more at the POS or by offering a discount at that point if the store's card is not used. Need one wonder why?

162. Dr. Frankel contends that the threat to a merchant of losing significant sales and profits from declining to accept credit cards makes merchants' demand inelastic with respect to price.[131] This analysis is incomplete. If the Commissioner's hypothesis is correct (that accepting credit cards leads to higher prices for all consumers) then a merchant who declines to accept credit cards should be able to lower price to customers and *gain* sales and profits at the expense of other merchants who continue to accept credit cards and charge higher prices.

163. According to Dr. Frankel, his analysis demonstrates why the hypothetical monopolist test indicates the relevant market is limited to credit card network services. He contends that a five percent increase in the card acceptance fee from say, 2 percent to 2.1 percent, will not lead merchants to drop acceptance of Visa or MasterCard credit cards.[132] This raises a question my students might ask: what is

[131] Frankel Report, ¶ 70.

[132] Frankel Report, ¶ 73.

keeping the card acceptance fee at 2 percent if, as Dr. Frankel contends, Visa and MasterCard have significant market power, face an inelastic demand from the merchants they serve, and are protected from entry? Dr. Frankel seems to acknowledge that Visa and MasterCard are, by his count, leaving money on the table. His footnote 96 reads: "This analysis also suggests that MasterCard and Visa retain significant unexploited market power."

164. Economists are usually left uncomfortable by claims of unexploited market power. We are trained to be skeptical of accounts of money being left on the table. By Occam's razor, the more robust explanation would be: Visa and MasterCard, in their competition with each other and with other payment systems, have no choice but to leave money on the table, because they do not have the economic clout to exploit the demand inelasticity that Dr. Frankel attributes to them. Dr. Frankel claims that the demand for each network's credit card is inelastic[133] but then offers no explanation that I find convincing as to why prices are not even higher. To me, the answer is clear: in contrast to the Commissioner's allegations, competition between Visa and MasterCard (and with American Express and other payment mechanisms) is working sufficiently well to constrain credit card acceptance fees.

b. Supply Elasticity

165. If a firm has competitors able to expand output substantially and in a timely manner in response to a price increase, this means those firms have a high elasticity of supply. Elasticity of supply, like elasticity of demand, is a measure of

[133] Frankel Report, ¶¶ 100-107.

responsiveness, in this instance of a firm's output to changes in price.[134] The absence of rivals capable of such a supply response is the second leg of the three-legged stool.

166. If a firm's rivals have substantial excess production capacity, even a dominant firm might be unable to maintain high prices. This is because any attempt by the firm in question to curtail its output level (in order to raise prices above the competitive level) would invite rivals to expand their output promptly in order to take advantage of the higher prices. The ability of rivals to expand output in a timely fashion, and their financial incentive to do so, would keep the firm that tried to raise prices from being able to sustain the price increase.

167. The Notice of Application and the reports by Professor Carlton and Dr. Frankel ignore the second leg of the market power stool. While pointing to high purported SOMs for Visa and MasterCard, they do not examine the supply elasticity of competitors – or of Visa or MasterCard competing against each other. Let me fill this gap.

168. One way to appraise supply elasticity for credit cards is to examine the ability of payment card systems to accommodate a significant increase in transaction volume and do so in a timely manner. This ability can be judged by observing how much credit card transaction volume fluctuates from quarter-to-quarter.[135] Significant swings in transaction volume suggest that payment card systems have the supply

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[134] Formally, supply elasticity is defined as the percentage change in a firm's output divided by the percentage change in the firm's price.

[135] For example, the networks need excess capacity in order to handle the holiday rush. "The holiday shopping season is the busiest time for Visa's processing technology, and Visa engineers conduct annual simulations in the summer to "stress test" the system to ensure it will operate flawlessly - even at rates far above the projected peak for the coming season." See "Visa Payment Network Processes Record 179 Million Transactions on Peak Day As Holiday Shoppers Turn To Visa Instead of Cash or Checks," http://corporate.visa.com/media-center/press-releases/press604.jsp (accessed 4/6/12).

elasticity necessary to replace an output contraction by a rival attempting to exercise market power.[136] MasterCard appears to have significant excess capacity. As MasterCard has publicly stated, "The network typically operates at under 80% capacity and can handle more than 160 million transactions per hour with an average network response time of 130 milliseconds."[137]

169. Exhibits 2, 3 and 4 show how credit card transaction volume fluctuates from one quarter to the next for Visa, MasterCard, and American Express. The exhibits show that all three systems experienced significant quarter-to-quarter fluctuations in transaction volume during the past two years. Visa, MasterCard, and American Express all experienced quarterly growth of over 15% in at least one quarter since the beginning of 2009. These data are based on the business experience of these firms globally. Based on the record in this matter, I know of no reason why the same supply responsiveness also would not be available in Canada, given that Canada accounts for a relatively small portion of global transaction volume.[138]

170. During the third quarter of calendar year 2010, the total dollar volume of all transactions over the VisaNet system was $1,272 billion,[139] while the combined total

[136] This is a conservative approach to assessing supply elasticity because it focuses attention on rivals' ability to alter output as demonstrated by historic output changes. In that respect it is based only on *existing* capacity. However, rivals' willingness to expand output in response to a price increase by a would-be monopolist also includes the rivals' willingness to add new capacity. Thus, any assessment of supply elasticity by this approach necessarily understates the case.

[137] MasterCard Incorporated 10-K for the fiscal year ended 12/31/10, p. 8. It also appears MasterCard can easily add new capacity. The capacity of its network increased from 140 million transactions per hour to 160 million transactions per hour in 2010. MasterCard Incorporated 10-K for the fiscal year ended 12/31/09, p. 7 and MasterCard Incorporated 10-K for the fiscal year ended 12/31/10, p. 8.

[138] Canadian transactions represented 5.8 percent of global transaction volume in 2010, as the total number of credit card purchase transactions on the Visa, MasterCard, and American Express networks in Canada in 2010 was 3 billion. *The Nilson Report* 967 (3/11), p. 8; *The Nilson Report* 968 (3/11) p. 9.

[139] Visa Inc. 10-Q for the quarterly period ended 12/31/10, p 23. The transaction volumes in this paragraph are global, and include both purchase transactions and cash advance transactions.

dollar volume of all transactions over the MasterCard and American Express networks was equal to $831.3 billion.[140] In the fourth quarter of 2010, MasterCard and American Express collectively increased their transaction volume to $936.6 billion.[141] This increase of $105.39 billion equals roughly 8.3% of Visa's total volume in the prior quarter and an even larger portion of Visa's Canadian volume. An expansion of this magnitude suggests that Visa's credit card rivals have very elastic supply. If, for instance, Visa attempted to reduce its Canadian transaction volume by 5 or 10 percent in order to raise prices, this reduction could be offset readily by rivals inside of a year.

171. If, on the other hand, MasterCard somehow tried to reduce its supply of card acceptance services, the evidence indicates a supply expansion by Visa and American Express could be brought to bear, as a similar example illustrates. During the third quarter of calendar year 2010, the total dollar volume of all transactions over the MasterCard system was $658.6 billion,[142] while the combined total dollar volume of all transactions over the Visa and American Express networks was equal to $1,444.6 billion.[143] In the fourth quarter of 2010, Visa and American Express collectively increased their transaction volume to $1,604.05 billion.[144] This increase of $159.45

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[140] MasterCard Incorporated 10-Q for the quarterly period ended 9/30/11, p. 39; American Express Company 10-Q for the quarterly period ended 9/30/11, p. 40.

[141] MasterCard Incorporated 10-K for the fiscal year ended 12/31/11, p. 44; MasterCard Incorporated 10-Q for the quarterly period ended 9/30/11, p. 39; American Express Company 10-K for the fiscal year ended 12/31/11, p. 19; American Express Company 10-Q for the quarterly period ended 9/30/11, p. 40.

[142] MasterCard Incorporated 10-Q for the quarterly period ended 9/30/11, p. 39. The transaction volumes in this paragraph are global, and include both purchase transactions and cash advance transactions.

[143] Visa Inc. 10-Q for the quarterly period ended 12/31/10, p. 23; American Express Company 10-Q for the quarterly period ended 9/30/11, p. 40.

[144] Visa Inc. 10-Q for the quarterly period ended 3/31/11, p. 28; American Express Company 10-K for the fiscal year

billion equals roughly 24.2% of MasterCard's total volume in the prior quarter. Thus, if MasterCard attempted to reduce its Canadian transaction volume by 5 or 10 percent in order to raise prices, this reduction could be offset readily by rivals inside of a year.

172. These indications of the output expansion capability of payment card networks demonstrate that the second leg of the three-legged stool is too weak to support a market power hypothesis.

c. Entry Conditions

173. The third leg of the market power stool is the presence of entry barriers. The Commissioner claims that barriers to entry into the market for credit card network services are "significant" and mentions that there has been "no significant entry in this market for at least twenty years."[145] The purported absence of entry is in part a consequence of how the Commissioner defines the relevant market. The Commissioner ignores entrants into other payment mechanisms that compete with credit cards. Nonetheless, no one would dispute that to enter the general purpose credit card industry in Canada today, one needs to bring a large amount of financial capital to the table.

174. On the other hand, neither the Commissioner nor the reports by Professor Carlton and Dr. Frankel demonstrate why the necessary financial capital would be an insurmountable barrier to new entry, nor why an investment of this magnitude made by an entrant today would be a greater challenge than it was for the incumbent networks that invested in years past.

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ended 12/31/11, p. 19; American Express Company 10-Q for the quarterly period ended September 9/30/11, p. 40.

[145] Notice of Application, ¶ 92.

175. In 2009, the total dollar value of credit card transactions in Canada accounted for by Visa, MasterCard and American Express was over US$267 billion.[146] A new entrant who captured only 2% of that volume would still account for over US$5.34 billion per year in transaction volume. If the new network collected 2% in fees (from, say, credit card acceptance fees) that would accompany 2% of transaction volume in Canada in 2009, it would realize annual revenues of over US$106.8 million.[147] The Commissioner has not demonstrated that entry on such a scale would not be profitable. Virtually all new entrants are small in relation to incumbent firms. But small scale entry does not necessarily mean a small disciplinary effect.[148]

176. Entry into any network industry involves a "chicken-and-egg problem." In the case of credit cards, there is the hurdle of developing a merchant acceptance network without an initial network of cardholders who, in turn, are required to persuade merchants to accept the new entrant's cards in the first place. But this challenge obviously was solved by Visa, MasterCard, and American Express. It is not evident why a new entrant today would be unable to solve this problem as well.[149] If the "chicken-and-egg" character of new entry were so lofty an obstacle as to preclude all attempts at entry, one must marvel that Henry Ford's automotive ambition was not nipped in the bud when he considered that there were no gasoline stations around to accommodate thousands upon thousands of prospective motorists.

[146] *Canadian Payments Landscape,* p. 21.

[147] *Canadian Payments Landscape,* p. 51.

[148] Entry does not necessarily mean *replicating* a network like those operated by Visa or MasterCard. An entrant need not, after all, enter the market on the same scale as Visa or MasterCard to provide pricing discipline.

[149] The "chicken-and-egg problem" would not vex a supplier of a proprietary card. The Commissioner, Professor Carlton, and Dr. Frankel, to my mind, never adequately explain why proprietary credit cards should be excluded from the relevant market.

177. If the market is confined to general purpose credit cards, the one successful market entrant in the United States since the 1960s has been Discover, which was introduced by Sears and benefited from its extensive network of stores, the extensive base of customers who carried Sears' proprietary card, and Sears' relationship with Dean Witter Financial Services.[150]

178. Exhibit 5, which shows quarterly fluctuations in Discover's volume, demonstrates that Discover, now an independent company, has elastic supply to devote to competing in Canada. Discover recently announced an agreement with Moneris, Canada's largest merchant acquirer, to expand acceptance of its credit card in Canada.[151] Should Canadian issuers choose to market Discover cards to Canadian cardholders, Discover would be in a prime position to enter and compete with Visa and MasterCard on both sides of the market.

179. Another possible entrant is Interac, which owns and operates Canada's largest debit card network. Established in 1984 by a consortium of Canadian financial institutions, Interac enjoys widespread acceptance by merchants and consumers in Canada.[152] According to the latest figures from the *Nilson Report*, Interac processed more transactions and purchases in Canada than Visa, MasterCard, and American Express combined.[153] I understand from counsel for Visa and MasterCard that there

[150] When the Discover Card was introduced Dean Witter Financial Services was a subsidiary of Sears, Roebuck and Co. (See http://www.discoverfinancial.com/swf/TimeLine1/index.shtml (accessed 4/3/09)).

[151] See "Discover Financial Services and Moneris Solutions Announce Canada Agreement," 10/26/12 http://investorrelations.discoverfinancial.com/phoenix.zhtml?c=204177&p=irol-newsArticle&ID=1487120&highlight (accessed 4/2/12).

[152] *Canadian Payments Landscape*, p. 100.

[153] *The Nilson Report* 967 (3/11), p. 8.

is no legal prohibition on the entry by Interac into credit card network services.[154] In fact, entry is occurring in the opposite direction, as both Visa and MasterCard are entering the debit card business in Canada.[155]

180. I understand that Canadian competition law considers barriers to expansion as well as barriers to entry. I have seen no evidence that a new entrant, such as Discover or Interac, would face barriers to expansion once it had gained a foothold in the market. It appears that firms in the market are able to expand capacity quickly. For example, MasterCard increased its global transaction capacity by 14 percent in just one year, from 140 million transactions per hour in 2009 to 160 million per hour in 2010.[156]

181. A final comment on entry barriers: Herbert Hovenkamp once wrote, "Nothing is a more effective barrier to entry than a firm's capacity to produce a high quality product at a low price, or to provide improved service to its customers."[157] The point may seem evident, but it merits consideration. Credit cards are one of the most important financial innovations in the Western world of the past century. Their widespread acceptability, their relative safety, their ability to enhance liquidity, their speed of processing, their low cost to cardholders – are all attributes that go unmentioned by the Commissioner in her attempt to impose regulation on an

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[154] Ironically, the potential entry of Interac into credit cards is strongly opposed by merchants and the Competition Bureau alike. (See *CBC News*, "Competition commissioner turns Interac down," 2/12/10, http://www.cbc.ca/news/business/story/2010/02/12/competition-bureau-interac.html (accessed 4/2/12); and *Cards International*, "Uncertain future for Interac," 6/8/11, http://www.vrl-financial-news.com/cards--payments/cards-international/issues/ci-2011/ci-461-462/uncertain-future-for-interac.aspx) (accessed 4/2/12).

[155] *Canadian Payments Landscape*, p. 39.

[156] MasterCard Incorporated 10-K for the fiscal year ended 12/31/09, p. 7; MasterCard Incorporated 10-K for the fiscal year ended December 12/31/10, p. 8.

[157] Herbert Hovenkamp, "Federal Antitrust Policy," 2nd ed. (1999), p. 553.

innovative payment mechanism that has successfully competed against other alternatives because of the balancing act it performs serving customers on two sides of a market.

F. Subsidies and Credit Cards

182. In Southern regions of the United States, there is an expression: "that argument is too clever by a half." Professor Carlton offers an argument that has this characteristic.

183. Professor Carlton contends that the operating rules of Visa and MasterCard means the prices paid by consumers who use credit cards are subsidized by customers who pay with cash and debit cards.[158] He compares this to cardholders "taxing" customers who consummate their retail transactions with cash or a debit card (presumably his example would apply to a tax on those paying by cheque as well). It seems odd that Professor Carlton would focus on the effect of the operating rules on consumers in a different relevant market from the one he defines. But, let me set aside the question of how such a tax could be anticompetitive in his relevant market and go directly to the example Professor Carlton uses to make his point. He asks the reader to suppose a retailer has half of its customers pays with cash or debit card while the other half pays with credit cards. He also asks the reader to assume the cash or debit card transactions are costless to the retailer; but that the card acceptance fee is 2 percent of the retail price. Under these assumptions, the retailer's cost of accepting credit cards equals 1 percent of total sales (*i.e.*, a 2 percent fee on 50 percent of sales). If the card

[158] Carlton Report, ¶ 39.

acceptance fee is fully passed on to all customers, then an item in the store that would sell for $100 in the absence of card acceptance fees would sell for $101.

184. Professor Carlton then adds an issuer to the example: assume this institution offers a reward of $1.50 to the customer who pays with a credit card (financed out of the 2 percent card acceptance fee), which would make the net price to that customer $99.50 (*i.e.*, $101 - $1.50 = $99.50). The customer who pays cash or by debit cards ends up paying a higher net price of $101. According to Professor Carlton, the higher price paid by cash and debit customers, in effect, subsidizes the lower price paid by customers paying with credit cards.[159]

185. Professor Carlton then asks us to suppose that the retailer is allowed to surcharge credit card transactions by 2 percent. In this case, the customer paying with a credit card pays a nominal price of $102 at the POS (*i.e.*, $100 plus a 2 percent surcharge) but later receives the reward of $1.50, yielding a net price of $100.50 for the transaction. A customer paying with cash or a debit card would pay a lower net price of $100. Even if the reward were increased to the entire amount of the card acceptance fee ($2.00), the credit card customer would not pay a lower net price than the debit card or cash customer.[160] So why is this example too clever by a half?

186. In order for this example to hold water, one must assume (as Professor Carlton does) that "merchants do not find it effective to influence consumer behavior by offering discounts for the use of debit cards or cash but *would find it effective* to surcharge if they could."[161] To see why, suppose that the merchant posts a price of

[159] Carlton Report, ¶ 42.

[160] Carlton Report, ¶ 43.

[161] Carlton Report, footnote 22.

$102 but offers a $2.00 discount for cash or debit. In this case, the customer using a credit card pays a nominal price of $102 at the POS but later receives the reward of $1.50, yielding a net price of $100.50 for the transaction. A customer paying with cash or a debit card would pay a lower net price of $100. This is exactly the same outcome as with a surcharge for credit cards.

187. In mystery fiction, particularly during the "Golden Age" of writers like Agatha Christie and G.K. Chesterton, the device of the "red herring" was often used to throw the reader off track. Red herrings made figuring out "whodunit" difficult. The subsidy argument put forward by Professor Carlton and Dr. Frankel has the characteristic of a red herring. It throws the reader off track from what is really going on.

188. The subsidy argument is a red herring for at least the following reasons. First, other payment mechanisms, such as cash, enjoy subsidization from the government. So when a customer pays with cash, rather than a credit card, that customer has received a subsidy.[162] Second, commercial life contains many illustrations of cross-subsidies among customers of the same store. Later in Section V.C.v., when I discuss price discrimination I give a personal example of a retailer treating one set of customers more favorably than another. I argue, this kind of price discrimination is *evidence* of competition, not an absence of it. Indeed, "subsidization" of this sort occurs in millions of transactions every day with retailers being prime initiators. It would take a massive regulatory effort to align all the price signals in modern

[162] I note that the Canadian government plans to do away with the penny—at a savings of $11 million a year. This gives a window into the magnitude of the subsidized competition facing other payment mechanisms. One penny cost the government 1.5 cents to produce. Rob Gillies, "In Canada, the penny's about to drop into history," *Globe and Mail,* 3/31/12, http://articles.boston.com/2012-03-31/business/31267222_1_penny-royal-canadian-mint-coin (accessed 4/9/12).

marketing with the precise opportunity costs to businesses. Third, subsidization has not been demonstrated simply by pointing out that merchants ostensibly incur higher costs for credit cards rather than alternatives like cash, debit cards, and cheques. As I showed earlier, the nominal costs of using cheques, cash and debit cards cannot be woodenly compared to a nominal cost of credit cards. One must also account for differences in the benefits merchants enjoy from the use of cards and compare the benefits with the true costs of all payment mechanisms. In Section IV.D.i., I cited evidence that the costs of credit cards, cash, and debit are not that far apart. This would mean that customers who pay with cash (not even accounting for the subsidy given to cash by the Canadian government) cost the merchant about the same amount (in real transaction costs). Finally, if a merchant desires to remedy the lack of alignment that exercises Professor Carlton and Dr. Frankel, the merchant can offer a discount for cash, or debit, or cheques to offset the purported subsidy.

189. Neither the Commissioner nor her experts offer empirical evidence that the operating rules, in conjunction with the use of credit cards, result in higher prices to all consumers. Economic theory suggests that credit cards may result in *lower* prices to consumers. Credit cards provide expanded shopping opportunities to cardholders that would be less attractive if purchased with other forms of payment. For example, cardholders have greater flexibility to purchase “big-ticket” items (such as costly consumer durables) or to stock up on other consumer goods (such as grocery products) when retail prices are attractive. Credit cards also facilitate shopping over the Internet. All this serves to make the demand facing some merchants more elastic or sensitive to price. When this occurs, a merchant is incentivized to lower its retail

prices, not only to holders of credit cards, but to *all* consumers including those who pay with cash, debit, cheque or PayPal.[163]

190. To argue that a cash discount will not work (or be effective) at "steering" customers, one is asked to believe there is an asymmetry between raising a price on a $100 item by a dollar versus lowering the price on a $100 item by a dollar. Professor Carlton and Dr. Frankel both maintain there is a substantial difference, contending that the former (putting a surcharge on credit card sales) will be effective in steering customers away from cards but the latter (discounting an item if a card is not used) will not be effective in steering customers away from cards. This asymmetry is sometimes attributed to an anomaly in the behavioral economics literature or to the fact that the Respondents agreed to merchants being able to steer customers from credit cards by offering discounts on cash, cheques, or debit but the Respondents (in this case) litigate tooth and nail against surcharging. Actually, this too is a red herring that can throw a reader off the track. Even on the surface, the whole contention by Professor Carlton and Dr. Frankel that consumers will take note of surcharges, but for some reason they do not respond to discounts, seems an odd one for economists to make and an odd one for competition policy to adopt.

191. Indeed, the empirical evidence from a survey conducted for Visa and MasterCard in this matter suggests that surcharging would be less effective than discounting at "steering." I have read the reports of Professor Michael S. Mulvey and Mr. Benoît

[163] Other benefits of credit card usage that may be conferred on customers who pay with other payment methods include shorter wait times due to shorter lines and lower prices due to lower labor costs from merchants substituting capital for labor (*e.g.*, self-checkout lanes versus lanes with cashiers at supermarkets).

Gauthier filed in this matter.[164] The survey results are based on the responses of 11, 561 consumers in Canada who were interviewed between in January and February of 2012. Discounts (labeled "rebates" in the survey) achieved the highest "steering success rate[s]," from 67 to 73 percent, while surcharges achieved rates from only 50 to 59 percent.[165]

192. The reason Visa and MasterCard can restrain their enthusiasm for surcharging relative to discounting has little if anything to do with behavioral economics. It has a lot to do with protecting the value of the Visa and MasterCard brands. One need only put yourself in the position of, say, Visa. Your cardholders are at the POS. They are offered a discount if they use cash. They may or may not think the discount is worth the candle. But the cash offer is not held against Visa. The cardholder does not consider this to be a cost or liability of carrying the Visa card.

193. On the other hand, consider a surcharge imposed on a Visa cardholder. This not only raises the price of the transaction, but at the same time reduces the value of the Visa brand to the cardholder. Under the operating rules Visa has in place, if taking out one's Visa card provokes the offer of a cash discount, the use of the card (nonetheless) does not *impose* an additional cost on the cardholder. The cardholder pays the posted price, no more, no less. But if taking out one's Visa card provokes a price increase at the POS, and the fact of the increase and the amount of the increase may not be known until the transaction is about to be consummated, the price effect no doubt will have a negative effect on the cardholder's value of the Visa card. This

[164] Expert Report of Michael S. Mulvey, 4/2/12; Circum Network Inc., *Survey of Canadians on Issues Related to Credit Card Payment at the Point of Sale*, 3/6/12.

[165] Circum Network Inc., *Survey of Canadians on Issues Related to Credit Card Payment at the Point of Sale*, 3/6/12, pp. 7-8 and 17; Expert Report of Michael S. Mulvey, 4/2/12, pp. 8 and 13.

negative effect could be multiplied over millions of cardholders and the consequence will be a reduction of transactions on the Visa network (assuming, as the Commissioner apparently would, that a sufficiently large number of merchants surcharge).

194. This helps explain why Visa and MasterCard are opposed to allowing surcharges to be imposed on cardholders using cards on the networks they have established. Prices to Visa and MasterCard cardholders initially would go up. The image of the Visa and MasterCard brand names would be diminished. This will reduce volume on their networks (assuming, as the Commissioner apparently would, that a sufficiently large number of merchants surcharge). If Visa and MasterCard were to then reduce interchange rates in response (as the Commissioner seems to expect), this would lead to a diminution of value to the cardholders themselves.

V. Economic Conduct of Visa and MasterCard

195. Along with considering the economic merits of the Commissioner's complaint regarding the contested Visa and MasterCard operating rules, one should not forget what the complaint does *not* allege or address. The Commissioner does not allege a cartel between Visa and MasterCard to restrict output or raise price. For that matter, the Commissioner does not claim collusion between the two Respondents with regard to their operating rules. However the Notice of Application and the reports of Professor Carlton and Dr. Frankel also fail to consider the vigorous competition that exists between Visa and MasterCard, not only with other payment mechanisms, but with each other. Theirs is not a stodgy or live-and-let-live relationship. As long as

they have had credit card operations in Canada, Visa and MasterCard have competed aggressively for association with Canadian financial institutions, and for acceptance by Canadian merchants.[166]

196. Because of Canada's regulatory posture of non-duality at the time of its initial entry, MasterCard's could not align with any of the four major banks already issuing credit cards on the Visa network. So MasterCard pursued credit unions and other issuers, such as foreign banks, and developed co-branding relationships with Canadian retailers. In part because of MasterCard's competitive stimulus, Visa's Canadian credit card operation began to compete actively with MasterCard for co-branding opportunities. When the Competition Bureau ended its expressed preference for non-duality in 2008, MasterCard pursued an association with the large Canadian banks that were members of Visa's network, and now has its cards issued by a number of the banks that once had exclusive issuing ties with Visa such as Canadian Imperial Bank of Commerce (CIBC) and Royal Bank of Canada (RBC).[167]

[166] See Witness Statement of Kevin J. Stanton, ¶ 56-7; Witness Statement of Brian Weiner, ¶ 12; Witness Statement of William Sheedy, ¶ 41; MCWCCB00060504; MCWCCB00124163-4. When MasterCard (initially MasterCharge) entered Canada with credit cards in 1973, Visa (initially Chargex) had already established a network which operated in association with four of Canada's banks. American Express, Diners Club and various proprietary cards were already established in Canada as well. MasterCard's entry operated in association with the Bank of Montreal. See Paul Chutkow, *Visa The Power of an Idea* (Chicago: Harcourt, 2001), pp. 315-6; https://www212.americanexpress.com/dsmlive/dsm/int/ca/en/personal/aboutamericanexpress.do?vgnextoid=3de2d2666bb45110VgnVCM100000cef4ad94RCRD (accessed 4/9/12); http://www.mastercard.com/ca/company/en/corp_history.html (accessed 4/9/12);. https://www.dinersclubcanada.com/home/about/dinersclub/story?nav=left (accessed 4/9/12)).

[167] Press Release, "MasterCard Sees Enhanced Opportunities in a Dual Environment," 11/17/08, at http://www.mastercard.com/ca/company/en/press/2008/11_17_environment.html (accessed 3/26/12); http://www.rbcroyalbank.com/credit-cards/index.html (accessed 4/9/12); https://www.cibc.com/ca/credit-cards/compare-credit-cards.html (accessed 4/9/12); Paul Chutkow, *Visa The Power of an Idea* (Chicago: Harcourt, 2001), pp. 315-6.

A. Visa and MasterCard Compete With Each Other

197. The competition between Visa and MasterCard occurs on both sides of the two-sided Canadian credit card business. On the merchant side, the networks go head-to-head to enlist merchants to accept their credit cards and to enlist Canadian financial institutions to acquire merchants' payments. On the consumer side, the networks compete to enlist Canadian financial institutions and other types of firms to issue credit cards, and to induce consumers to use their own cards instead of the competition. Each network's major selling point on the merchant side is the access merchants gain to pre-assembled "buying groups" of consumers whose ability and propensity to purchase goods and services is augmented by the safety, convenience, and liquidity provided by their general purpose credit cards. The networks' major selling point on the consumer side is the access cardholders gain to a pre-assembled collection of merchants who will accept general purpose credit cards. Neither the consumer buying groups nor the pool of merchants associated with either network materialized without a major effort on the part of the networks.

198. The Commissioner claims that, as a result of the Respondents' operating rules she contests, the card acceptance fees merchants pay are too high and have caused acquirers in their networks to set card acceptance fees that are too high and that the way to reduce them is to allow merchants to discriminate in various ways among the credit cards issued on either network in order to reduce card acceptance fees. A necessary corollary of card acceptance fees that are too high, as the Commissioner alleges, is that transaction volume in the networks must be too low. Anticompetitive conduct in any market, whether real or hypothetical, always results in output being restricted. Hence, anticompetitive conduct in the Commissioner's proposed credit

card market would mean that Visa and MasterCard's transaction volume has been constrained. Accordingly, I examined the record of Visa and MasterCard transaction volume to assess whether there are indications of output restriction.

199. Economic analysis of this kind is complicated by the fact that markets are subject to a variety of forces affecting demand and supply. Notwithstanding this qualification, I find no evidence that Visa or MasterCard has restricted output, and every sign that both networks have been eager to increase output – and have, in fact, done so.

200. I examined two metrics: the total *value* of transactions and the total *number* of transactions. Exhibit 6 shows the total value of credit card consumer payment systems in what economists call "real" or "constant dollars." That is, the dollar value of transactions shown in Exhibit 6 has been adjusted for inflation in the general price level. As the exhibit indicates, the real value of credit card transactions has grown steadily in Canada since the early part of the century. For example, during the period from 2003 - 2010, the constant-dollar value of credit card transactions grew at an average annual rate of just over 15.3%.

201. To put this growth in perspective, I compare the growth of credit card transaction value with the growth of consumption generally. Exhibit 7 shows the value of card transactions per dollar of personal consumption expenditure (PCE) in Canada and reveals that credit card transactions account for a steadily growing share of consumption expenditures.[168] By the end of 2010, credit cards accounted for over 32 cents of every dollar of PCE. This means credit card transactions have been taking

[168] Exhibit 8 shows the same data but separately for Visa and MasterCard.

share from other payment mechanisms such as cash and cheques. This certainly is not an indicator that Visa or MasterCard is restricting output.

202. Exhibits 9 and 10 also do not reveal a pattern of constrained transaction volume on their Canadian credit card operations by Visa or MasterCard from 2003 through 2010. Rather, they show a steady increase in volume of both Visa and MasterCard transactions from 2003 through 2010.

203. The picture is much the same when attention is directed to the individual networks. Exhibit 11 shows annual rates of growth in the value (in constant dollars) of credit card transactions for Visa and MasterCard in Canada for each year from 2004-2010. As the exhibit indicates, the real value of credit card transactions in these networks has grown steadily. The average annual rate of growth for Visa's credit card transactions exceeded 14% for 2004-2010. MasterCard's average annual growth rate exceeded 16% from 2004-2010.

204. Exhibit 12 illustrates the number of cards issued to date for Visa and MasterCard for each year from 2003 to 2010. From 2003 through 2010, the Canadian population age 18 and over grew at an average annual rate of 1.46%. During the same period the number of Visa credit cards grew at an average annual rate of 4.06%, which translates into average annual growth of 2.57% in the number of Visa credit cards per capita. For MasterCard, the rates were 9.11% and 7.55% respectively.[169]

205. Exhibit 13 illustrates the growth of the merchant outlet population that accepts credit cards from either Visa or MasterCard in Canada. The number of outlets

[169] *The Nilson Report* 835 (6/05), *The Nilson Report* 967, (3/11); Statistics Canada, Table 051-0001 - Estimates of population, by age group and sex for July 1, Canada, provinces and territories, annual (persons unless otherwise noted), CANSIM (database), http://www5.statcan.gc.ca/cansim/a01?lang=eng (accessed 4/5/12).

accepting Visa credit cards grew at an annual average rate in excess of 1% from 2005 to 2010.[170]

206. What is the economic "bottom line" of Exhibits 6 through 13? The bottom line is that multiple measures of credit card output show no sign of output restriction. Just the opposite: regardless of the measure, the economic track record is one of increasing output.

207. The pattern of growth these data demonstrate is consistent with unilateral competitive conduct on the part of Visa and MasterCard during the period under examination. On the consumer side of the Visa and MasterCard networks, the number of cards has expanded.[171] Indeed, the value and number of transactions indicate that consumers are ever more disposed to use general purpose credit cards. On the merchant side of the networks, the number of merchant outlets where Visa or MasterCard credit cards are accepted has increased.[172] Both kinds of evidence comport with what an economist expects to see in a market characterized by competition.

208. The Commissioner claims that the market power of Visa and MasterCard is demonstrated by the fact that, in the face of higher interchange rates for certain premium credit cards, merchants purportedly have no choice but to continue to accept each network's credit cards and pay higher card acceptance fees. The Commissioner contends that Visa's (and MasterCard's) ability to increase default interchange rates,

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[170] "Credit Card Statistics - Visa & MasterCard," Canadian Bankers Association, (DB 38 – Public), 9/23/11 (revised 2/23/12).

[171] See Exhibit 12.

[172] See Exhibit 13.

either directly, or by “forcing” merchants to accept premium cards with higher interchange rates, constitutes an exercise of market power. Put differently, the Commissioner alleges that merchants are “locked-in” to the Visa and MasterCard networks and are vulnerable to Visa and MasterCard ratcheting up interchange rates at the merchants’ expense. She also maintains that the ability of networks to price discriminate with respect to interchange rates is indicative of market power.

209. If higher interchange rates were a market power play, the resulting injury to competition should involve a reduction in output through those networks. But, as I have shown, there is no indication that either network’s output, however measured, was reduced.

210. In short, current interchange rates are the product of competition among the credit card networks and other payment systems. This competition takes place simultaneously on both sides of the market as networks seek to increase their merchant base, the number of cardholders, and the propensity of cardholders to use their cards. Using interchange rates to build transaction volume is part of the competitive process.

B. The Challenged Network Operating Rules

211. According to the Commissioner, the challenged operating rules of Visa and MasterCard protect the firms’ credit card programs from competition both within and between the networks by preventing merchants from directing their customers to “lower cost” payment options. The Commissioner contends that if these rules were relaxed, then merchants could discriminate against certain, or all, of the Respondents’ credit cards and induce consumers to use other payment mechanisms. The

discrimination envisioned by the Commissioner involves either levying a surcharge on certain (or all) cards, or refusing to accept certain of them altogether. According to the Commissioner, these operating rules "influence upward or discourage the reduction of prices paid by merchants for Credit Card Network Services. As merchants need to cover payment processing costs, they pass some or all of the increased costs from higher Card Acceptance Fees onto all of their customers in the form of higher retail prices for goods and services."[173]

212. As I indicated earlier in describing the operating rules, in explaining the logic of the interchange rate, and in assessing these as price maintenance, all these contentions are mistaken. The networks' operating rules maintain order and interoperability within the networks and among their issuers and acquirers. This is necessary for the operation of any network that encompasses numerous firms.[174] In the case of general purpose credit card payment systems, rules that maintain order and interoperability promote transaction volume. The rules that the Commissioner challenges create predictability for cardholders that drives both card usage and merchant value. This is a procompetitive, not anticompetitive function. Additionally, the rules about which the Commissioner complains do not enhance or preserve any alleged existing market power of Visa or MasterCard, and do not preclude price competition. Let me explain why.

[173] Notice of Application, ¶ 41.

[174] For example, consider the chaos that would ensue if there were not a set of established and enforced rules for football games between CFL teams.

C. The Operating Rules Do Not Create, Preserve, or Enhance any Alleged Market Power of Visa or MasterCard and Are Not Anticompetitive

213. The gist of the Commissioner's position is that certain operating rules prevent merchants from discriminating among a network's credit cards and among other payment methods in order to induce consumers to choose less expensive cards or less expensive payment methods. The Commissioner claims that these operating rules shield Visa and MasterCard from price competition on their interchange rates and network fees. Consequently, so the Commissioner alleges, consumers end up choosing cards without regard for the costs that merchants incur as a result of their choice. The subtext of the Commissioner's allegation is that there is no meaningful competition among the issuers of payment cards, or between Visa and MasterCard, unless competition can be made to happen at the consumer's POS. And, in her view, the operating rules prevent this.

214. This is a mistaken line of reasoning because it ignores inter-network competition for merchant acceptance as well as competition among issuers for card use both within and across networks.[175] The competitive tactics the Commissioner dismisses do not involve price signals at the POS – but elsewhere. The competition that drives a consumer's choice among credit card options resides on the cardholder side of the two-sided business, not on the merchant side. It is on the cardholder side where the issuers compete with each other to market cards and promote their use, and where the

[175] It is as though one claimed that the only way car magazines can compete effectively is to cut advertising rates. This ignores what magazines might do to attract more readers, such as incorporating new features or reducing subscription or newsstand rates.

networks compete to induce issuers to promote their own card programs. Similarly, the networks compete to induce merchants to accept their cards.[176]

215. The Commissioner overlooks this competition because of her singular focus on the merchant side. This focus is inappropriate because inter-network competition involves Visa and MasterCard balancing both sides of their business. As mentioned earlier, the networks are like an equestrian who wants to avoid falling off either side of the horse.

216. Banks and other firms who issue Visa and MasterCard credit cards compete vigorously and continually for cardholder transaction volume by offering consumers all manner of introductory offers and promotions. For example, Bank of Montreal's BMO World Elite MasterCard offers an introductory 15,000 ELITE Rewards points to redeem on travel, high-end electronics and charitable donations. Customers also receive insurance protection on travel and other purchases made with the card.[177] CIBC Aerogold Visa Card offers an introductory 15,000 Aeroplan Miles with 1.5 additional miles for every dollar spent at gas stations, grocery stores, drug stores, and select hotels.[178]

[176] The Commissioner appears to express concern that competition between networks may be limited by "lock-in," in that there are restrictions that prevent transactions made with a card from one network (say Visa) being processed on another network (say MasterCard). This concern fails to consider that competition for acceptance constrains the prices that merchants pay after acceptance and protects them from exploitation due to "lock-in." This occurs in many industries. For example, firms such as Gillette and Schick sell razors comprised of handles and blades. Schick blades cannot be used with Gillette handles, nor can Gillette blades be used with Schick handles. Since blades wear out over time, consumers must buy new blades from time to time, and a consumer with a certain brand of handle is "locked-in" to using the corresponding brand of blades. Does this lock-in insulate each firm from competition for blades? Not at all. Consumers can evaluate the cost of handles and blades prior to purchase and evaluate the total cost of ownership of the two over time and select the combination of handle and blades that minimizes that cost. In this way, competition prevents exploitation due to technological "lock-in."

[177] Bank of Montreal website, http://www.bmo.com/home/personal/banking/credit-cards/world-elite (accessed 4/5/12).

[178] CIBC website, https://www.cibc.com/ca/visa/aerogold-visa-card.html (accessed 4/4/12).

217. Aside from these features, both Visa and MasterCard and many of their issuers have introduced co-branded cards in partnership with particular merchants. For example, Esso and Rona both offer co-branded Visa cards.[179] Their competitors, Ultramar and Canadian Tire, both offer co-branded MasterCard cards.[180] Co-branding agreements with merchants represent a form of competition between issuers within a network and between the networks. Co-branded cards typically are rewards cards that offer enhanced rewards for purchases made at the co-branding merchant, or rewards redeemable at the co-branding merchant for purchases made anywhere. For example, in the witness statement of Craig Daigle, Senior Director, Treasury & Risk Management of Shoppers Drug Mart Inc., he states:

> With the MBNA Shoppers Optimum MasterCard, customer earn Shoppers Drug Mart Optimum Points for all their purchases – five points for every dollar spent at other retailers and 15 points for every dollar spent at Shoppers. These points can be redeemed for discounts on "front store" merchandise at Shoppers' locations.[181]

218. For issuers and the networks, the attraction of co-branding is greater volume. For merchants, the attraction of co-branding is the opportunity to offer discounts selectively to key customers or customer groups. Merchant participation in co-branding arrangements illustrates that many merchants recognize the effectiveness of rewards programs as a means of building transaction volume. If these programs are

[179] See http://www.rbcroyalbank.com/credit-cards/rewards-credit-cards/esso-credit-card.html (accessed 4/10/12); http://www.desjardins.com/en/dcu/produits_services/cartes/cartes_affinite/rona/ (accessed 4/10/12).

[180] See http://www.nbc.ca/bnc/cda/productfamilymc/0,6326,divId-2_langId-1_navCode-15959,00.html (accessed 4/10/12); https://www.ctfs.com/Products/CreditCards/OptionsMasterCard/ (accessed 4/10/12).

[181] Witness Statement of Craig Daigle, p. 9. Additionally, President's Choice Financial offers $40 in groceries for signing up for the President's Choice Financial MasterCard. A President's Choice Financial MasterCard cardholder also earns 10 "PC points" for every dollar in purchases on their PC MasterCard. See "Does Free Food Taste Better?," http://www.pcfinancial.ca/whyjoin/ (accessed 3/21/12).

effective means for merchants to compete for consumer purchases, they are no less so for issuers and the networks. To maintain, as the Commissioner would imply, that there is no payment card competition unless it occurs on the merchants' side of the business through changing the operating rules and lowering interchange rates is to ignore the competition that occurs on the cardholder side and the two-sided character of the business.

219. The singular focus of the Commissioner (and Professor Carlton and Dr. Frankel) on merchant-side competition, and the general disregard of the economic realities of a two-sided business, is further misleading because it overlooks the effectiveness of competition on the cardholder side as a means of imposing competitive discipline on prices. To see how this works, recall that the price in this two-sided market is the *sum* of the card acceptance fee paid by the merchant and the fees paid by the cardholder. Now suppose that a credit card network, such as Visa, attempted to exercise market power by charging a supra-competitive price.

220. That is, suppose the price (the *sum* of the card acceptance fee paid by the merchant and the fees paid by the cardholder) on Visa transactions exceeded the system-wide cost of providing credit card acceptance services by a monopolistic margin. This difference presumably would be captured by Visa's issuers and acquirers and/or Visa. A rival payment mechanism could profitably offer card acceptance fees so as to match the card acceptance fees on Visa transactions, but set its net cardholder fee to undercut the fees to Visa cardholders. Because the rival's net cardholder fees were smaller (for instance, larger rewards), its offering would be more attractive to cardholders. This would shift transaction volume from Visa to the

rival.[182] That is, the rival network would successfully undercut the assumed anticompetitive pricing of the Visa system.

221. The competitive response described here requires only that the competing network *match* the card acceptance fees of the putative monopolist. Merchant steering, in other words, is not an essential component of effective price competition between payment systems. If the challenged operating rules were designed to suppress competition among the issuers and acquirers (or the networks themselves) in order to garner monopoly profits, they would have to be accompanied by rules that suppress competition among those on the *cardholder* side of the business as well.

222. The Commissioner does not cite any network rules that restrain issuers from competing for credit card transaction volume. One major reason: there are no such rules. Furthermore, the rules that the Commissioner challenges actually enhance the ability of networks to compete for transaction volume. In fact the interchange rate revenue that is the gravamen of the Commissioner's concern actually stokes competition among the issuers to increase the volume of their credit card business by enhancing the benefits provided to cardholders.

223. By failing to account for the two-sided nature of general purpose credit card systems, the Commissioner fails to understand the *balance* that is essential to competition in a two-sided business. There is a cardholder externality by which the card is more valuable to cardholders when more merchants accept the card; there also is a merchant externality by which the card is more valuable to merchants if more

[182] William Sheedy, a representative of Visa, explained in his testimony that the company was extremely sensitive to surcharging because of the potential damage to the Visa brand and the harm it might do to the use of Visa cards. Witness Statement of William Sheedy, ¶¶ 59-60 and 62-5.

cardholders carry *and use* the card. As I explained earlier, card networks like Visa and MasterCard must take into account both of these effects (as well as the direct effects of their decisions on card usage and acceptance) when they establish their default interchange rates and when they design their operating rules. Eliminating certain operating rules only serves the immediate and narrow interests of some merchants who aspire to engage in free riding.

224. It is the networks like Visa and MasterCard, not the merchants, who have the greater incentive to increase credit card usage. Network revenues are based on the volume of transactions carried over the network. And the networks, not the Commissioner, are better positioned to decide whether it is more productive to drive card usage with incentives on the cardholder side, as the networks and issuers have done, or on the merchant side. The network operating rules are an important part of the business strategies of both Visa and MasterCard for promoting credit card usage.

i. No-Surcharge

225. Both Visa and MasterCard have rules that prevent merchants from levying extra fees (surcharges) over and above the price of goods and services sold when a customer uses his or her credit card.[183] Visa requires that merchants charge customers using Visa cards the merchant's advertised prices.[184] While surcharges are forbidden by the networks, both networks permit merchants to offer discounts for consumers who pay with cash or other means of payment.[185] Discounting differs from surcharging in that

[183] Visa International Operating Regulations § Surcharges 5.1.C and Core Principle 6.3, and MasterCard Rules § 5.11.2.

[184] Visa International Operating Regulation § Core Principle 6.3. The MasterCard rules imply that MasterCard cardholders must pay no more than the list price at merchants (MasterCard Rules, § 5.11.2).

[185] MasterCard Rules, § 5.11.2, and Code of Conduct for the Credit and Debit Card Industry in Canada, Policy

it does not confront customers who expect to use a credit card with an explicit, and possibly surprising, penalty for doing so. Discounts do not have a bait-and-switch characteristic.[186] Surcharges do.

226. The Commissioner avers that the no-surcharge rule precludes merchants on the network from levying a surcharge on customers that, in the merchant's view, would reflect cost differences to them in processing particular cards.[187] This characterization of no-surcharge rules is disingenuous. It ignores procompetitive effects that these provisions have on the cardholder side of the market. The Commissioner, Professor Carlton, and Dr. Frankel do not account for these effects because essentially they limit their inquiry to the interaction between a merchant and a customer who is already standing at the checkout counter, credit card in hand. This perspective ignores the fact that the no-surcharge provisions play a role in bringing the customer to the merchant in the first place.

227. No-surcharge rules protect the value of the networks' brands from being eroded by the free riding caused by bait-and-switch tactics that would penalize cardholders. Bait-and-switch occurs when a Visa (or MasterCard) cardholder enters a store that purportedly honors Visa (or MasterCard), decides to purchase an item with an advertised price of $100, and finds at the POS that the price is higher. No surcharge rules that deter bait-and-switch are a complement to the networks' "honour all cards"

Element 5, (5/18/10), http://www.fin.gc.ca/n10/data/10-029_1-eng.asp (accessed 4/6/2012). (The MasterCard rules are largely superceded by the Code of Conduct for the Credit and Debit Card Industry in Canada, allowing for discounts for all forms of payment.)

[186] In what follows I describe the term "bait-and-switch" as it is commonly used in economics.

[187] Notice of Application, ¶ 15.

rules, which are themselves procompetitive. Each of these mechanisms promotes increased transaction volume on the network.

228. Output *restriction*, as mentioned before, is the distinguishing mark of anticompetitive business conduct. The Visa and MasterCard operating rules against surcharging do not bear this mark. Because the networks make their money on "volume-based transaction fees and dollar volume fees, not interchange rates, MasterCard has an economic incentive to make rules that increase the use of its brand of credit cards."[188]

229. Free riding occurs when an economic agent enjoys benefits for which others shoulder the costs. For many years, free riding has been recognized as a form of market failure.[189] The networks' provisions for assuring that cardholders pay a merchant's advertised prices are put in place to prevent this kind of market failure and injury to the networks' brands from arising. As MasterCard executive Kevin Stanton explains, MasterCard, as is common in other franchise situations, strives to ensure that the members of the network meet certain quality control standards. Some of these standards (*e.g.*, no-surcharge and honour all cards) primarily benefit the cardholder, while others (*e.g.*, timely settlement) primarily benefit the merchant.[190] A merchant who levies a surcharge enjoys the benefits of participating in the network (*e.g.*, a steady flow of customers whose liquidity and propensity to spend are enhanced) while

[188] Witness Statement of Kevin J. Stanton, ¶ 127.

[189] In U. S. antitrust law, free riding as market failure was first recognized in Continental T.V., Inc., et al., v. GTE Sylvania Incorporated, 433 U.S. 36, 55 (1977). On free riding as market failure, see also the book co-authored by one of the Commissioner's economic experts, Professor Carlton. Dennis W. Carlton and Jeffrey M. Perloff, *Modern Industrial Organization*, 4th ed. (Boston: Pearson Addison Wesley, 2005) (hereafter, "Carlton and Perloff"), pp. 414 and 418-21.

[190] Witness Statement of Kevin J. Stanton, ¶ 85.

evading payment for those benefits. A credit card is not as attractive to cardholders if using it entails a surcharge. Consequently, a significant number of free riding merchants would diminish the value of a network's credit card programs to cardholders. As the value of using the network's credit card deteriorates, transaction volume suffers.[191] The networks' so-called no-surcharge rule prevents this kind of inefficiency from arising.

230. The economic rationale of a rule against surcharging is to prevent merchants from engaging in misleading tactics that would penalize cardholders – in effect, subjecting cardholders to the bait-and-switch ploy described earlier that draws them into a store by promising a price that is not available with their preferred means of payment. Surcharging misleads and consumers and undermines the predictability of the card experience, which is an attribute that contributes to card usage and merchant value.[192] A no-surcharge rule prevents a merchant from depriving cardholders of the discount they expect, which, as I indicated earlier, typically has an imputed value of at least 1% because of the availability of cards that include a 1% cash back option.

231. The procompetitive purposes of rules that discourage price discrimination against cardholders have driven competing networks to prohibit surcharges on their own

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[191] See, for example, the empirical analysis of surcharging on debit card use in Wilko Bolt, Nicole Jonker, and Corry van Renselaar, "Incentives at the Counter: An Empirical Analysis of Surcharging Card Payments and Payment Behaviour in the Netherlands," *Journal of Banking and Finance 34* (2010): 1738–1744, "Estimation results show that the share of debit card payments in the total number of payments will on average increase by 8%-points when retailers decide to stop surcharging," (p. 1743). In addition to estimating the effect of surcharging on consumer choice, the authors of this paper attempt to apply their empirical results to some social welfare conclusions. I find their conclusions in this respect unpersuasive. What they describe as, "our cost approach" leaves out an important party because it "does not include consumer cost." (p. 1739). Moreover, focusing only on the cost of processing transactions leaves out the value of the benefits (such as record keeping, security, and payment guarantees) that consumers and merchants enjoy from card use.

[192] This is precisely the same reason why merchants who do not accept Visa or MasterCard are not permitted under Canadian trademark law to display the network's logo in their window or on their website.

transactions.[193] For instance, PayPal also prohibits surcharging.[194] It would be idle to contend that smaller competitors have imposed no-surcharge rules with dreams of creating or maintaining market power. For example, PayPal is not about to monopolize the payments market. But these networks – like Visa and MasterCard – have no-surcharge rules in order to protect their users and to enhance the value of their networks to all participants.[195]

232. Ironically, many merchants recognize the destructive effect of surcharges on customer relations in their own businesses. Recently, a U.S. merchant tried surcharges but withdrew them because of adverse customer reaction.[196] Some retailers depend heavily on repeat business with their customers and therefore do not want to "alienate" or "confuse" them. The Visa and MasterCard aversion to surcharging reflects the very same concern. Just as surcharging can damage a merchant's relationship with a customer, surcharging also can damage the relationship between a card network and its cardholders. Mr. Kevin Stanton testified that, if a member of the network does not abide by the rules of the network, there is a risk that "the consumer experience will be

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[193] Brian Weiner, a representative of Visa, testified that "[the] suggestion that PayPal is only a complement to general purpose credit cards and not a substitute for them is not correct. Visa Canada also views eCommerce/mobile alternative payment providers like PayPal as a significant competitive threat." Witness Statement of Brian Weiner, ¶ 11.

[194] See PayPal User Agreement section 3.4. "You agree that you will not impose a surcharge or any other fee for accepting PayPal as a payment method. You may charge a handling fee in connection with the sale of goods or services, as long as the handling fee does not operate as a surcharge and is not higher than the handling fee you charge for non-PayPal transactions." https://cms.paypal.com/al/cgi-bin/?cmd=_render-content&content_ID=ua/UserAgreement_full&locale.x=en_US (accessed 4/5/12).

[195] See Witness Statement of William Sheedy, ¶¶ 59-60 and 63-5; Witness Statement of Kevin J. Stanton, ¶¶ 70-2.

[196] See "Verizon Wireless Will Not Institute Single Payment Fee," http://news.verizonwireless.com/news/2011/12/pr2011-12-30.html (accessed 4/5/12).

denigrated and the quality control that a consumer has come to associate with the use of a MasterCard credit card will not have been lived up to."[197]

233. Visa and MasterCard need the no-surcharge rule to protect the networks – and their valuable brands – from the damage of surcharging. While some merchants have an economic incentive of their own to avoid surcharging their customers, the same is not true of all merchants. Merchants who have few "repeat customers" (*e.g.*, as when travelling, or from whom cardholders make very infrequent purchases) will not have the same incentive to cultivate good customer relations that merchants who rely on repeat business have, and so will be more likely to become a free rider by imposing a surcharge. As cardholders encounter those merchants who exploit them by surcharging, they will come to view their credit card as less valuable.[198] As the card becomes less valuable to consumers, it becomes less valuable to those merchants who do not surcharge.

234. Consumers obviously use their payment cards because they derive benefits from doing so. For example, the 1% cash back reward (in effect) comprises a group discount. When merchants agree to accept a network's credit cards, they also benefit by increased sales from the discount provided to their potential customers. The provisions put in place by Visa and MasterCard assure cardholders that they will pay the merchant's posted price, rather than suffer discriminatory treatment in the form of an explicit penalty for using their cards. These provisions are the mechanism that prevents the merchant from depriving cardholders of this discount after the merchant

[197] Witness Statement of Kevin J. Stanton, ¶ 84.

[198] Customers who are offered a discount for using cash, which is permitted by both networks, are less likely to view themselves as victims of a bait-and-switch strategy, so cash discounts are less likely than surcharges to undermine the value of the card brand. See Witness Statement of Kevin J. Stanton, ¶ 70-3.

himself has enjoyed the benefit of the discount. Oddly, the Commissioner construes as anticompetitive a rule that prevents a merchant from eliminating a *discount* that consumers otherwise expect and would encourage retailers to impose a special charge on some consumers who would not otherwise suspect the added charge.

ii. Honour All Cards

235. The Commissioner also claims that the "honour all cards" rules of Visa and MasterCard are a form of "Merchant Restraint."[199] Just the opposite is the case. Visa requires participating merchants who accept its credit cards to accept all Visa credit cards.[200] MasterCard's terms have similar requirements.[201] These rules embody the notion of universal acceptance for a network's credit cards. Without such rules, a credit card network could fragment into several overlapping networks as, for instance, where one type of Visa credit card is accepted by merchants X and Y, and another by merchants Y and Z. In this scenario the Respondents' networks would be deprived of the network externalities that sustain the value of the Visa and MasterCard networks.

236. This kind of fragmentation not only will impose additional costs on all participants in the network directly, but the cost imposed on any one participant will diminish the value of the card throughout the network. Recall, Visa and MasterCard are valuable to merchants to the extent that cardholders want to use their services. Cardholders, in turn, want to use their cards only because they expect merchants to accept them. If a particular Visa credit card is accepted by only a few merchants, then

[199] Notice of Application, ¶ 54. As indicated earlier, the no surcharge rule is akin to the honour all cards, *i.e.*, if the surcharge is high enough, it will result, *de facto*, in a refusal to accept the card.

[200] Visa International Operating Regulations Cardholder Choice, Honor All Cards – Canada Region.

[201] MasterCard Rules, § 11a. 5.8.1.

it is less valuable to the cardholder than if it were widely accepted, especially if seeing the network's brand logo in the merchant's window or on their website does not mean that the merchant actually will accept the cardholder's card.

237. In the absence of the assurance an honour all cards rule supplies, the cardholder will have to invest additional time and effort to inquire whether the merchant will accept the particular credit card he or she happens to be carrying. Any inconvenience or uncertainty that these inquiries might cause are transaction costs that diminish the value of the card to the cardholder. Therefore, fewer cardholders will carry the card and those that do will use it less. As they do so, the credit card then becomes less valuable to merchants. As a consequence, fewer merchants will accept the card, making it less valuable to cardholders and setting off another round of diminished use and acceptance.

238. In short, honour all cards rules, which ensure that cardholders can use their cards at all merchants who hold themselves out as accepting the cards, are procompetitive – because they enable the networks to compete by promoting and protecting their valuable brand capital.[202] This is particularly the case for smaller, new (or innovative) issuers of credit cards. If merchants could selectively surcharge certain cards, they could dilute the benefits of the honour all cards rule simply by imposing prohibitively high surcharges on those cards they would like to decline to accept. Thus, the reasons why the honour all cards rule are procompetitive also serve as to explain why the no-surcharge rule is procompetitive.

[202] Witness Statement of Kevin J. Stanton, ¶¶ 79-80.

iii. Non-Discrimination

239. MasterCard has a rule that prevents merchants from discriminating against or discouraging the use of a MasterCard card in favor of any other brand of credit card accepted by the merchant.[203] Visa has no such rule. I understand, the MasterCard rule is largely superceded by the Code of Conduct for the Credit and Debit Card Industry in Canada. The Code ensures "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."[204] For this reason, I do not address the non-discrimination rule in my report.

iv. The Code of Conduct does not prevent discounts

240. The Code of Conduct does not prevent a merchant from offering discounts to customers who pay by cash, cheque, debit card, or automated funds transfer – or even certain credit cards.[205] For this reason, the Commissioner's concern that the Visa and MasterCard operating rules force non-credit card consumers to subsidize credit card consumers is misguided. The operating rules of Visa and MasterCard, in this sense, are Pareto-optimal: making some customers better off without making others worse off. A surcharge, on the other hand, is not Pareto-optimal. It makes some customers worse off. Because the operating rules allow customers who use other payment options to

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[203] MasterCard Operating Rules §5.11.1.

[204] Code of Conduct for the Credit and Debit Card Industry in Canada, Policy Element 5, 5/18/10, http://www.fin.gc.ca/n10/data/10-029_1-eng.asp (accessed 4/6/12).

[205] The Code of Conduct for the Credit and Debit Card Industry in Canada ensures 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." Code of Conduct for the Credit and Debit Card Industry in Canada, Policy Element 5 (5/18/10).

receive discounts, any "subsidization" that takes place with respect to those customers reflects a decision by the merchant, not a decision by Visa or MasterCard.

241. Moreover, the operating rules of Visa and MasterCard do not preclude a merchant from offering various non-monetary incentives, such as coupons (that may be redeemed with a subsequent purchase) to induce consumers to use the merchant's preferred payment method. Retailers may use any non-cash incentive – even if that inducement discriminates in favor of other payment cards – or cash discounts to persuade a cardholder to use a preferred payment method. For example, Hertz customers can save up to $15 at select locations in Canada on a weekend rental when they pay with their Visa card.[206] Customers of Cineplex.com can receive $5 cash back on a purchase of $20 when they pay with PayPal.[207] Retailers also go so far as to post a sign asking customers not to pay with a credit card. Kevin Stanton describes this as "steering" or "preference statements" of the kind which MasterCard permits.[208]

242. Consumers value wide acceptance of the credit cards they carry. When merchants discriminate against their card, the value to the cardholder is diminished. If the value of a network's card is diminished, merchants find participating in the network to be less valuable. The economic cost of this diminution of value is that cardholders and merchants forgo some of the benefits in security, record keeping, and ease of transacting, among others, that payment cards provide. Network fragmentation and contraction diminish the value of Visa and MasterCard credit cards generally, and

[206] See http://usa.visa.com/personal/discounts/detail/Hertz_103_W12/vro_details.jsp?offerName=Hertz_103_W12&offerId=35099&pageId=197 (accessed 4/5/12).

[207] See "Big Screen Savings" https://www.paypal-marketing.ca/cineplex2012/en/ (accessed 4/5/12).

[208] Witness Statement of Kevin J. Stanton, ¶ 76.

reduce each network's ability to compete with other payment systems and with each other. In the process, the value of the Visa brand and the value of the MasterCard brand would be reduced.[209] The basic economic insight here is one that merchants ought to appreciate. Ironically, the kind of competition the Commissioner dismissively calls "merchant restraints" is actually the kind of competition retailers often use in their own loyalty programs.

v. The operating rules enhance competition among the issuers and between the networks

243. The large populations of cardholders in the Visa and MasterCard networks arose because the networks could assure that credit cards would be *widely* accepted, and would be accepted on *non-discriminatory* terms. A credit card that can be used on the same terms at every merchant who accepts the card is more attractive to customers than a card that is subject to indiscriminate surcharges. Cardholders neither expect nor relish facing idiosyncratic surcharges or discrimination at the whim of every merchant just as they are about to make a purchase. A card that will be accepted on the same terms by all participating merchants is more useful and valuable to customers than a card accepted on particular terms at one merchant and on different terms at another. Consequently, these operating rules *directly* increase the benefits to consumers of holding and using a credit card on the Visa or MasterCard networks and therefore make participation in the networks' card programs more attractive.

244. One way to look at Visa or MasterCard is an organization that assembles "buying groups" of consumers and offers them to merchants. What makes consumers willing to

[209] In 1986 the Eleventh Circuit Court of Appeals in the United States recognized that universal acceptance is "vital to the survival of the Visa system." See *National Bancard Corp. v. Visa U.S.A. Inc.*, 779 F.2d 592, 605 (11th Cir. 1986).

be part of the group (*i.e.*, to be card users) are the benefits the card offers as a means of payment. As discussed earlier, these include the safety, convenience, and the liquidity of using a payment card, relative to a competing payment mechanism. Cardholder benefits also include transaction "discounts" in the form of rewards such as 1% cash back.

245. Visa and MasterCard provide merchants with access to buying groups of consumers who are attracted by the safety, convenience and liquidity associated with using a general purpose credit card, and whose propensity to use those cards is enhanced by the networks' or issuers' rewards programs. The very nature of this kind of payment system requires that cardholders are assured that they will receive attractive and uniform treatment when they present their credit card for payment at a merchant who has agreed to accept the card. Merchants are not compelled to deal with these buying groups because there are other means by which their sales can be transacted. But it is in the interest of merchants to have these groups assembled when the benefits that the payment system provides to cardholders incentivizes and enables them to make greater purchases than they otherwise would. The existence of card payment systems like Visa and MasterCard expands the choice set for both consumers and merchants. This, in turn, has led to *increased*, not *reduced*, output and is not anticompetitive.

246. The liquidity-augmenting feature of credit cards can be understood by comparing them to layaways. When I worked in retailing as a boy (selling sporting equipment), layaway sales were a big deal. A customer buying a Wilson A2000 baseball glove in 1961 might not be able to pay by cash or cheque at the time of purchase; the item was

laid away in the store's back room until the customer made enough payments to complete the purchase.

247. Today, layaways are less common because Visa and MasterCard amongst others can deliver to merchants a bundle of customers who have liquidity on account of their credit cards. Because so many consumers can purchase items like a Wilson A2000 baseball glove outright with a credit card, layaways are infrequent. Visa and MasterCard (partnering with their card-issuing institutions) in effect, can offer customers at a store like Sportchek a payment option that trumps layaway sales: because the customer can enjoy the product right away.

248. Moreover, if the credit card's repayment terms allow the customer to stretch payments over a longer period of time than the layaway program would allow, the customer who uses a credit card is likely to purchase a higher quality, but more expensive version of the product, *e.g.*, a Wilson A3000 glove instead of an A2000. These customers have a greater propensity to purchase the store's merchandise and also offer the store greater safety, better record-keeping, less shrinkage at the POS,[210] and other transactional economies.[211]

249. In order to assemble these customers and offer them *en masse* to participating merchants, Visa and MasterCard want to assure the cardholder customers that they will be treated the same as customers using other payment mechanisms, such as cash and cheques at the POS. Providing this assurance is what the Respondents' operating rules accomplish.

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[210] Shrinkage at the POS is loss of product value caused by employee theft or errors during the sales transaction.

[211] This is particularly true for cardholders who are "revolvers" as compared to "transactors." Credit cards, of course, offer the option (for cardholders who normally are transactors) to become revolvers when making larger purchases.

vi. Price Discrimination

250. As evidence that the Respondents have market power, the Notice of Application states that "Visa and MasterCard are both able to discriminate in the fees charged to different types of merchants," adding that "such differences cannot be explained by different costs of processing merchant transactions."[212] While it is technically true that some degree of market power is required for a firm to engage in price discrimination (*e.g.*, the seller produces a branded product), in most instances the degree of market power is not a threat to competition. To the contrary, price discrimination often enhances competition or arises because of competition. Consider a personal illustration.

251. I made a purchase that totaled US$112.00 at a CVS store (a retail drug chain) in my home town. At the POS, I used my CVS "Extra Care" card and my Visa Signature card. In addition to receiving discounts on some of the items, the clerk told me that I had US$10.00 in CVS Bucks on my receipt. I could, within a given time, apply the US$10.00 to any purchase at a CVS store so long as I produced an Extra Care card. Many retailers in both Canada and the United States have similar loyalty programs, and there are countless transactions with loyalty provisions like this that are consummated every day. All of these programs involve some form of price discrimination on the part of these retailers.[213] This means if one were to apply the Commissioner's standard of proof in a wooden or mechanical fashion, the price discrimination involved in my

[212] Notice of Application, ¶ 91.

[213] Technically, price discrimination is selling to customers at prices disproportionate to marginal cost.

shopping experience at CVS is evidence of market power – *when in fact it is evidence of competition*. CVS is competing with other drug stores for my patronage.

252. Consumers in my area are better off because retailing is not a stodgy, live-and-let-live oligopoly where merchants make no effort to undercut each other's prices. CVS uses these deals to induce me not to shop at Rite Aid or other stores in my area. Rite Aid tries to do the same thing to attract and retain customers for its stores. For that matter, so do Canadian retailers like Save-on-Foods[214] and Cineplex Entertainment.[215] If the Commissioner truly believes that differential pricing is a sign of market power that threatens competition, she should be pointing a finger at retailers who use the card services of Visa and MasterCard (and at many other lines of business).

253. Nowhere does the Commissioner recognize or acknowledge that the programs used by issuers to lure cardholders to their particular firm and to lure cardholders from the use of other payment means are, at their economic taproot, no different from loyalty and rewards programs that are funded and implemented by all merchants with loyalty programs. In each case the seller *competes* for additional business by offering attractive prices to desirable customers, such as potentially high volume customers or new customers.

254. In like fashion, Visa and MasterCard have attracted new groups of merchants, such as supermarkets and gas stations by establishing programs that provide favorable

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[214] Customers can collect rewards points when shopping at Save-on-Foods and other Overwaitea Food Group stores. See http://www.jimpattison.com/food/overwaitea-food-group/more-rewards.aspx (accessed 4/5/12).

[215] Customers have the choice of a SCENE membership card, a SCENE ScotiaCard debit card, or a SCENE Visa. "Join SCENE to earn FREE movies and more, fast! It's easy to join and easy to earn points. You get 250 points just for signing up! Want to earn FREE movies even faster? Get a SCENE® ScotiaCard® debit card or a SCENE® VISA* card, too." See https://www.scene.ca/enrollment.aspx (accessed 4/5/12).

interchange rates on their transactions.[216] In his witness statement, Brian Weiner, a representative from Visa, testified that lower default interchange rates applied to emerging segments like utilities, rent, taxes, and schools are "intended to grow acceptance of Visa credit cards in certain merchant segments that are considered to be strategically important to achieving network growth."[217] At the same time, issuers associated with Visa and MasterCard, competing with each other and with rival networks such as American Express, have attracted new and promising cardholders by offering them valuable reward and loyalty programs. These programs effectively reduce the cost to cardholders of holding and using cards.[218] Economists recognize that using favorable pricing to open new markets, even when it technically constitutes price discrimination, improves welfare.[219]

255. Charging different prices to different consumers can be efficient when buyers have different demand elasticities. By charging higher prices to buyers with less elastic demands, and lower prices to buyers with more elastic demands, the result is often that total sales increase and the benefits are greater than if every buyer were charged the same price and the firm earned the same profit margin on every sale.[220] Price

[216] Visa Canada Interchange Reimbursement Fees (GSSS2581_00007361-6), pp. 3-4.

[217] Witness Statement of Brian Weiner, ¶ 28.

[218] Visa also implements programs designed to induce consumers to use their Visa card at particular merchant locations. The "Visa Perks" program provides rebates to cardholders who shop at participating merchants. For example, a customer can save 20% on an Adidas purchase if they use their Visa card to pay. See http://visa.ca/visaperks/index.jsp (accessed 4/3/12). See also Witness Statement of Brian Weiner, ¶ 16.

[219] See R. Preston McAfee, "Price Discrimination," *Issues in Competition Law and Policy,* ABA Section of Antitrust Law (2008), p. 482.

[220] Ramsey pricing is an important example of differential pricing of this kind. See, for example, Carlton and Perloff, p. 702, and http://wps.aw.com/aw_carltonper_modernio_4/21/5566/1425043.cw/index.html (accessed 4/9/12).

discrimination is not only ubiquitous, and generally harmless, it usually is efficiency-promoting.

256. Firms often employ differential pricing in order to earn competitive returns. For example, movie theaters may charge a lower admission price to matinee shows than evening shows in order to attract enough viewers to remain viable in a competitive theater market. This kind of pricing is not an indication that the movie theater has market power. The pricing strategy reveals that the theater has so much competition that it has to offer discounts at certain hours of the day to attract customers.

257. The Commissioner's contention about merchants being forced to shoulder unwanted costs, and then reluctantly passing some of these costs on to consumers, gets the economics backwards. To get it right, one should ask why a merchant accepts cards in the first place. The answer is because accepting cards improves the firm's bottom line. Why else would merchants choose to accept them? There are merchant costs and merchant benefits to card acceptance. The fact that a merchant accepts cards indicates that there are net benefits. The merchant does not experience only "net costs" let alone pass its "net costs" on to consumers.

258. In his Industrial Organization textbook, Professor Carlton (and his co-author) consider the question of whether so called "third degree price discrimination" (the practice of charging different prices to different groups of customers) promotes or hinders welfare. Professor Carlton and his co-author report that, even in the case of a hypothetical monopoly, the answer is ambiguous: "Third-degree price discrimination, however, may be better or worse than nondiscriminating monopoly pricing from an

efficiency viewpoint."[221] The authors then indicate that the ambiguity may be resolved by referring to the effect of the price discrimination on *output*: "Welfare may be higher with third-degree price discrimination than with a nondiscriminating monopoly if output is higher with discrimination."[222] In other words, differential pricing that promotes output expansion very likely promotes welfare.

259. Similarly, William Baumol and Daniel Swanson analyzed various tests for market power and concluded that "because discriminatory pricing is common in markets that are subject to intense competitive pressures, neither the presence of discriminatory pricing, nor the negative slope of a demand curve, nor the existence of prices that exceed marginal costs, can be deemed *by itself* to establish a presumption of market power."[223] The conclusion of these economists flatly rejects the Commissioners' interpretation of price discrimination: "[I]t is indefensible to claim that a firm should be presumed to possess market power simply because it offers discriminatory prices. Use of such a simplistic test is inappropriate and indefensible, and alternative tests, such as a profitability standard, should be given fuller consideration."[224]

260. A third example comes in an analysis of spatial competition by James Cooper and others who concluded that,

> [P]rice discrimination is perfectly consistent with competition, just not with perfect competition. Price discrimination implies that price is above marginal cost,

[221] Carlton and Perloff, p. 306.

[222] Carlton and Perloff, p. 307.

[223] William J. Baumol and Daniel G. Swanson, "The New Economy and Ubiquitous Competitive Price Discrimination: Identifying Defensible Criteria of Market Power," *Antitrust Law Journal* 70 (2002-2003): 661-85 (hereafter, "Baumol and Swanson (2002-2003)"), p. 681.

[224] Baumol and Swanson (2002-2003), p. 685. Of course, any analysis of profitability for this purpose must be carried out with appropriate care to ensure a reliable result.

> but this observation has no bearing on a firm's potential to harm competition. . . . [O]bserving price discrimination cannot tell us whether competition is "weak or absent," but only that perfect competition has not obtained, which is hardly a sufficient basis for antitrust intervention.
>
> Second, focusing on a firm's own-price elasticity to show the potential to harm competition - which is implied when courts look to price discrimination as evidence of market power - departs from a proper reading of courts' interpretation of market power. … Evidence of price discrimination - which shows only that a firm is able to set its own price above marginal costs - cannot demonstrate that a firm has the ability to affect market-wide prices and output.[225]

261. The Commissioner fears that the operating rules of Visa and MasterCard force consumers who purchase goods and services with cash or cheques to shoulder some of the merchants' burden of paying the merchant discount on cardholders' transactions.[226] This is like saying that a store's air conditioning forces consumers who purchase goods to shoulder the costs of making other shoppers comfortable even though they leave the store without making a purchase. The same observation could be made about consumers who do not avail themselves of a merchant's free-parking, free coffee, free alterations, or free gift-wrapping services. These practices are rooted in transaction costs which make charging every consumer a different price transparently uneconomic.

[225] James C. Cooper, Luke Froeb, Daniel P. O'Brien, and Steven Tschantz, "Does Price Discrimination Intensify Competition? Implications for Antitrust," *Antitrust Law Journal* 72 (2005), pp. 357-58.

[226] When a merchant accepts a payment card, the effect on the merchant's price will depend on how the payment card affects the response of the merchant's customers to price. That response is measured by economists using the concept of elasticity. Merchants tend to charge higher prices when demand is less elastic (*i.e.*, when their customers are less sensitive to price) and lower prices when demand is more elastic (*i.e.*, when their customers are more sensitive to price). If the advent of payment cards makes the demand a merchant faces more elastic, then the merchant will tend to charge lower prices. The Commissioners' presumption that consumers who do not use cards pay higher prices amounts to their assuming (without foundation) that payment cards will not render demand more elastic.

262. Retailers recognize the value of being able to compete against their rivals by accepting different margins on different sales using promotional deals and loyalty discounts. Retailers also know that promotional deals and loyalty discounts are not an indication that they are exercising problematic market power. But the Commissioner wants to proscribe similar programs on the part of Visa and MasterCard. The Commissioner seeks to overturn the operating rules of Visa and MasterCard in order to increase the ability of retailers to price discriminate at the cash register. In the process, retailers may aspire to have access to another differential pricing tactic at the expense of Visa and MasterCard, but this aspiration has nothing to do with making the market for credit cards more efficient. To claim that price discrimination always means market power is an economic red herring.

vii. The Respondents' interchange rates are not supracompetitive

263. The Commissioner claims that certain of the Respondent's operating rules allow the networks to charge supracompetitive interchange rates and that these rates result in supracompetitive "card acceptance fees." In the absence of these rules, according to the Commissioner, interchange rates would subside and card acceptance fees would fall back to "competitive" levels.[227] The Commissioner's presumption that card acceptance fees in the Respondents' networks are supracompetitive is mistaken. This presumption incorporates the misguided characterization that the Respondents' interchange rates are prices, and also the mistaken view that the only kind of competitive discipline that could be applied to card acceptance fees is discipline from merchants at the point of sale.

[227] Reply of the Commissioner of Competition, ¶ 59 and 80.

264. As I explained earlier in my report, the Respondents' default interchange rates, which comprise the largest part of acquirers' costs, are not prices that can be meaningfully pigeon-holed into competitive or supracompetitive categories. Interchange rates are intra-network transfer payments that are implemented to build and sustain transaction volume on the Respondents' networks. Visa and MasterCard do not even retain the interchange rates that acquirers pay as they retain the "price" of services performed for the acquirers. Consequently, it is economics in error to characterize the Respondents' operating rules as a mechanism for keeping card acceptance fees "above competitive levels."[228] The Commissioner's presumption that card acceptance fees in the Respondents' networks are supracompetitive, because the Respondents enforce operating rules that prevent discriminatory tactics by merchants, ignores the sources of competitive discipline that I have explained elsewhere in my report.

265. Interchange rates and card acceptance fees are not insulated from the effects of competition between the Respondents, competition with other credit card networks such as American Express and proprietary cards, competition with debit card networks such as Interac, and competition with various other payment mechanisms. If one of the Respondents were to discover a competitive advantage in competing against the other, or against various other payment mechanisms, by encouraging merchants to use the discriminatory tactics that the Commissioner favours, I would expect them to do so without the Commissioner's prompting. The Commissioner's intervention to bar certain Respondents' operating rules would not enhance competition; it would only put

[228] Reply of the Commissioner of Competition, ¶ 80.

some extra weight in the saddlebags of Visa and MasterCard (or lighten the saddlebags of American Express, Interac and suppliers of emerging payment technologies).

VI. Conclusion

266. In Section II, I presented a summary of my report and I shall not ask a reader to shoulder the task of reading a rewrite of that section.

267. My principal conclusions are these:

(i) While it is true that the size of acquirers card acceptance fees in the Respondents' networks are responsive to the size of the Respondents' default interchange rates, this is no different than the linkage between the prices of any firm in a competitive market and the firm's input costs. There is nothing unusual or disconcerting about this linkage, which has nothing to do with the exercise of market power. Further, there is nothing in the conduct of the Respondents toward their acquirers or merchants that an economist would construe as price maintenance.

(ii) The market in which Visa and MasterCard compete is more inclusive than the Commissioner and her experts propose. For this reason alone, the Respondents do not possess market power that insulates them from competition.

(iii) Regardless of how the market is defined, the contested operating rules of Visa and MasterCard do not constitute price maintenance, and they do not have an adverse effect on competition. Competition policy is concerned with the creation, preservation and/or enhancement of market power where that market power reduces the output level in the market. That has not been the consequence of the operating rules of Visa and MasterCard.

268. The economic rationale and principal economic effects of the contested operating rules of Visa and MasterCard are to define and enhance the Respondents' products so as to drive transaction volume on their networks. The impressive migration of payments from competing payment systems to credit cards in many sectors of the Canadian economy over an extended period of time is an unmistakable indicator that cardholders and merchants derive mutual benefits from using Visa and MasterCard credit cards.

269. If I may be allowed one more paragraph, I would warn that the economic implications of the Commissioner's proposed remedy go beyond adverse consequences for Visa, MasterCard, and cardholders on their networks. As a precedent for future competition policy, the Commissioner's theory of this case is ill-conceived. The definition of price maintenance in this case is so broad that any action or business practice that raised prices could be considered a potential violation regardless of the effect on consumer welfare or overall economic efficiency. It is well established as a matter of economic theory that an increase in price is neither a necessary nor sufficient condition to conclude that consumer welfare or efficiency has been harmed. From my own perspective of how markets work, and how competition policy promotes market processes, the Commissioner's expansive approach would take antitrust far astray from what Adam Smith called the "obvious and simple system of natural liberty."[229]

[229] Adam Smith, *An Inquiry into the Nature and Causes of The Wealth of Nations*, Edwin Cannan, ed., (Chicago: The University of Chicago Press, 1976), p. 208.

Date: April 10, 2012

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APPENDIX A

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Robert C. Taylor Professor of Economics, University of Virginia, 2002-

Previous Positions

Visiting Professor of Economics, Pepperdine University, Spring 2008
Vernon F. Taylor Visiting Professor of Economics, Trinity University, Spring 2006
Distinguished Visiting Professor, School of Law, Pepperdine University, Spring 2004
Cavaliers' Distinguished Teaching Professorship, 1992-1997
Thomas Jefferson Fellow, Cambridge University, January-June, 1990
Visiting Professor of Economics, Trinity University, Spring 1984
Fellow in Law & Economics, University of Chicago, Winter-Spring 1974
Professor of Economics, University of Virginia, 1974-
Associate Professor of Economics, 1971-1974
Assistant Professor of Economics, 1967-1971
Special Economic Advisor to the Assistant Attorney General, Antitrust Division, Department of Justice, 1970-1971
Assistant Instructor of Economics, Michigan State University, 1965-1966
Research Economist, Senate Antitrust & Monopoly Subcommittee, Summer, 1964

Administrative Positions

Coordinate and teach introductory economics course with 1000 students and 20 graduate student teaching assistants, 1967
Executive Committee, Southern Economic Association, 1985-87; 1991-93
Assistant Dean, College of Arts & Sciences, 1971-1973

Editorial Board

The Journal of Markets and Morality, 1998-2004
The Antitrust Bulletin, 1977-
Industrial Organization Review, 1972-79
The Social Science Quarterly, 1969-1977

Academic Awards

Society of Economic Educators, 2009
Jefferson Scholars Foundation Faculty Prize, University of Virginia, 2009
Patrick Henry Award, Commonwealth of Virginia, 2001
Distinguished Alumni Award, Michigan State University, 1999
Templeton Honor Roll Award for Education in a Free Society, John Templeton Foundation, 1997
Kenan Enterprise Award for Teaching Economics, William R. Kenan, Jr. Charitable Trust, 1996
Thomas Jefferson Award, University of Virginia, 1992
Phi Eta Sigma Teacher of The Year, 1992
Commonwealth of Virginia Outstanding Faculty Award, 1992
President, Southern Economic Association, 1991
Raven Society Faculty Honor Award, 1983
Distinguished Alumni Award, Kalamazoo College, 1983
Distinguished Professor Award, University of Virginia, 1979
President, Industrial Organization Society, 1979
Phi Beta Kappa Prize for *The Antitrust Penalties* (shared with William Breit), 1977
Inducted to Raven Society, 1977
Phi Beta Kappa Visiting Scholar, 1973-1974
Z Society Outstanding Teaching Award, University of Virginia, 1973
Woodrow Wilson Fellow, 1964
W. G. Howard Prize in Economics, 1963
R. S. Light Scholar, University of Bonn, 1962

Member

University Academy of Teaching, University of Virginia, 2011-
Council of Distinguished Fellows, C.S. Lewis College, 2009-
Hastert Center Advisory Board, Wheaton College, 2008-
Board of Trustees, Hope College, 1983-1990, 2007-
Board of Trustees, Intervarsity Christian Fellowship, 1992-2000, 2006-
Board of Trustees, In Media Res, 1999-
Committee on Economic Education, American Economic Association, 2005-2010
Council of Academic Advisors, C.S. Lewis Foundation, 2000-
Faculty, Advanced Course for Federal Judges on Antitrust Economics, Law and Economics Center, 1982, 1983, 1984, 1986, 1992, 2001, 2002
American Bar Association Special Committee to Study the Federal Trade Commission, 1988-89
Nuclear Regulatory Commission Licensing and Safety Board Panel, 1971-1979
Trial Judge (with M. L. Glaser & M. E. Miller), *In the Matter of Alabama Power Company*, 5 *Nuclear Regulatory Commission* 804-962, 1977

Membership

American Economic Association
Southern Economic Association
Mystery Writers of America
International Association of Crime Writers
International J. A. Schumpeter Society
Industrial Organization Society
American Bar Association, Associate
American Law & Economics Association
Beeronomics Society
American Association of Wine Economists

Publications (not including book reviews)

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"The Problem of Geographic Market Delineation in Antimerger Suits," (with Thomas F. Hogarty) 18 Antitrust Bulletin 45 (Spring, 1973).

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"Private Actions: The Purposes Sought and the Results Achieved: The Economist's View," (with William Breit) 43 Antitrust Law Journal 9 (1974).

"Product Differentiation and Institutionalism: New Shadows on An Old Terrain," (with William Breit) 8 Journal of Economic Issues 813 (December, 1974).

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"The Beer Industry," in Walter Adams (ed.) The Structure of American Industry 5th ed. (New York: Macmillan, 1977).

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The Antitrust Penalties: A Study in Law and Economics co-author with William Breit (New Haven: Yale University Press, 1976). Cited by Justice Burger in Texas Industries v. Radcliff Materials, 451 U.S. 630, 636 (1981).

"The Goals of Antitrust - Other Than Competition and Efficiency, What Else Counts?," 125 University of Pennsylvania Law Review 1191 (June, 1977).

Economics: A Reader (edited) 3rd. ed. (New York: Harper & Row, 1978).

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APPENDIX B

AUGUST 2011

Expert Testimony and Sworn Statements: Kenneth G. Elzinga

These are the antitrust cases in which I have presented deposition or trial testimony or authored a sworn statement since August, 1985.

1. Assam Drug Co. v Miller Brewing Company, (U.S. D.C. for S. Dakota, Southern Div.). Affidavit for Miller Brewing Company dated 8/5/1985.

2. State of New York v. Anheuser-Busch, et al. (U.S. D.C. for E.D. N.Y.) Deposition testimony given on 6/6/1989 and 7/7/1989. I was deposed on behalf of the Miller Brewing Company. Expert Affidavit filed on 12/24/1986.

3. Liggett v. Brown & Williamson, (U.S. D.C. for M.D. N.C., Durham, Div.), deposed on 10/21/1986, 11/14/1986 and 3/12/1987; trial testimony given on 1/22-24/1990. I testified on behalf of Brown & Williamson. Answering Affidavit dated 1/28/87; Reply Affidavit dated 2/1619/87; Affidavit dated 3/30/1987.

4. Lifschultz v. Consolidated Freightways, Roadway & Yellow Freight (U.S. D.C. for S. C., Greenville Div.), deposition testimony given on 3/8-9/1990, 3/12-16/1990. I was deposed on behalf of the three defendants. Expert Report dated 8/31/1989.

5. Kimberly Clark v. Procter & Gamble (U.S. D.C. for NE.D. Texas, Dallas Div.), deposition testimony on 5/21-23/1991. I was deposed on behalf of Procter & Gamble.

6. Infant Formula Antitrust Investigation, MDL-878 (U.S. D.C. for N.D. FL, Tallahassee Div.), deposition testimony on September 21-23, 1992. I was deposed on behalf of the State of Florida and three grocery chains, Albertsons, American Stores, and Safeway. Sworn Declaration dated 11/2/1992.

7. Pearl Brewing Co. and Pabst Brewing Co. v. Miller Brewing Company (U.S. D.C. for W.D. of Texas), Expert Report dated 3/20/1993 on behalf of Miller Brewing.

8. R&D Business Systems, et al. v. Xerox Corporation and Gemini Equipment Partners, et al. v. Xerox Corporation, (U.S. D.C. for E.D. Texas), deposition testimony given 1/12-13/1994. I was deposed on behalf of Xerox.

9. Nestle Food Company v. Abbott Laboratories, et al., (U.S. D.C. for C.D. of Cal), deposition testimony on 1/16-17/1994, 12/5/1994, 12/9/1994; trial testimony given on 5/18-19/1995. I testified on behalf of Nestle.

10. Procter & Gamble v. Paragon Trade Brands, (U.S. D.C. for Del.), deposition testimony on 6/22-23/1995. I testified on behalf of Procter & Gamble.

11. Clorox v. Reckitt & Colman, (U.S. D.C. for E.D. of N.Y.). Expert Affidavit dated 8/9/1995; filed on behalf of Reckitt & Colman.

12. Brand Name Prescription Drug Litigation, (U.S. D.C. for N.D. IL), Expert Report dated 11/30/1995 filed on behalf of SmithKline Beecham and deposition testimony given on 12/28-29/1995.

13. JCB Mining, Inc. v. Peabody Development Company, (C.C. for Monongalia County, WV). Trial testimony given on 9/20,23/1996 on behalf of Peabody.

14. Coors Brewing Company v. Miller Brewing Company and Molson Breweries, (U.S. D.C. for Col.), Expert Report dated 7/23/1996; filed on behalf of Miller and Molson and deposition testimony on 10/8-9/1996.

15. In re: Independent Service Organizations Antitrust Litigation (U.S. D.C. for Kansas), Expert Reports dated 12/1996 and 1/1997 filed on behalf of Xerox and deposition testimony on 1/14/1997.

16. In re: Industrial Silicon Antitrust Litigation (U.S. D.C. for W.D. of Penn), Expert Reports dated 10/1997 and 3/1998 filed on behalf of GM, Ford, Chrysler, USS and Republic and deposition testimony on 12/8, 10, 12/1997.

17. In The Matter Of: High Fructose Corn Syrup Antitrust Litigation (U.S. D.C. for C.D. of IL), Expert Report on behalf of defendants dated 3/19/98. Deposition testimony on 10/13, 14, 28/1998 and 3/26/2001. Supplemental Report filed 3/21/2001. Declaration filed on 3/29/2001. Response Report to Professor Frank Wolak dated 3/12/2004.

18. S. McCampbell and C. O'Husky v. Ralphs Grocery Company, The Vons Companies, & Lucky Stores, (Superior Court of California, County of San Diego). Deposition testimony on behalf of Ralphs, Vons, and Lucky on 12/9/1998. Trial testimony on 8/18-19/1999

19. Caldera, Inc. v. Microsoft Corporation (U.S. D.C. for C.D. of Utah), Expert Report dated 12/14/1998 filed on behalf of Microsoft and deposition testimony on 1/20/1999 and 3/8/1999. Supplemental Report dated 9/10/1999.

20. Bristol Technology, Inc. v. Microsoft Corporation (U.S. D.C. for CT), Expert Report dated 4/15/1999 filed on behalf of Microsoft. Deposition testimony on 5/17/1999 and 6/10/1999. Trial testimony on 6/28-29/1999.

21. Hugh Collins, et al. v. International Dairy Queen, Inc. (U.S. D.C. for M.D. of Georgia), Expert Report dated 12/10/1999 filed on behalf of Dairy Queen. Supplemental Report dated 2/7/2000.

22. Continental Airlines v. United Airlines, et al. (U.S. D.C. for E.D. of Virginia), Expert Report dated 8/25/00 filed on behalf of Continental Airlines. Deposition testimony on 9/6/2000 and 10/4/2000. Rebuttal Report dated 9/22/2000.

23. In re: Auction Houses Antitrust Litigation (Sotheby's and Christie's), Economic Assessment of Proposed Class Settlement (with Denise Martin) dated 1/18/2001; Supplemental Report dated 1/25/2001. Court appointed consultant to Judge Lewis A. Kaplan (S.D. N.Y.).

24. R. J. Reynolds v. Philip Morris; Lorillard v. Philip Morris; Brown & Williamson v. Philip Morris (U.S. D.C.for Middle District of N.C.), Expert Report dated 7/31/2001 filed on behalf of Philip Morris. Deposition testimony on 8/23-24/2001. Trial Testimony in PI Hearing, 10/17/2001. Supplemental Report dated 12/13/2001.

25. In Re: Cigarette Antitrust Litigation aka Holiday Wholesale Grocery Co v. Philip Morris, et al. (U.S. D.C. for Northern District of GA, Atlanta Division), Expert Report dated 12/19/2001 filed on behalf of Philip Morris. Deposition testimony on 1/31/2002.

26. State of New York et al., v. Microsoft Corporation (U.S. D.C. for D.C.), Expert Report dated 1/25/2002 filed on behalf of Microsoft. Deposition testimony given on 2/20/2002 and 2/25/2002. Written direct testimony submitted on 5/5/2002; court testimony on 5/8-9/2002.

27. Spirit Airlines, Inc. v. Northwest Airlines, Inc. (U.S. D.C. for Eastern Michigan), Expert Report dated April 5, 2002 filed on behalf of Spirit. Rebuttal report dated filed 5/31/2002. Deposition testimony on 6/21/2002. Affidavit dated 8/8/2002.

28. Monsanto Company v. Mitchell Scruggs et al. (U.S. D.C. for N. Mississippi), Expert Report dated April 18, 2002 filed on behalf of Monsanto. Deposition testimony given on 5/22/2002. Declaration filed on 12/3/2003. Supplemental Declaration filed on 1/16/2004.

29. Chemical Products Technologies v. Monsanto Company. (U.S. D.C. for the District of South Carolina), Expert Report dated 5/20/2002 filed on behalf of Monsanto.

30. Crest Foods of Edmond, L.L.C. v. Wal-Mart Stores, Inc. (U.S. D.C. for the Western District of Oklahoma), Expert Report dated 11/26/2002 filed on behalf of Wal-Mart. Expert Report dated 12/12/2002 filed on behalf of Wal-Mart. Deposition testimony on 12/16/2002. Declaration filed 1/31/2003. Supplemental Report filed 2/24/2003.

31. Maureen Baker, et al. v. Jewel Food Stores, Inc., et al. (State of Illinois, County of Cook), Expert Report dated 12/9/2002 filed on behalf of Dominick's and Jewel. Deposition testimony on 1/7/2003.

32. Coalition for a Level Playing Field, et al. v. AutoZone, inc. et al. (U.S. D.C. for Eastern District of N.Y.), Expert Report dated 1/20/2003 on behalf of AutoZone; court testimony on 1/27/2003.

33. Smith Wholesale Co., et al. v. Philip Morris, (U.S. D.C. for Eastern District of Tennessee), Expert Report dated 7/9/2003 on behalf of Philip Morris; court testimony on 7/15/2003. Deposition on 10/13/2004.

34. PSKS, Inc. and Toni Cochran, L.L.C. v. Leegin, Inc. (U.S. D.C. for Eastern District of Texas, Marshall Division), Expert Report dated 1/12/2004 on behalf of Leegin. Deposition testimony on 2/20/2004.

35. U.S. v. Oracle Corporation, (U.S. D.C. for Northern District of California, San Francisco Division), Expert Report dated 4/26/2004 on behalf of the Antitrust Division. Supplemental Report filed 5/3/2004. Rebuttal Report filed 5/18/2004. Second Supplemental Report filed 5/24/2004. Deposition testimony on 5/27-28/2004; court testimony on 6/18/2004.

36. In the matter of Evanston Northwestern Healthcare Corporation, Federal Trade Commission Docket D9315, Expert Report dated 9/21/2004 on behalf of the FTC; court testimony on 2/25/2005.

37. Sandar V. Nilavar v. Mercy Health System-Western Ohio, et al. (U.S. D.C. for Southern District of Ohio), Affidavit filed 7/29/2005.

38. Syngenta Seeds, Inc. v. Monsanto Company (U.S. D.C. for District of Delaware), Expert Report dated 8/21/2006 on behalf of Monsanto. Deposition testimony on 9/27/2006.

39. Lindsay Hall (on behalf of a class) v. Leegin Creative Leather Products, Inc. (18^{th} Judicial District, Sedgwick County, Kansas, Civil Department). Expert Report dated 11/30/2006 on behalf of Leegin. (See 44. below)

40. Kentucky Speedway, LLC v. National Association for Stock Car Auto Racing, Inc. and International Speedway Corporation (U.S. D.C. for Eastern District of Kentucky), Expert Report dated 5/23/2007 on behalf of NASCAR and ISC. Deposition testimony on 6/12-13/2007.

41. In re: Ethylene Propylene Diene Monomer (EPDM) Antitrust Litigation (U.S. D.C. for District of Connecticut). Expert Report dated 7/16/2007 on behalf of DSM. Deposition testimony on 12/19/2007.

42. In re: OSB Antitrust Litigation (U.S. D.C. for Eastern District of Pennsylvania). Expert Report dated 9/24/2007 on behalf of Tolko. Deposition testimony on 11/6/07.

43. American Express Travel Related Services Inc. v. Visa U.S.A., Inc., et al. (U.S.D.C. for Southern District of New York), Expert Report dated 10/8/2007 on behalf of Visa, MasterCard, and defendant banks. Deposition testimony on 10/30-31/07.

44. Sue O'Brien (on behalf of a class) v. Leegin Creative Leather Products, Inc. (18th Judicial District, Sedgwick County, Kansas, Civil Department). Expert Report Reply dated 1/22/2008 on behalf of Leegin.

45. In re: Wellbutrin SR Antitrust Litigation; Sheet Metal Workers Local 441 v. GlaxoSmithKline; and Medical Mutual of Ohio v. GlaxoSmithKline (U.S. D.C. for Eastern District of Pennsylvania). Expert Report dated 7/29/2008 on behalf of GlaxoSmithKline. Supplemental Report dated 10/9/2008. Deposition testimony on 10/14/2008.

46. Rambus v. Micron Technology, Inc., et al. (Superior Court of the State of California). Expert Report dated 11/6/2008 on behalf of Rambus. Supplemental Report dated 12/19/2008. Deposition testimony on 1/12-13/2009. Declaration dated 1/23/2009. Deposition testimony on 4/10/2009 and on 8/19/2009. Trial Testimony dated 7/26-27/2011.

47. Marty Ginsburg et al. v. InBev N.V./S.A. and Anheuser-Busch, Inc. (U.S. D.C. for Eastern District of Missouri). Declaration dated 11/7/2008 on behalf of InBev.

48. In Re Payment Card Interchange Fee and Merchant Discount Antitrust Litigation. (U.S. D.C. for Eastern District of New York). Expert Report dated 12/14/20009 on behalf of Visa and MasterCard. Deposition testimony on 3/10-11/2010.

49. Sweetwater Valley Farms, et al. v. Dean Foods, et al. (U.S. D.C. for Eastern District of Tennessee, Greenville Division). Expert Report dated 5/3/2010 on behalf of defendants. Deposition testimony on 6/3-4/2010.

50. Food Lion, LLC, et al., v. Dean Foods Company, et al. (U.S. D.C. for Eastern District of Tennessee, Greenville Division). Expert Report dated 5/3/2010 on behalf of defendants. Deposition testimony on 6/9-10/2010.

51. Ross, et al. v. Bank of America, et al. (U.S. D.C. Southern District of New York). Expert Report dated 9/21/2010 on behalf of defendants Citibank and Discover. Deposition testimony on 10/13/2010.

APPENDIX C

Materials Relied Upon

Application and Reply

Notice of Application of the Commissioner of Competition filed before the Competition Tribunal, CT-2010-010, 12/15/10.

Reply of the Commissioner of Competition before the Competition Tribunal, CT-2010-10, 2/14/11.

Expert Reports

Expert Report of Alan S. Frankel, Ph.D., 3/9/12.

Expert Report of Dennis Carlton, 3/14/12.

Expert Report of Michael S. Mulvey, 4/2/12.

Expert Report of Mike McCormack, 3/14/12.

Expert Report of Ralph A. Winter, 3/12/12.

Witness Statements and Affidavits

Witness Statement of Brian Weiner.

Witness Statement of Craig Daigle.

Witness Statement of Kevin J. Stanton.

Witness Statement of William Sheedy.

Cases / Statutes

Brooke Group v. Brown & Williamson, 509 U.S. 209 (1993).

Canadian Competition Act, Section 76.

Continental T.V., Inc., et al., v. GTE Sylvania Incorporated, 433 U.S. 36, 55 (1977).

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Keith B. Nelson, Principal Deputy Assistant Attorney General, Letter to The Honorable Lamar Smith, Ranking Member Committee on the Judiciary United States House of Representatives, 6/23/08.

APPENDIX D

Competition Tribunal Tribunal de la concurrence

Canada

Acknowledgement of Expert Witness

COMPETITION TRIBUNAL

December 2010

RE: ACKNOWLEDGEMENT OF EXPERT WITNESSES

Expert witnesses who provide a report for use as evidence are required to sign the Tribunal's "Acknowledgement of Expert Witness" form which is attached to this Notice. In signing they acknowledge that they will comply with the Tribunal's code of conduct for expert witnesses. It is described in the form. A signed copy of the form is to be included in all expert reports filed with the Tribunal.

Sandra Simpson
Chair

APPENDIX: ACKNOWLEDGEMENT OF EXPERT WITNESS

I, *(name of expert)*, acknowledge that I will comply with the Competition Tribunal's code of conduct for expert witnesses which is described below:

1. An expert witness who provides a report for use as evidence has a duty to assist the Tribunal impartially on matters relevant to his or her area of expertise.

2. This duty overrides any duty to a party to the proceeding, including the person retaining the expert witness. An expert is to be independent and objective. An expert is not an advocate for a party.

April 10, 2012
(Date)

Kenneth G. Elzinga
(Signature of expert witness)

Date Modified:2010-12-23

APPENDIX E

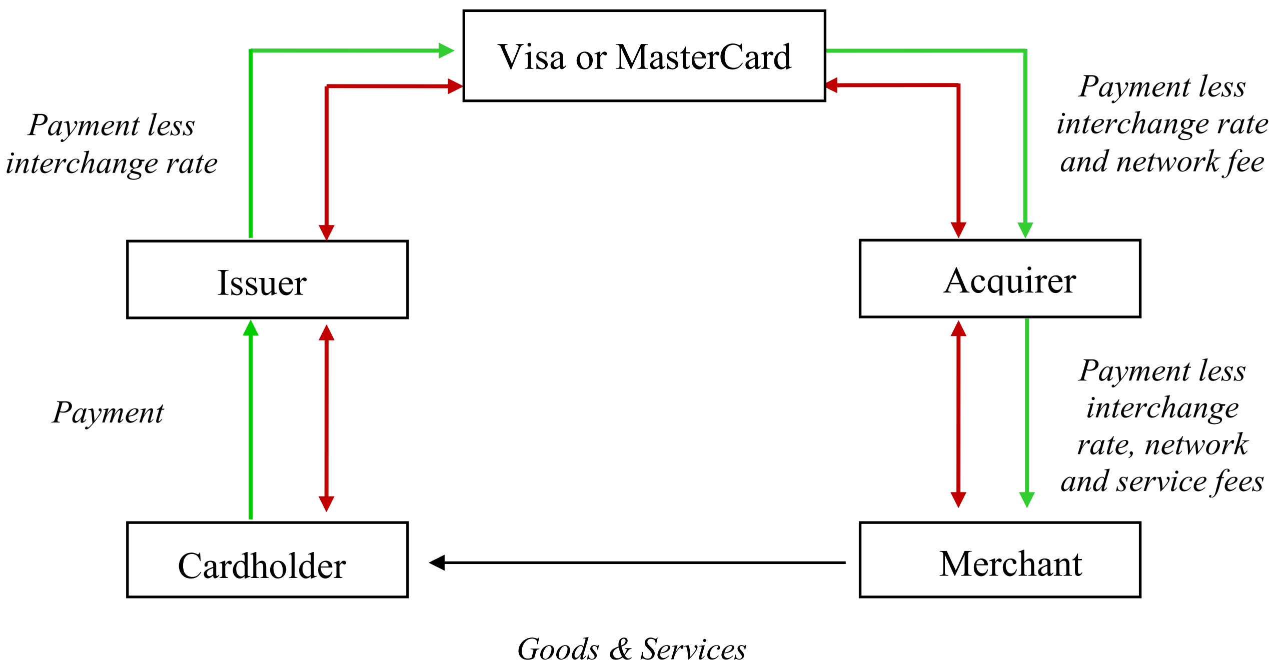
The Flow of Funds in an Open Card Payment System

1. This Appendix is redundant for readers already familiar with the mechanics of card payment systems. But in the interests of completeness and offering one-stop shopping, this section describes the flow of funds and flow of data in an open card payment system such as those operated by Visa and MasterCard.[1]

2. **Figure 1** depicts the relationship between the networks, their issuers and acquirers, and their customers on both sides. The red lines in the Figure depict information flows and the green lines depict the flow of funds. Starting at square one: the cardholder purchases goods or services from the merchant with, let us suppose, a credit card. The merchant then transmits a request for payment to the merchant's acquirer. Next, the transaction must be authorized. Following the red lines in the Figure, the acquirer institution transmits the request through the card network to the institution that issued the card. If the issuer approves the transaction, the approval is transmitted back along the red lines to the acquirer.

[1] See, for example, Merchant Resource Center, Visa Card Acceptance in Action, http://www.visa.ca/en/merchant/acceptingvisa/visa-card-acceptance-in-action/index.jsp (accessed 4/10/12).

Figure 1



2. After the transaction is authorized, the merchant deposits the transaction receipt with its acquirer who passes the information to the issuer.[2] This involves another trip through the network along the red lines. The issuer debits the cardholder's account (a demand deposit account in the case of debit cards, and a credit card account in the case of credit cards), and transfers the value of the charge less the amount of the interchange **fee** to the network, which deducts a network fee, and then on to the acquirer. Now following the green lines, settlement is completed when the acquirer reimburses the merchant for the value of the charge less

[2] There can be an additional entity involved on the acquirer side, *e.g.*, a third party processor, which deals directly with the merchant and undertakes such matters as negotiating compensation and other contractual arrangements. For the sake of expositional simplicity, I have not included a separate discussion of the role of such third party entities in my descriptions here.

interchange rate, the network fee and the acquirer's service charge. The sum of these three fees is known as the card access fee. Reimbursement of the merchant normally is accomplished the day after the consumer makes her purchase.[3] The transaction is completed when the cardholder makes a payment to the institution that issued her card sometime during the current billing cycle or else delays her payment and pays the issuer interest for the extension of credit beyond the close of the billing cycle. During the time between when the issuer transfers funds to the merchant's acquirer, the issuer shoulders the risk that it will not receive payment from the cardholder.

3. An issuer receives revenue from its credit card operations in several ways. Some cardholders pay annual fees to use their credit cards and some pay interest on their revolving balances. The issuer also receives revenue from interchange rates when cardholders use their cards. Issuers incur costs when, among other things, cardholders default on their obligation to pay their credit card bills. These costs are significant. The issuer also incurs costs in promoting and operating its card programs, including the cost of funding rewards that the cardholder receives.

2. Depending on the particular card's fees and rewards, and on whether the cardholder is a "revolver" or a "transactor,"[4] the cardholder may "pay" a negative fee to the issuer.[5] Banks issuing cards on the Visa or MasterCard network

[3] I understand that generally the banks in both systems combine each day's worth of debit card transactions in a single net transfer rather than transfer the amount of each single transaction one by one. See http://www.visadps.com/services/settlement_services.html (accessed 4/10/12).

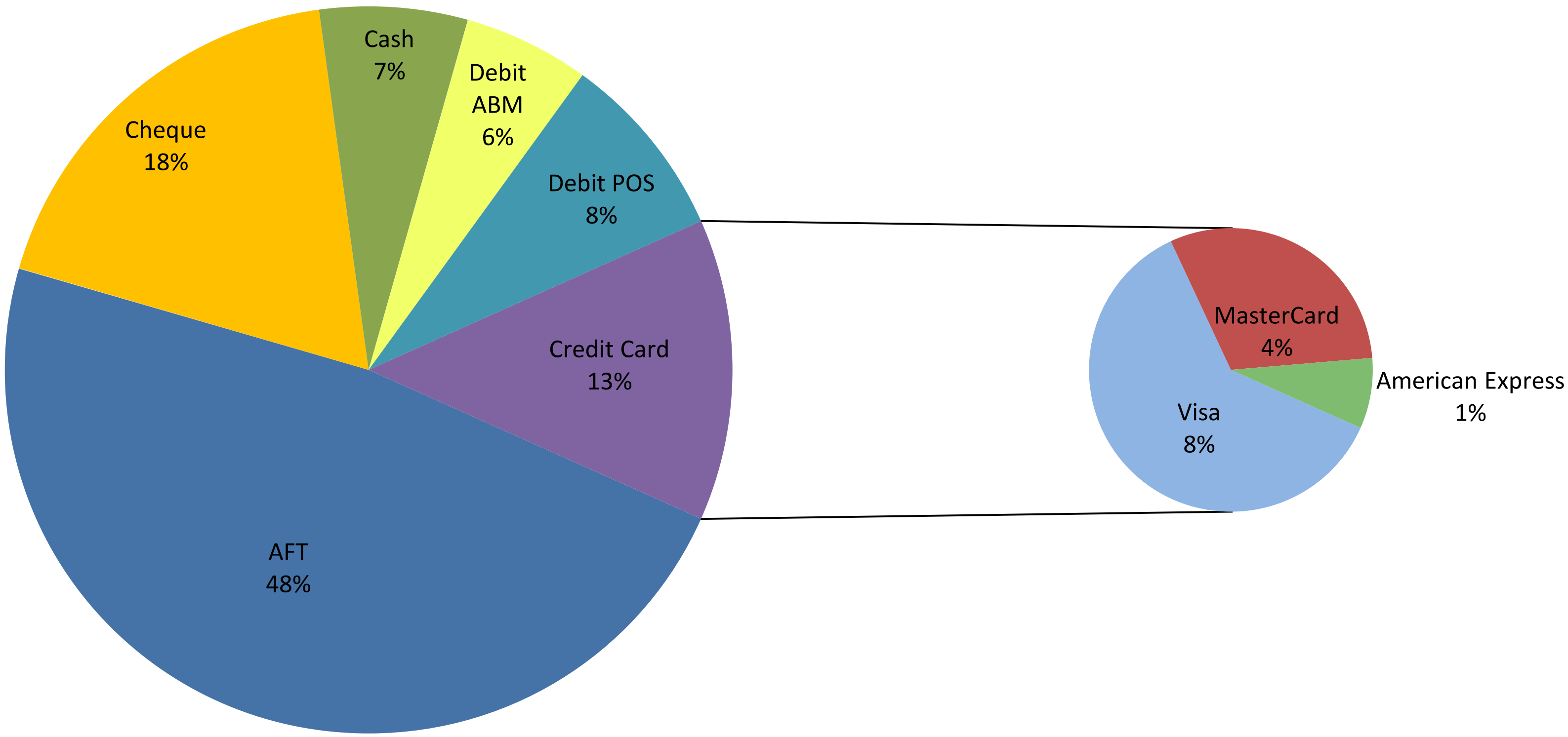
[4] A "revolver" is a credit card holder who carries over some portion of his credit card balance to the next month rather than paying the full amount due. A revolver pays off the balance over time, thus "revolving" the balance. A "transactor" is a credit card holder who pays the full balance of his credit card each month.

[5] That is, the value of the rewards (and the benefit of float) to the cardholder exceeds the cardholder's cost.

customize the fees and, subject to guidelines set by the networks, the rewards associated with their cards are designed to make them competitive with other issuers' card offerings and other payment systems. Similarly, networks like Visa and MasterCard design and implement promotions to support their brands, just as issuers design and implement marketing programs to promote the features of their specific cards.

Exhibit 1

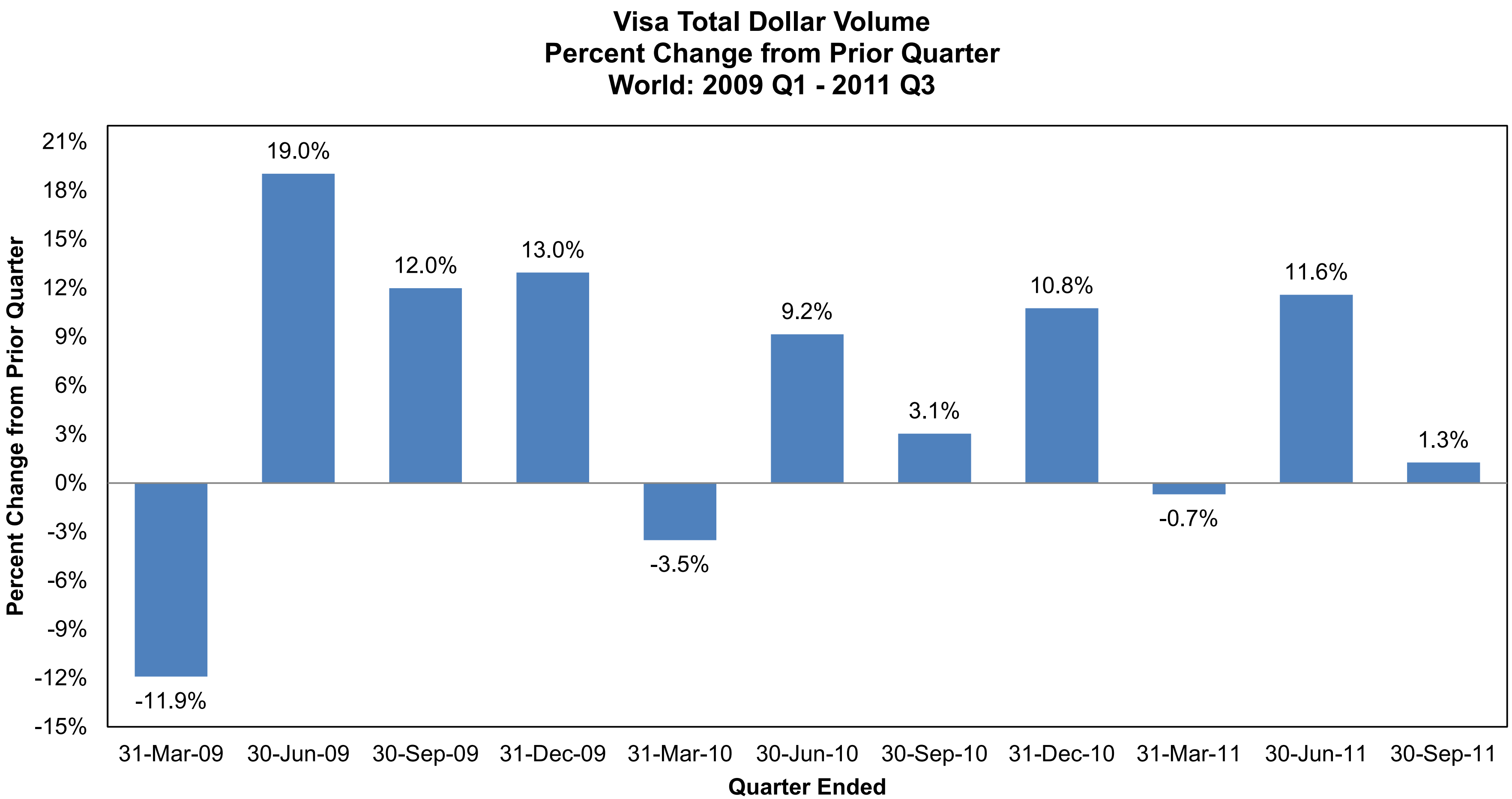
Share of Total Transaction Dollar Volume by Payment Method
Consumers and Small Businesses
Canada: 2009



Note: The shares of payment methods were calculated using the value of transactions by consumers and small businesses reported in the Canadian Payments Landscape Report. The shares of credit card volume for Visa, MasterCard, and American Express were calculated using the relative dollar volume of the three for 2009 as reported in the *Nilson Report*. The *Nilson Report* did not report data for proprietary credit cards or Discover.

Sources: *The Nilson Report* 944 (3/10); Canadian Payments Landscape, (9/10).

Exhibit 2

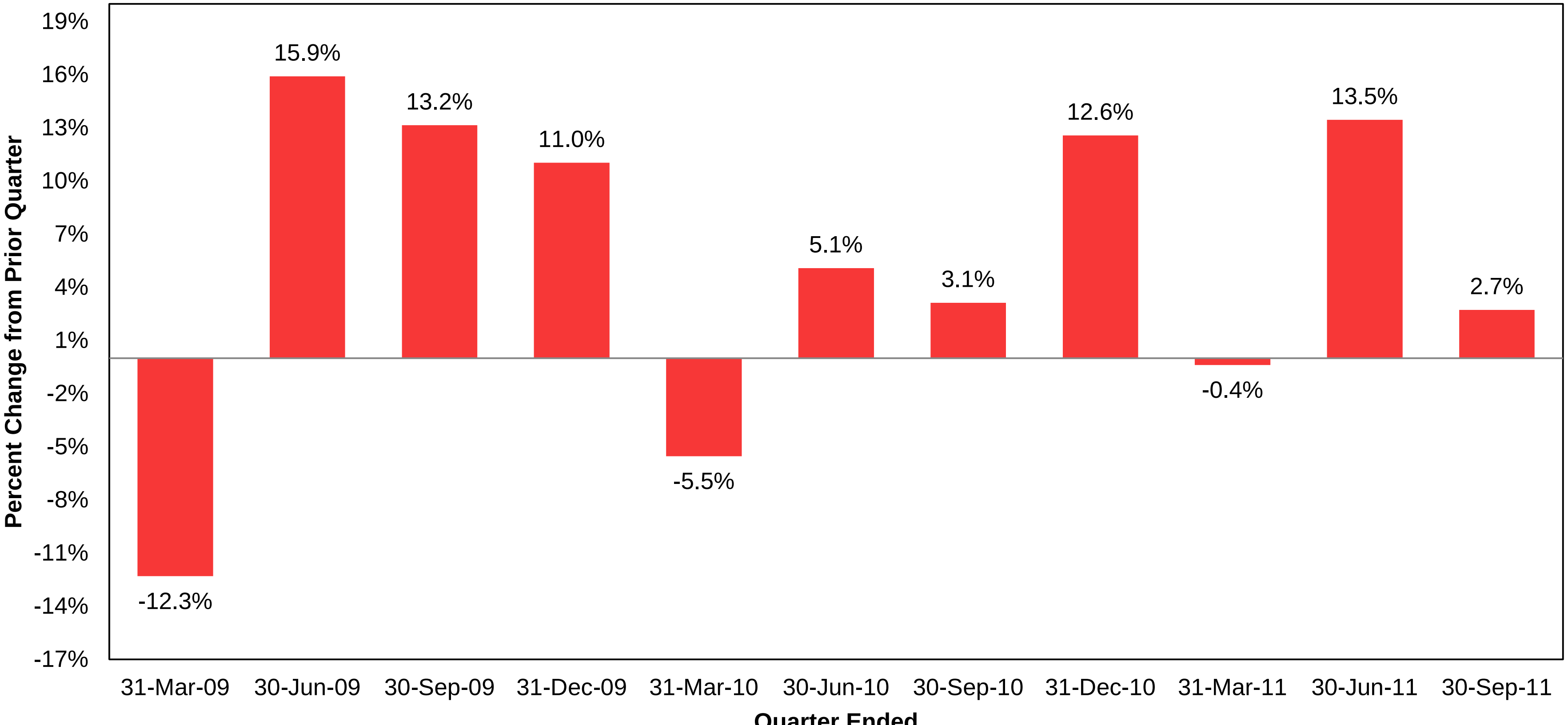


Note: Visa total dollar volume is "total volume" reported in Visa's public filings. Total volume is the sum of total payments volume and cash volume for transactions carried out with Visa-branded products. Total payments volume is the total monetary value of transactions for goods and services that are purchased with Visa branded cards. Cash volume generally consists of cash access transactions, balance access transactions, balance transfers and convenience checks.

Sources: Visa Inc. 10-K for the fiscal year ended 9/30/11; Visa Inc. 10-Qs for the quarterly periods ended 6/30/10; 12/31/10; 3/31/10; 6/30/11; 12/31/11; and 3/31/11; Board of Governors of the Federal Reserve System, Foreign Exchange Rates - H.10, Historical Rates for the Canadian Dollar (as of 11/28/11).

Exhibit 3

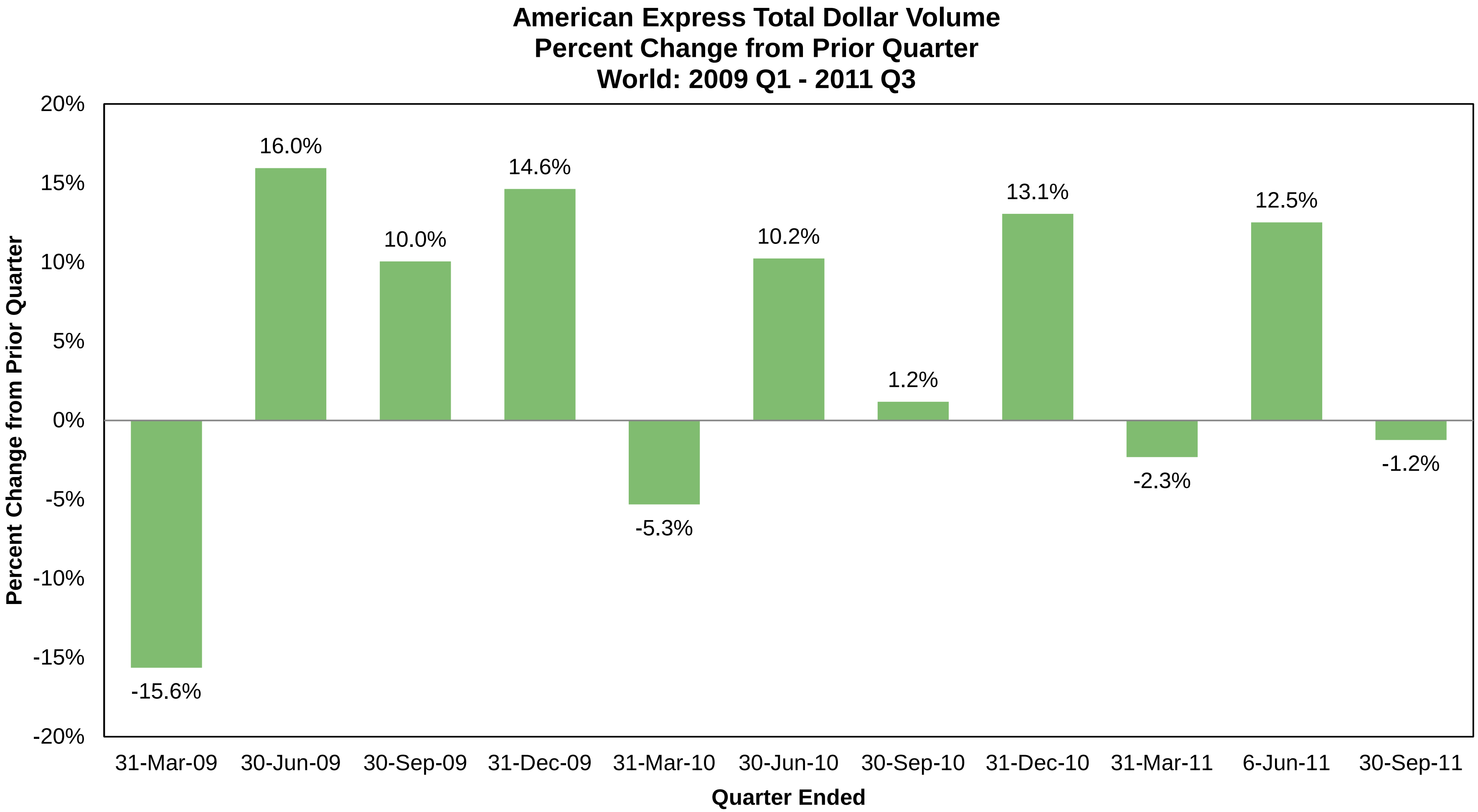
MasterCard Total Dollar Volume
Percent Change from Prior Quarter
World: 2009 Q1 - 2011 Q3



Note: MasterCard total dollar volume is the "gross dollar volume" reported in MasterCard's public filings. Gross dollar volume represents the total dollar volume of transactions on MasterCard-branded cards. These data do not include volume for Maestro or Cirrus branded cards. Data are provided to MasterCard by its customer financial institutions and include MasterCard-branded transactions that are not processed by MasterCard.

Sources: MasterCard Incorporated 10-Ks for the fiscal years ended 12/31/10 and 12/31/11; MasterCard Incorporated 10-Qs for the quarterly periods ended 9/30/09; 3/31/10; 6/30/10; 9/30/10; 3/31/11; 6/30/11; and 9/30/11; Board of Governors of the Federal Reserve System, Foreign Exchange Rates - H.10, Historical Rates for the Canadian Dollar (as of 11/28/11).

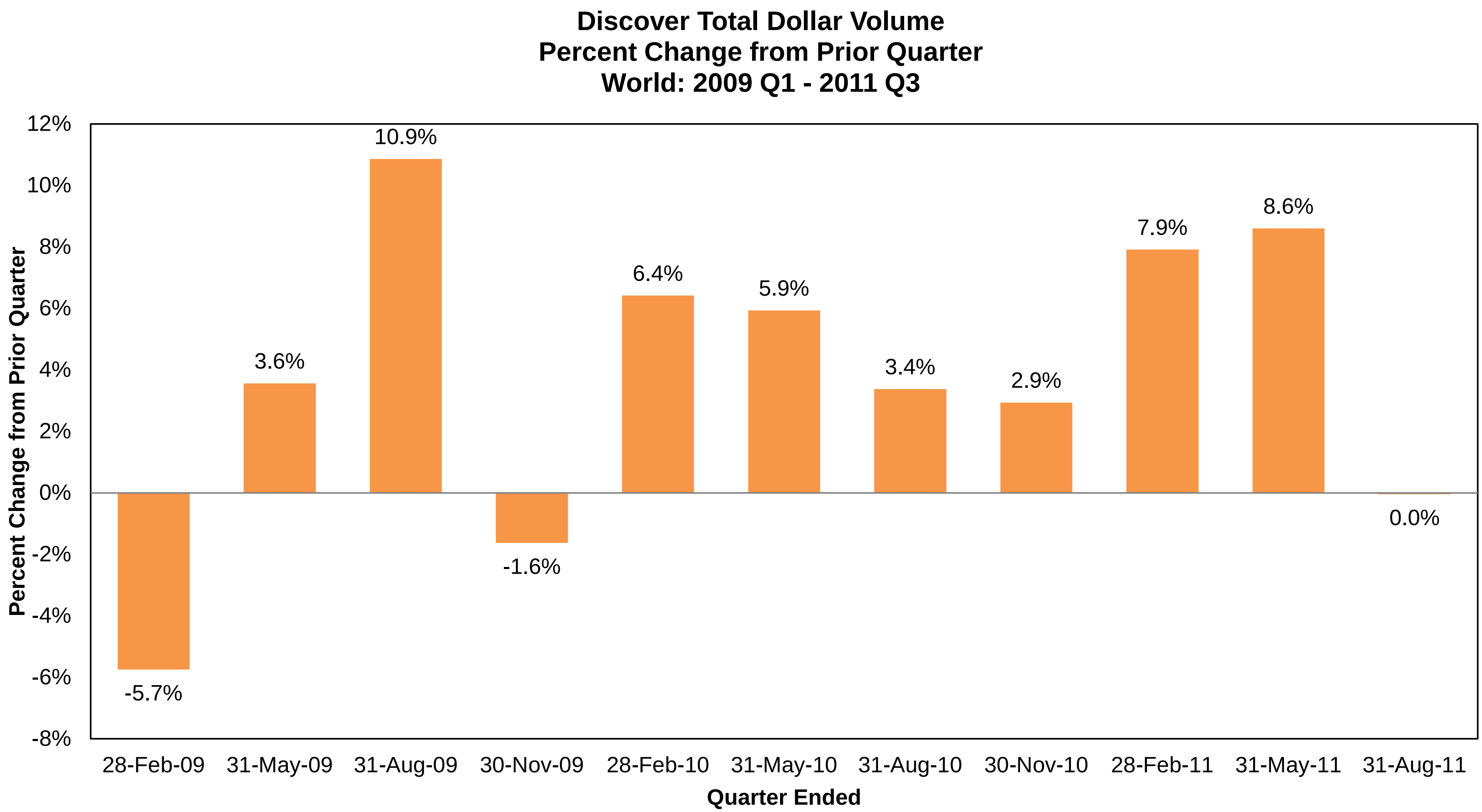
Exhibit 4



Note: American Express total dollar volume is "billed business" reported in American Express' public filings. Billed business represents spending on American Express cards, including cards issued by third parties.

Sources: American Express Company 10-Ks for the fiscal years ended 12/31/10 and 12/31/11; American Express Company 10-Qs for the quarterly periods ended 9/30/09; 3/31/10; 6/30/10; 9/30/10; 3/31/11; 6/30/11; and 9/30/11; Board of Governors of the Federal Reserve System, Foreign Exchange Rates - H.10, Historical Rates for the Canadian Dollar (as of 11/28/11).

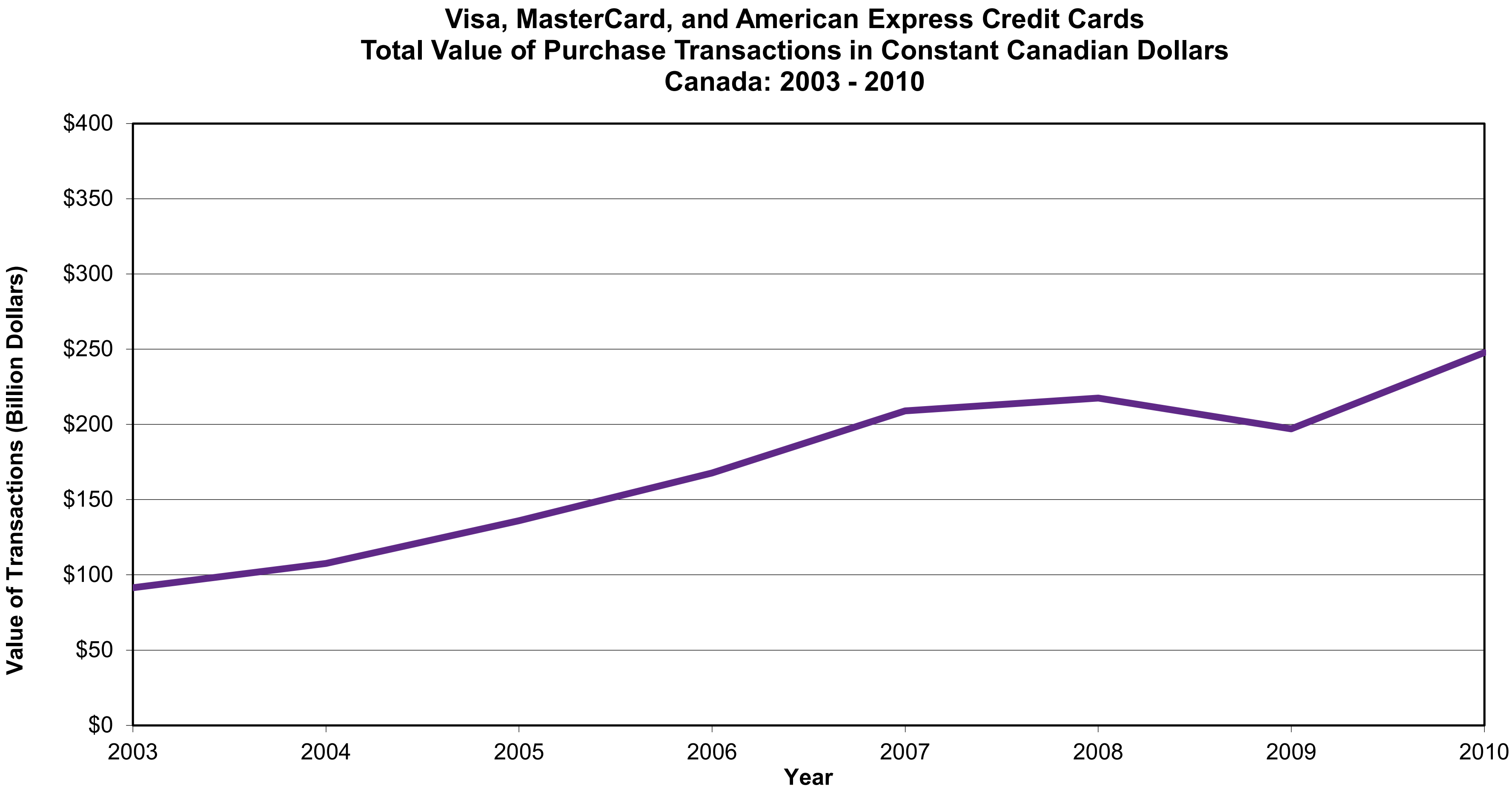
Exhibit 5



Note: Discover total dollar volume is "total network transaction volume" reported in Discover's public filings. Network transaction volume represents transactions processed on the Discover Network including PULSE Network, Diners Club, Third Party Issuers, and Discover proprietary sales volume.

Sources: Discover Financial Services 10-K for the fiscal year ending 11/30/10; Discover Financial Services 10-Qs for the quarterly periods ended 8/31/09; 2/29/10; 5/31/10; 8/31/10; 2/28/11; 5/31/11; 8/31/11; and 2/28/12; Board of Governors of the Federal Reserve System, Foreign Exchange Rates - H.10, Historical Rates for the Canadian Dollar (as of 11/28/11).

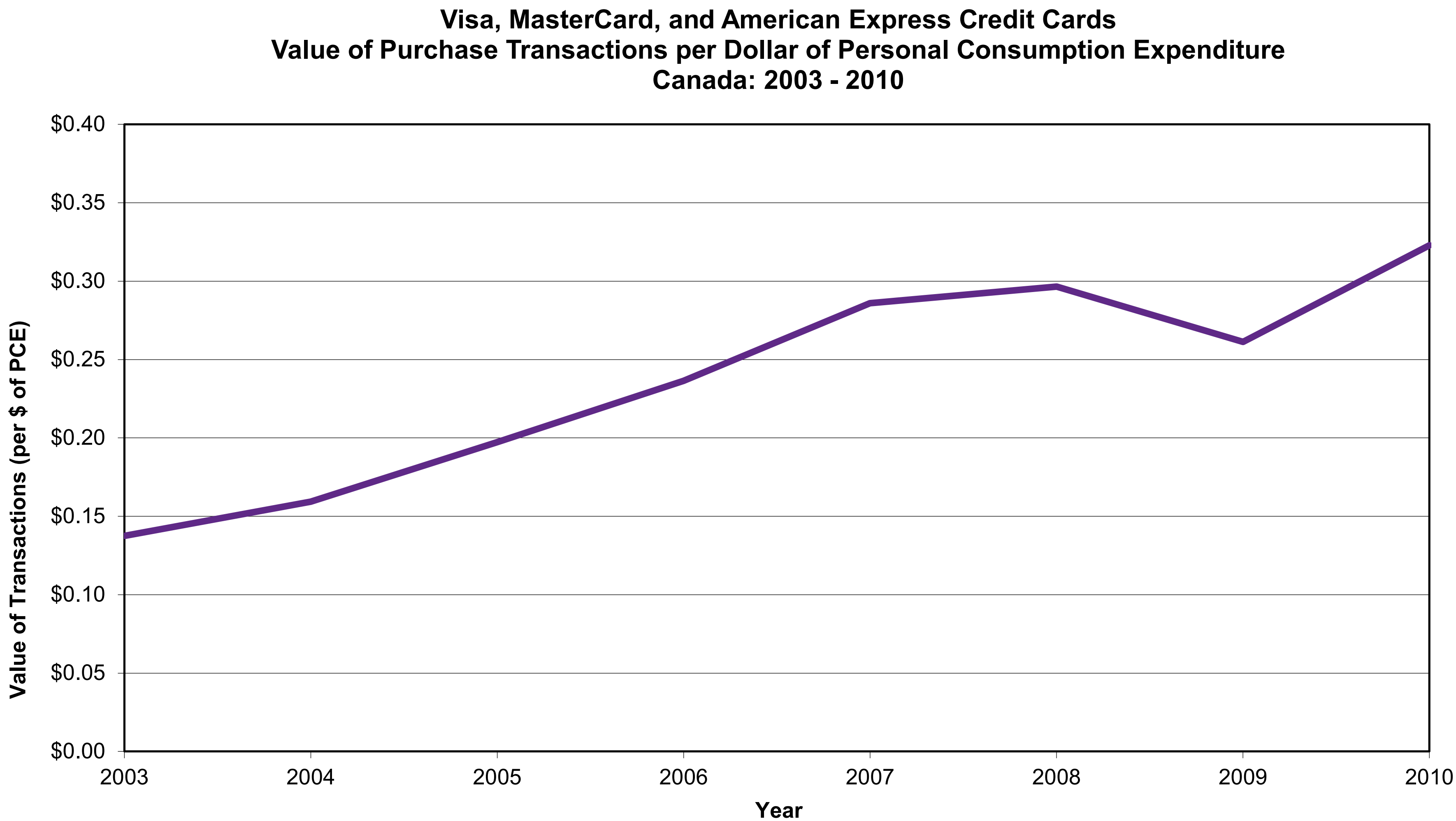
Exhibit 6



Note: The *Nilson Report* reports credit card transactions in two categories, purchases and cash advances. Only purchases are reported here. To be conservative, cash advances have been excluded. Cash advances represent a different cost to the merchant in the ultimate transaction. Nominal amounts were converted to constant 2002 dollars using the Price Index for Gross Domestic Product.

Sources: *The Nilson Report* issues 835 (6/05), 855 (4/06), 878 (4/07), 897 (2/08), 920 (2/09), 944 (3/10) and 967 (3/11); Statistics Canada Table 380-0056 - Gross domestic product (GDP) indexes, annual (2002=100), CANSIM database (date modified: 5/27/11); Board of Governors of the Federal Reserve System, Foreign Exchange Rates - H.10, Historical Rates for the Canadian Dollar (as of 11/28/11).

Exhibit 7

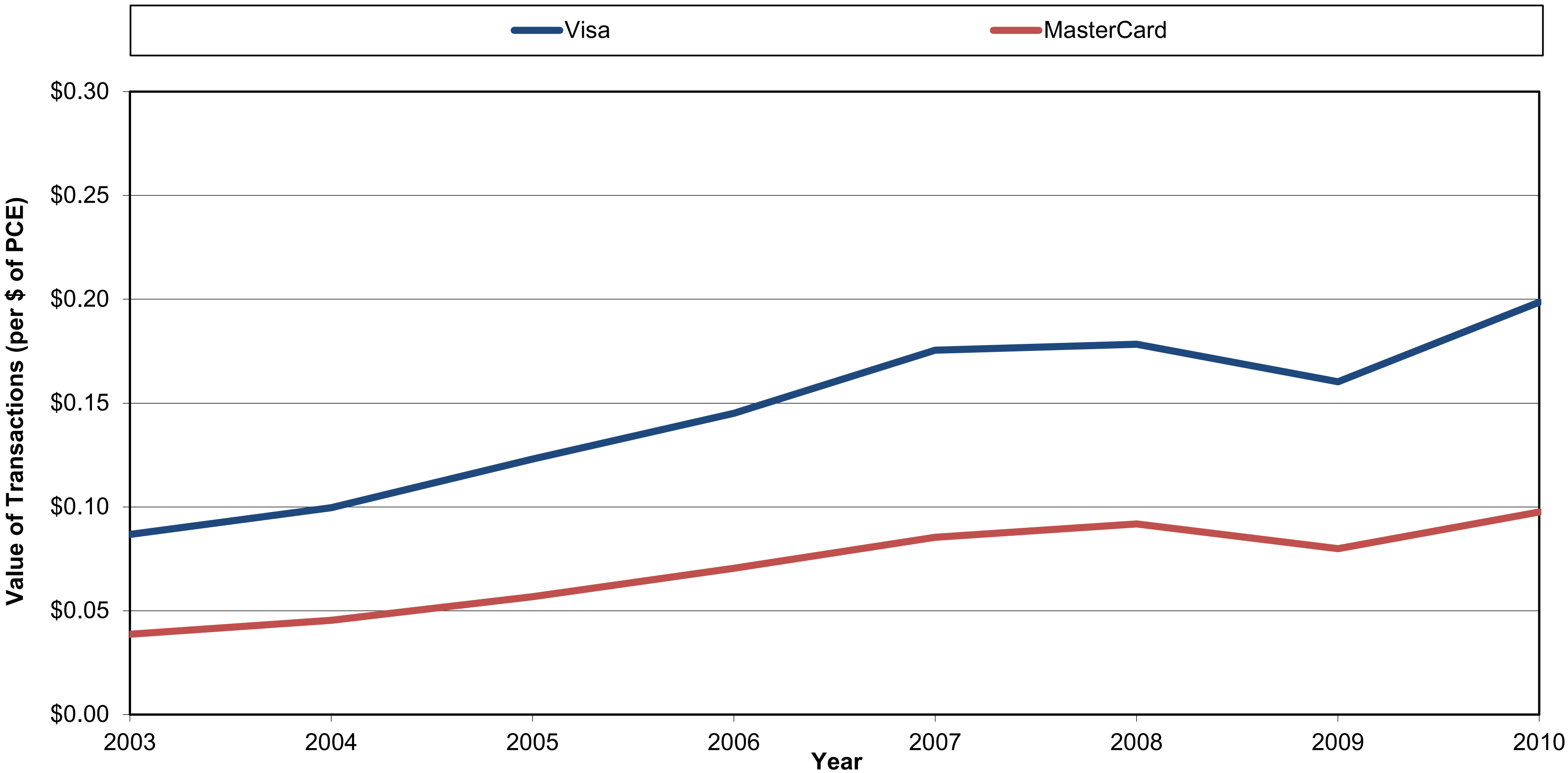


Note: The *Nilson Report* reports credit card transactions in two categories, purchases and cash advances. Only purchases are reported here. To be conservative, cash advances have been excluded. Cash advances represent a different cost to the merchant in the ultimate transaction.

Sources: *The Nilson Report* issues 835 (3/05), 855 (4/06), 878 (4/07), 897 (2/08), 920 (2/09), 944 (3/10) and 967 (3/11); Statistics Canada Table 380-0017 - Gross domestic product (GDP), expenditure-based, annual (dollars x 1,000,000), CANSIM database (date modfied: 5/27/11); Board of Governors of the Federal Reserve System, Foreign Exchange Rates - H.10, Historical Rates for the Canadian Dollar (as of 11/28/11).

Exhibit 8

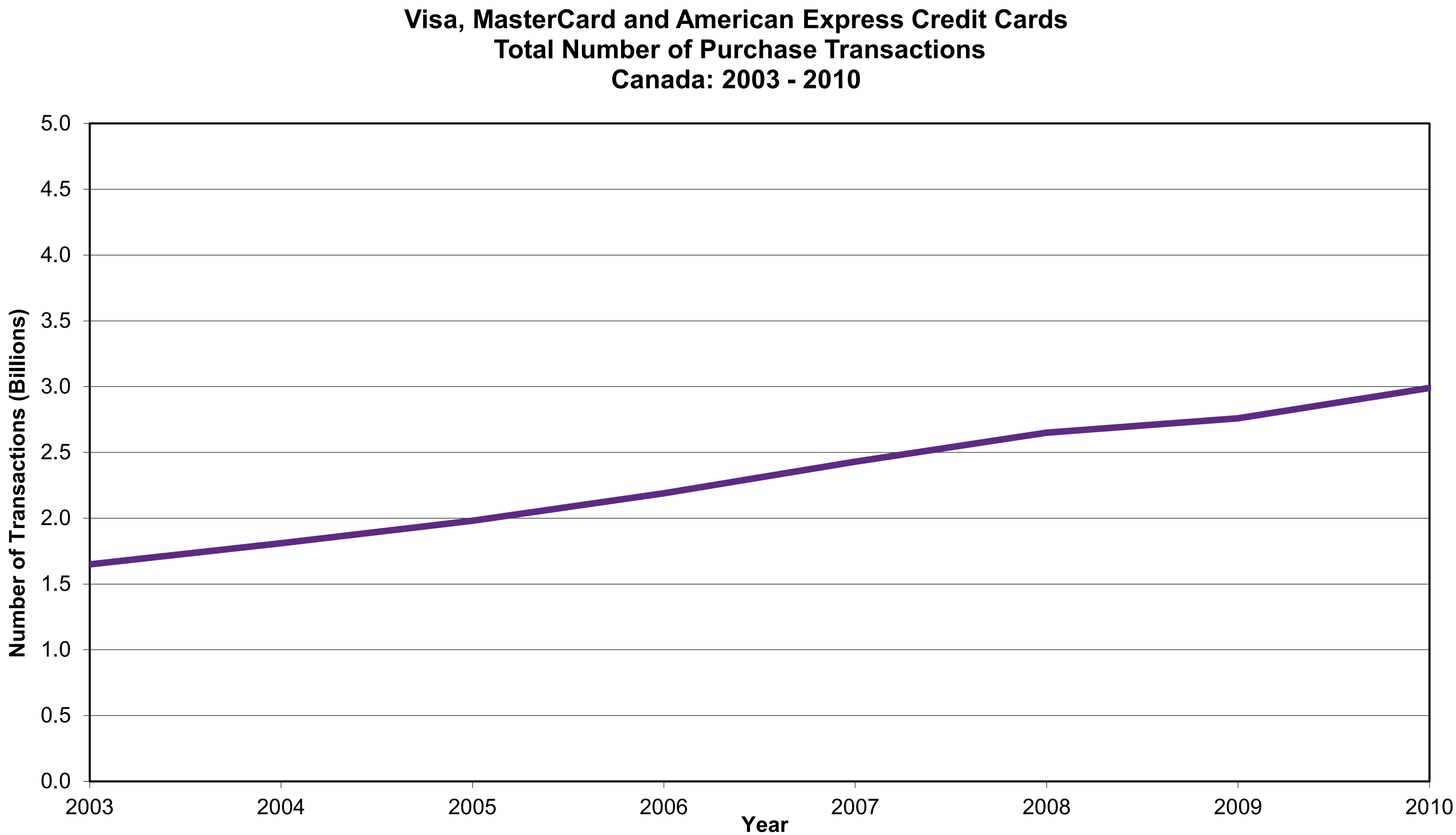
Visa and MasterCard Credit Cards
Value of Purchase Transactions per Dollar of Personal Consumption Expenditure
Canada: 2003 - 2010



Note: The *Nilson Report* reports credit card transactions in two categories, purchases and cash advances. To be conservative, cash advances have been excluded. Cash advances represent a different cost to the merchant in the ultimate transaction.

Sources: *The Nilson Report* issues 835 (6/05), 855 (4/06), 878 (4/07), 897 (2/08), 920 (2/09), 944 (3/10) and 967 (3/11); Statistics Canada Table 380-0017 - Gross domestic product (GDP), expenditure-based, annual (dollars x 1,000,000), CANSIM database (date modfied: 5/27/11); Board of Governors of the Federal Reserve System, Foreign Exchange Rates - H.10, Historical Rates for the Canadian Dollar (as of 11/28/11).

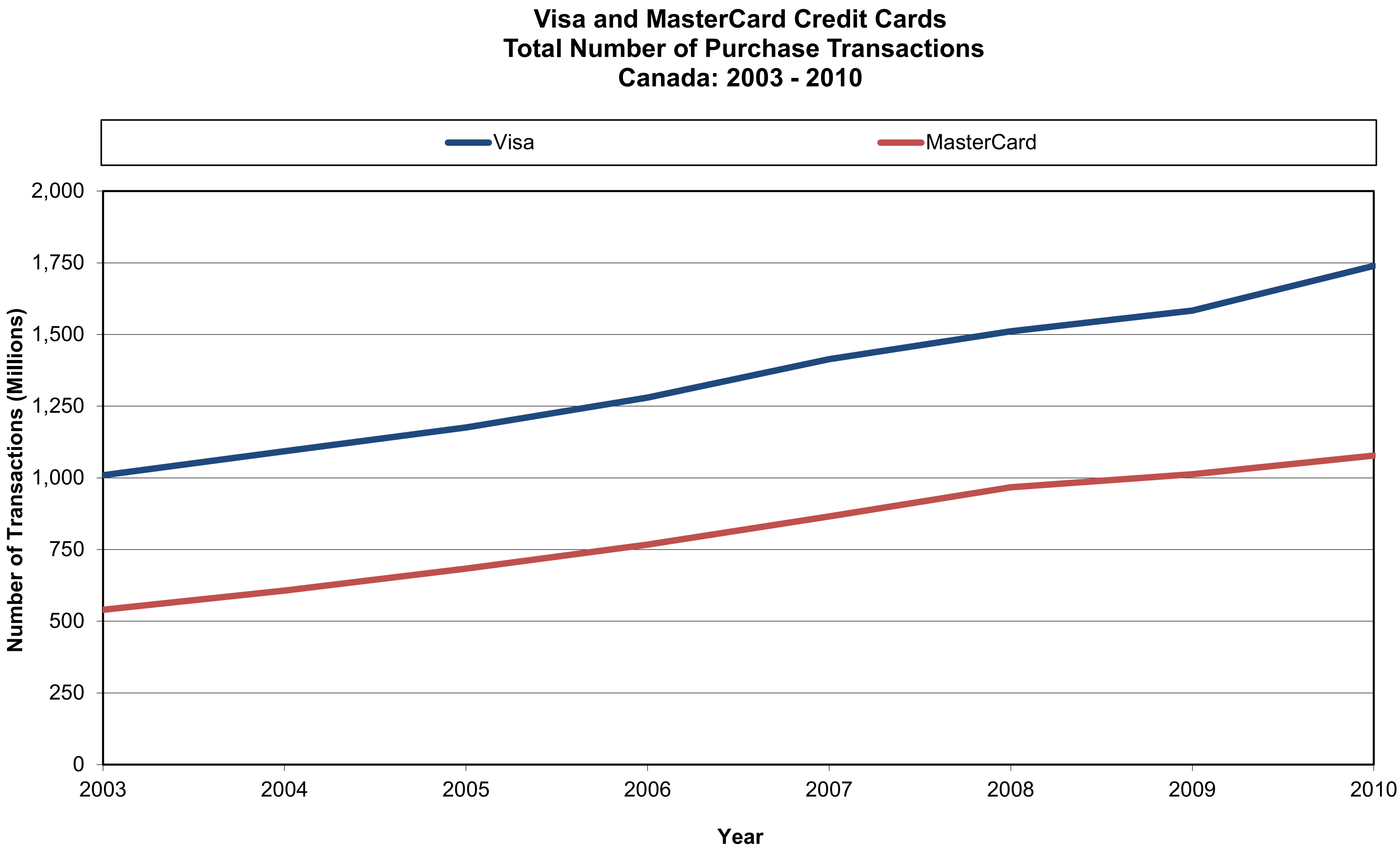
Exhibit 9



Note: The *Nilson Report* reports credit card transactions in two categories, purchases and cash advances. To be conservative, cash advances have been excluded. Cash advances represent a different cost to the merchant in the ultimate transaction.

Sources: *The Nilson Report* issues 835 (6/05), 855 (4/06), 878 (4/07), 897 (2/08), 920 (2/09), 944 (3/10) and 967 (3/11).

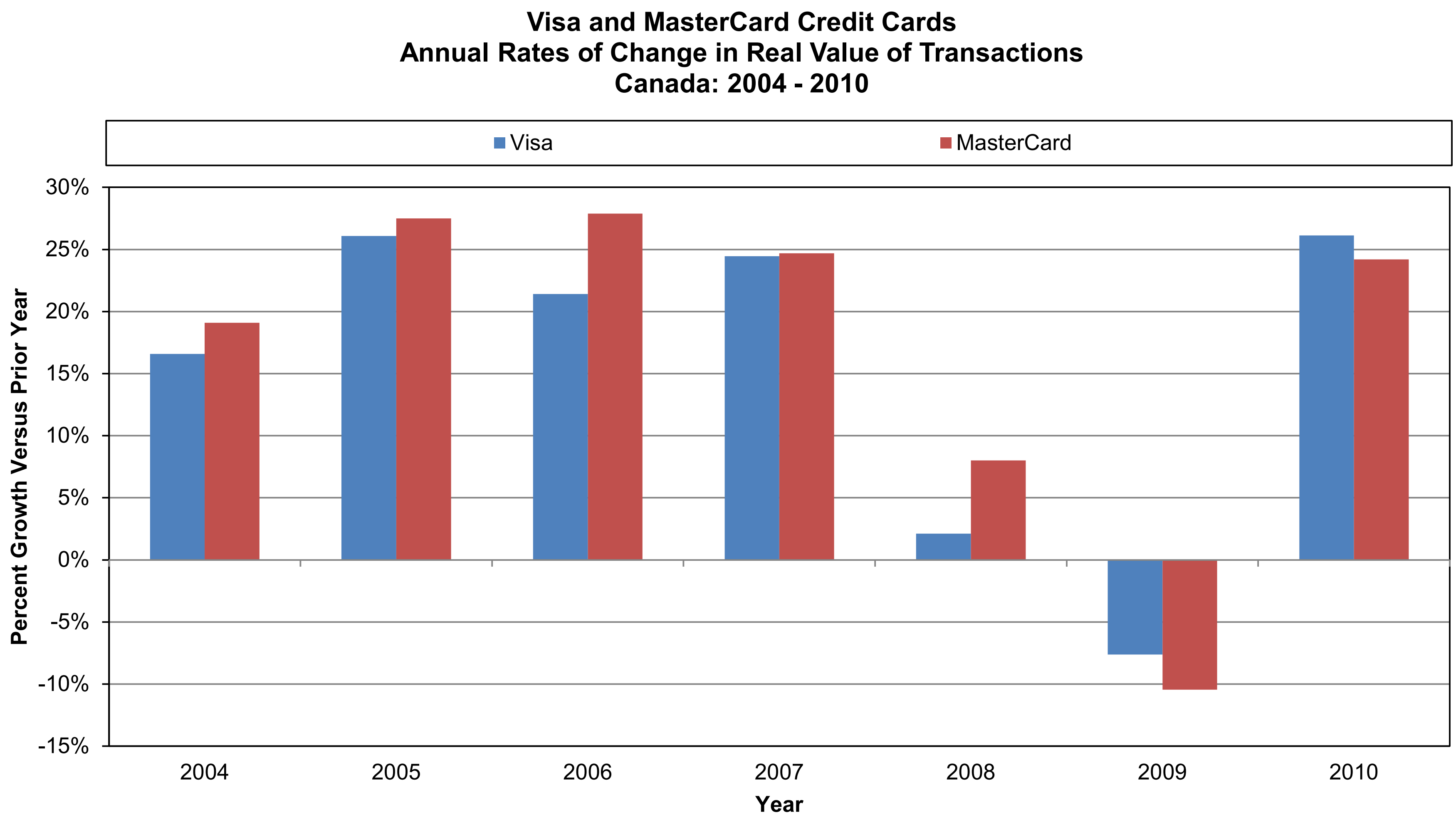
Exhibit 10



Note: The *Nilson Report* reports credit card transactions in two categories, purchases and cash advances. To be conservative, cash advances have been excluded. Cash advances represent a different cost to the merchant in the ultimate transaction.

Sources: *The Nilson Report* issues 835 (6/05), 855 (4/06), 878 (4/07), 897 (2/08), 920 (2/09), 944 (3/10) and 967 (3/11).

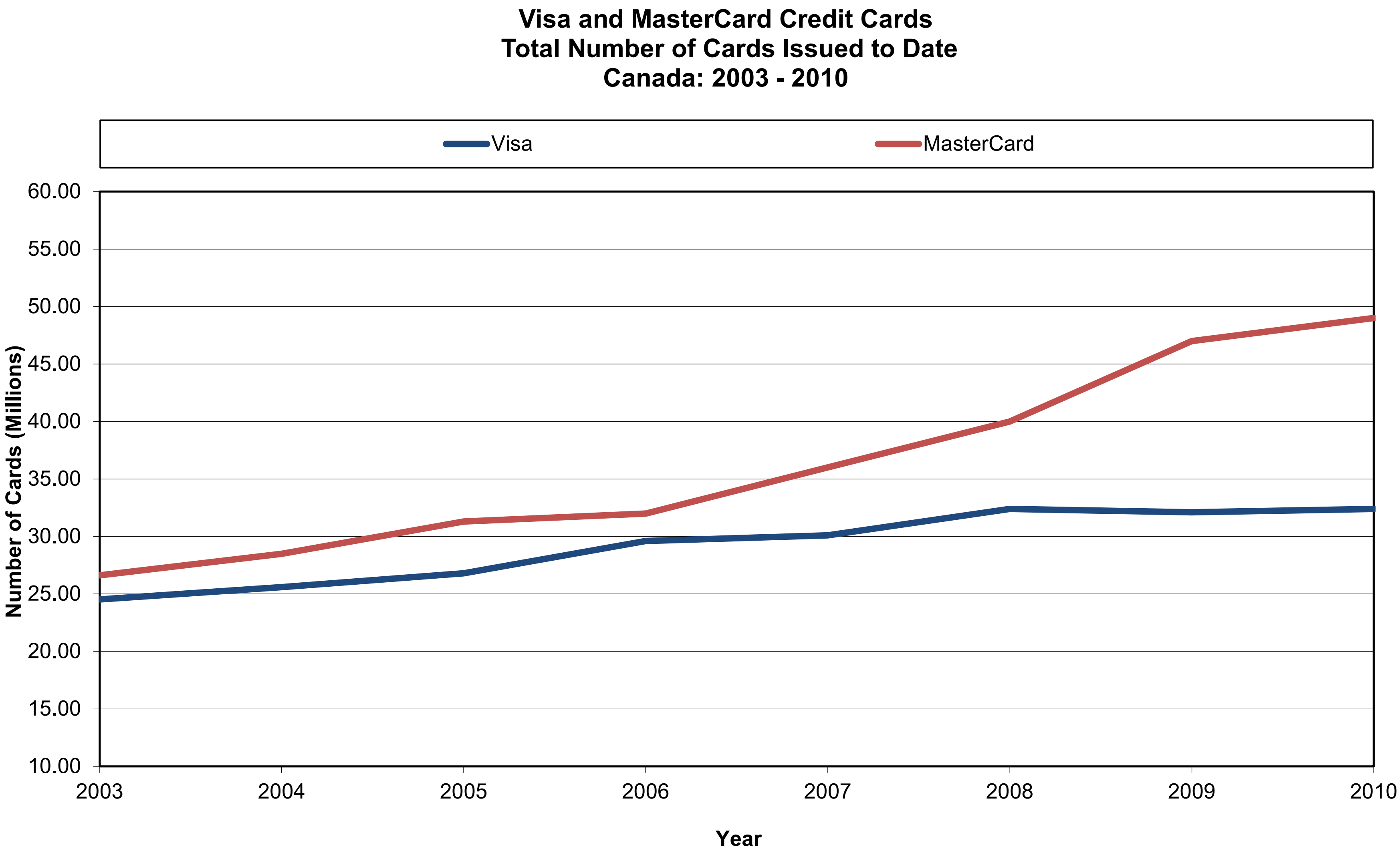
Exhibit 11



Note: The *Nilson Report* reports credit card transactions in two categories, purchases and cash advances. To be conservative, cash advances have been excluded. Cash advances represent a different cost to the merchant in the ultimate transaction. Nominal amounts were converted to constant 2002 dollars using the Price Index for Gross Domestic Product.

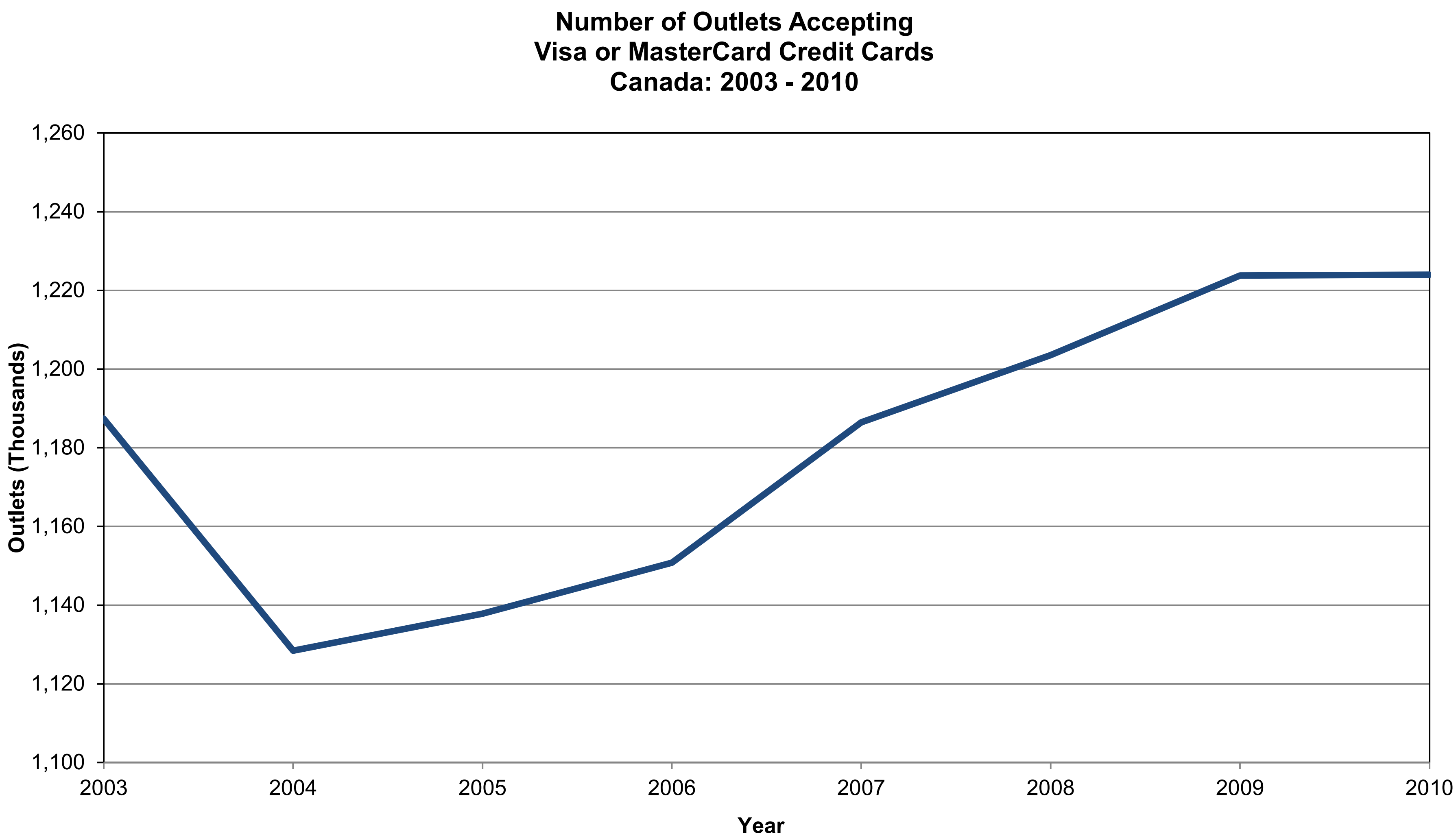
Sources: *The Nilson Report* issues 835 (6/05), 855 (4/06), 878 (4/07), 897 (2/08), 920 (2/09), 944 (3/10) and 967 (3/11); Statistics Canada Table 380-0056 - Gross domestic product (GDP) indexes, annual (2002=100), CANSIM database (date modified: 5/27/11); Board of Governors of the Federal Reserve System, Foreign Exchange Rates - H.10, Historical Rates for the Canadian Dollar (as of 11/28/11).

Exhibit 12



Sources: *The Nilson Report* issues 835 (6/05), 855 (4/06), 878 (4/07), 897 (2/08), 920 (2/09), 944 (3/10) and 967 (3/11).

Exhibit 13



Source: Canadian Bankers Association, Credit Card Statistics - VISA and MasterCard, 2/23/12.