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PUBLIC

CT-2010-010

THE COMPETITION TRIBUNAL

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

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

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

BETWEEN:

THE COMMISSIONER OF COMPETITION

Applicant

- and -

**VISA CANADA CORPORATION and
MASTERCARD INTERNATIONAL INCORPORATED**

Respondents

- and -

**CANADIAN BANKERS ASSOCIATIONS and
THE TORONTO-DOMINION BANK**

Intervenors

EXPERT REPORT OF DENNIS CARLTON
March 14, 2012

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I. INTRODUCTION

A. Description of Work and Summary of Conclusions

1. I have been asked by counsel for the Commissioner of Competition ("Commissioner") to evaluate certain business practices of Visa Canada Corporation ("Visa") and MasterCard International Incorporated ("MasterCard"), which impose restrictions on the terms upon which credit card network services can be supplied to merchants ("Merchant Restraints").

2. In particular, I have been asked to evaluate:

- (a) Whether the Merchant Restraints influence prices upwards; and
- (b) Whether the Merchant Restraints have an adverse effect on competition.

3. As I explain in this report, I conclude that the Merchant Restraints influence upwards the price paid by merchants for credit card network services and that the Merchant Restraints have an adverse effect on competition.

B. Qualifications and Experience

4. I am the David McDaniel Keller Professor of Economics at the Booth School of Business of The University of Chicago. I received my A.B. in Applied Mathematics and Economics from Harvard University in 1972 and my M.S. in Operations Research and Ph.D. in Economics from the Massachusetts Institute of Technology in 1974 and 1975, respectively. I have served on the faculties of the Law School and the Department of Economics at The University of Chicago and the Department of Economics at the Massachusetts Institute of Technology. I specialize in the economics of industrial organization. I am co-author of the book *Modern Industrial Organization*, a leading text in the field of industrial organization, and I also have published over 100 articles in academic journals and books. In addition, I am Co-Editor of the *Journal of Law and Economics*, a leading journal that publishes research applying economic

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analysis to industrial organization and legal matters, serve on the Editorial Board of *Competition Policy International*, a journal devoted to competition policy, and serve on the Advisory Board of the *Journal of Competition Law and Economics*. I have also served as an Associate Editor of the *International Journal of Industrial Organization and Regional Science and Urban Studies*, and on the Editorial Board of *Intellectual Property Fraud Reporter*.

5. In addition to my academic experience, I served as Deputy Assistant Attorney General for Economic Analysis, Antitrust Division, U.S. Department of Justice from October 2006 through January 2008. I also served as a Commissioner of the Antitrust Modernization Commission, created by Congress to evaluate U.S. antitrust laws. I have served as a consultant to the Department of Justice and Federal Trade Commission on the Horizontal Merger Guidelines, as a general consultant to the Department of Justice and Federal Trade Commission on antitrust matters, and as an advisor to the U.S. Census Bureau on the collection and interpretation of economic data.

6. I also am a Senior Managing Director of Compass Lexecon, a consulting firm that specializes in the application of economics to legal and regulatory issues and for which I served as President (of Lexecon) for several years. I have provided expert testimony before various U.S. state and federal courts, the U.S. Congress, a variety of state and federal regulatory agencies and foreign tribunals.

7. Through my work at Compass Lexecon, I have extensive experience in the credit card industry. I have co-authored several articles on the economics of the credit card industry, and I have served as an expert witness in litigation involving the credit card industry in the United States, the United Kingdom and New Zealand, including:

- On behalf of MountainWest Financial in *SCFC ILC, Inc. d/b/a MountainWest Financial v. Visa U.S.A., Inc.*;
- On behalf of plaintiffs in the *Visa Check/MasterMoney Antitrust Litigation*;
- On behalf of the U.K. Office of Fair Trading in the *Matter of the Decision of the Office of Fair Trading dated 6 September 2005 No. CA 98/05/05 of 6 September 2005* in Case

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CP/0090/00/S (MasterCard Multilateral Interchange Fee), Competition Appeal Tribunal (U.K.); and

- On behalf of the New Zealand Commerce Commission in *New Zealand Commerce Commission, and DSE (NZ) Limited (and others) v Cards NZ Limited and others*.

8. A copy of my curriculum vitae, which describes my professional credentials, including my publications and prior testimony experience, is attached as Exhibit "A". The materials I relied on in preparing this report are listed in Exhibit "B". A copy of my acknowledgement of the Competition Tribunal's code of conduct for expert witnesses is attached at Exhibit "C".

II. CREDIT CARD INDUSTRY BACKGROUND

A. Payment Cards

9. Retail transactions typically are made using a payment card, cash or cheques. A payment card is a generic description for any of a number of types of plastic cards that can be presented by a buyer (cardholder) to a seller (merchant) in person, over the phone or through the Internet to pay for goods or services.¹ Often, a payment card is associated with a cardholder account that offers a line of credit, or contains cardholder funds (e.g., a checking account).² A "general purpose" card allows a cardholder to make purchases from a wide variety of merchants and merchant locations. In contrast, "proprietary" or "store" card programs are operated by individual merchants and can be used at a more limited number of locations (such as outlets for a particular chain of stores). Payment card transactions typically utilize a network that connects merchants to cardholder accounts maintained by card-issuing financial institutions.

1. Some payment cards are available in forms other than the familiar plastic rectangle, such as key fobs.
2. However, some forms of payment cards – such as "gift cards" – are not associated with a cardholder account.

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10. Payment cards come in a variety of types, including credit cards; charge cards; and debit cards. While all payment cards permit cardholders to make payments, different types of payment cards have different economic characteristics. For example, credit cards offer cardholders an optional "credit function" – that is, a cardholder has the option of paying for purchases over time. Typically, cardholders are charged interest from the date of posting or purchase if a pre-existing balance is carried over from the prior billing period, but there is an "interest-free period" between the purchase date and the statement due date if there is no prior balance. Visa and MasterCard each operate a network that processes credit card transactions.

11. Charge cards (sometimes referred to as travel and entertainment, or "T&E", cards) do not offer a revolving credit function, but do offer cardholders an interest-free period between the time of purchase and the date payment is due. Examples of general purpose charge cards include the American Express Green, Gold and Platinum cards. For the purpose of my analysis, I will use the term "credit card" to refer to both general purpose credit and charge cards.

12. Debit cards allow a cardholder to make purchases from merchants or cash withdrawals from automated banking machines from funds maintained in a bank account. In Canada, virtually all debit card transactions involve the use of an "Interac" debit card.

B. The Visa and MasterCard Networks

13. Visa and MasterCard each operate a network that transfers data and funds among its member banks for authorizing transactions and posting transactions to cardholder and merchant accounts maintained at those member banks. Visa and MasterCard also establish and enforce standards, protocols and rules governing card transactions and their member banks.

14. Banks perform two different roles in the Visa and MasterCard networks. First, banks compete to issue payment cards to consumers. Each "issuer" or "issuing bank" chooses

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how to market its Visa payment cards (e.g., whether to offer a particular payment card to a particular consumer; how much to advertise its payments cards), and the terms on which it provides payment cards – for example, member banks set the level of "annual fee" to charge a cardholder, the interest rate and other charges associated with using the credit function of a credit card, and the level of "rewards" earned by using a payment card.³

15. Second, banks compete to offer "credit card network services" to merchants. Banks that perform this function are often referred to as "acquirers" or "acquiring banks". Banks also may outsource acquiring services to third-party processors, such as Moneris Solutions. For the purpose of my analysis, I do not distinguish between banks that offer acquiring services themselves and banks that offer that service through processors.

16. Credit card network services supplied to merchants include arranging for the authorization and processing of payment card transactions; collecting the value of the transactions from cardholders' banks; reimbursing the merchant for those transactions; and may include providing equipment to merchants to facilitate the acceptance of payment cards (such as electronic terminals). Each bank that acts as an acquirer chooses the price it charges for credit card network services it offers to merchants – known as the "merchant discount rate" or "card acceptance fee" – and competes with other banks on the basis of the relatively small portion of card acceptance fees that acquirers receive. However, as I discuss later in this report, most of the card acceptance fee is determined by the Visa and MasterCard networks and cannot be reduced by an acquirer.

17. In general, a payment card transaction on the Visa or MasterCard network can involve four primary economic actors in addition to the network – cardholder, merchant, issuing bank and acquiring bank. For this reason, Visa and MasterCard are sometimes referred to as


3. Visa and MasterCard may prescribe certain characteristics of a payment card. For example, the Visa and MasterCard networks prescribe a minimum level of "rewards" for certain "premium" credit cards.

"four-party" payment systems.⁴ However, for some transactions – referred to as "on-us" transactions – the issuing and acquiring bank are the same, and so only three parties in addition to the network are involved.

C. Payments by Merchants and Cardholders for Visa and MasterCard Credit Card Transactions

18. As I have discussed, merchants pay card acceptance fees for handling Visa and MasterCard credit card transactions. These fees are expressed as a percentage of the transaction amount (sometimes referred to as the "merchant discount rate"). The card acceptance fee reflects an "interchange fee" that Visa or MasterCard imposes on the acquiring bank and the acquirer's fee or margin, which reflects the acquirer's other costs and profits. I understand that the interchange fee typically represents at least 80 percent of card acceptance fees.⁵

19. Visa and MasterCard rules require the payment of an interchange fee from the acquiring bank to the issuing bank on transactions over their networks. Both networks establish schedules of "default" interchange rates that determine the interchange fee that applies to a particular transaction.



4. In contrast, American Express is often referred to as a "three-party" system (i.e., a cardholder, merchant and the network, which acts as an issuer/acquirer).

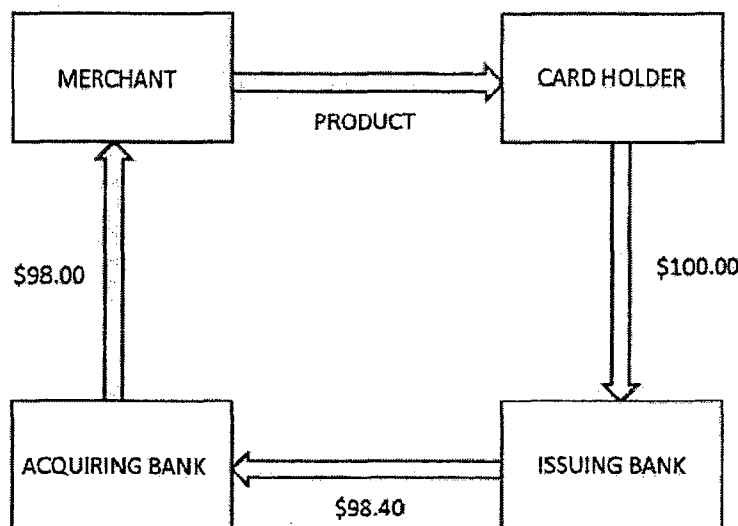
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20. Figure 1, below, summarizes the flow of interchange and card acceptance fees for a hypothetical \$100 Visa or MasterCard credit card transaction on which the interchange fee is 1.60 percent and the card acceptance fee is 2.00 percent.⁷ As a result of the transaction in the figure, the merchant receives \$98 and thus pays a total of \$2.00 for accepting a payment card for this transaction (i.e., the merchant service fee is 2.00 percent of \$100). The issuing bank retains the \$1.60 interchange fee (i.e., 1.60 percent of \$100), and so the acquiring bank only receives \$98.40 from the network. From this amount, the acquiring bank deducts its fee, or "acquirer margin," of \$0.40 from the \$98.40 transferred to it by the issuing bank and transfers \$98.00 to the merchant. Acquiring banks can compete on the basis of their acquirer margin, but do not have the ability to unilaterally change the interchange rate levied on any transaction. That is, an acquirer cannot unilaterally reduce the interchange fee, which accounts for the bulk of the acquirer's "costs" of providing credit card network services.

Figure 1



7. The numerical values I use in Figure 1 are for illustrative purposes only. The Visa and MasterCard networks also impose "network fees" on the issuing and acquiring banks. To simplify Figure 1, I have omitted network fees.

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D. The Challenged Merchant Restraints

21. Visa and MasterCard require firms acting as acquirers to impose the Merchant Restraints in their contracts to supply credit card network services to merchants,⁸ specifically, the following: (a) "no-surcharging" rules; (b) "honour all cards" rules; and (c) "non-discrimination" rules.

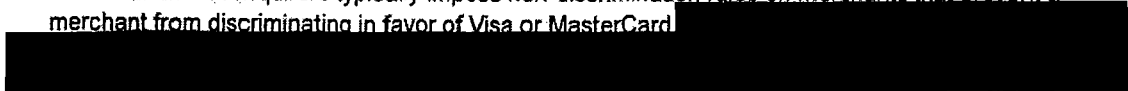
22. Rule 5.11.2 of the MasterCard Rules provides that merchants "must not directly or indirectly require any Cardholder to pay a surcharge or any part of any Merchant discount or any contemporaneous finance charge in connection with a Transaction." Similarly, the Visa Rules state as part of the General Prohibitions in Chapter 6 that merchants "must not add any surcharges to Transactions, unless local law expressly requires that a Merchant be permitted to impose a surcharge."

23. Rule 5.8.1 of the MasterCard Rules requires merchants to "honor all valid [MasterCard] Cards without discrimination when properly presented for payment." The Visa Rules similarly state in Core Principle 6.2 that merchants "may not refuse to accept a Visa product that is properly presented for payment."

24. Rule 5.11.1 of the MasterCard Rules provides that a merchant "must not engage in any acceptance practice that discriminates against or discourages the use of a [MasterCard] Card in favour of any other" brand of credit card that is accepted by that merchant. Although Visa does not appear to have a similar restriction in its Rules, any merchant that accepts Visa and MasterCard credit cards would be constrained in its ability to treat Visa and MasterCard credit cards differently by virtue of the MasterCard rule.⁹

8. See MasterCard Rules, Rule 5.1 (MCW_CCB_00173940 at 00174046) and Visa International Operating Regulations Core Principle 6.4 "Merchant Qualification Standards" (GSSS5893_00001550 at 00002001 and 00002002).

9. I understand that acquirers typically impose non-discrimination rules on merchants that prevent a merchant from discriminating in favor of Visa or MasterCard



25. On April 16, 2010, the Department of Finance issued the *Code of Conduct for the Debit and Credit Card Industry* ("Code of Conduct"). I understand that Visa and MasterCard have adopted the Code of Conduct. Under the terms of the Code of Conduct, Visa and MasterCard must allow merchants to provide discounts to customers using one particular brand of credit card and are not required to offer that same discount for the use of all other brands of credit cards. For example, a merchant is allowed to offer a discount for any transaction using a MasterCard credit card, but not offer a discount for a transaction using a Visa credit card.¹⁰

26. Although the Code of Conduct requires the relaxation of certain Visa and MasterCard rules, the Code of Conduct does not address the Merchant Restraints. In particular, Visa and MasterCard are not required to allow merchants to surcharge credit card transactions. Also, under the terms of the Code of Conduct, both Visa and MasterCard can maintain their honour all cards rules as they relate to credit cards.

III. MARKET DEFINITION

A. The Economic Approach to Market Definition

27. A market can be defined as "the competing products and geographic area in which competition occurs that determines the price for a given product."¹¹ This definition is consistent with the approach taken in the Canadian Merger Enforcement Guidelines ("MEGs").¹²

10. See *Code of Conduct for the Debit and Credit Card Industry* (http://www.fin.gc.ca/n10/data/10-049_1-eng.asp). That is, under the terms of the Code of Conduct, merchants are allowed to "discriminate" between Visa and MasterCard credit cards with respect to discounting. "Merchants will also be allowed to provide differential discounts among different payment card networks."

11. Dennis W. Carlton and Jeffrey M. Perloff, *Modern Industrial Organization*, 4th ed. at 783.

12. See <http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/03384.html>. The MEGs use a "hypothetical monopolist test" to analyze market definition issues. See, for example, MEGs, ¶4.3 ("Conceptually, a relevant market is defined as the smallest group of products, including at least one product of the merging parties, and the smallest geographic area, in which a sole profit-maximizing

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28. In practice, it typically is difficult to draw precise market boundaries. It is important to note, however, that defining markets in a competition matter is not an end in itself.¹³ Instead, market definition is typically the first step in an analysis intended to evaluate an issue other than market definition. For example, in an economic analysis of the likely effects of a proposed merger, the ultimate question of interest typically involves evaluating whether the proposed transaction will lead to a substantial increase in price. To answer that question, it often is useful to first determine the markets in which the merging parties participate. Subsequent steps in the analysis may involve evaluating a variety of issues, including the market shares of the merging parties; number and size of competitors in that market; and the ease of entry into that market.

29. Because market definition typically is only the first step of an economic analysis, markets in competition cases often are defined with reference to the competition question at issue in the particular matter at hand. In this case, an ultimate question of interest involves the extent to which the Merchant Restraints have raised prices paid by merchants to accept Visa and MasterCard credit cards. A related issue is how the Merchant Restraints affect prices to all economic agents in the system, including consumers who use other methods of payment. Given the flow of payments that I have discussed, this is a more complicated question than the first, but I will show that a restriction on competition that raises merchants' costs is likely to harm at least some consumers.

30. Different products are in the same market if they are sufficiently good substitutes for each other from the perspective of customers. In the context of this litigation – in which the claims relate to the effect of the Merchant Restraints on the amount paid by merchants for

(...continued)

seller (a 'hypothetical monopolist') would impose and sustain a small but significant and non-transitory increase in price ('SSNIP') above levels that would likely exist in the absence of the merger.").

13. See, for example, MEGs, ¶3.2 ("The ultimate inquiry is not about market definition, which is merely an analytical tool – one that defies precision and can thus vary in its usefulness – to assist in evaluating effects.").

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accepting Visa and MasterCard credit cards – the relevant customers are merchants that accept credit card transactions. Markets often are evaluated by determining whether a hypothetical monopolist of a particular group of products could profitably impose at least a "Small yet Significant and Non-transitory Increase in Price" above the relevant "but-for world" price. This approach is often referred to as the "SSNIP test."¹⁴

31. Suppose that the only two firms that manufacture product A propose to merge. If a hypothetical monopolist of product A would find it profitable to raise the price of product A by a small yet significant amount – for example, five or ten percent – for a substantial period of time, then the availability of other products does not constrain the price of product A to its current level. In that case, product A is a market. If, instead, the hypothetical monopolist of product A would not be able to profitably increase price by a small yet significant amount for a substantial period of time – because, for example, so many consumers would switch to product B that the attempted price increase of product A is unprofitable – product A is not a market (i.e., the market includes at least products A and B).

32. In the context of the issues in this litigation, it is appropriate to apply the hypothetical monopolist test to credit card network services such as those provided by members of the Visa and MasterCard networks. This test evaluates whether a hypothetical monopolist acquirer would be able to profitably set its fees to merchants five percent, for example, above the competitive level (i.e., the level that prevails with multiple competing acquirers).¹⁵ Suppose that a monopolist acquirer of Visa and MasterCard credit card transaction processing raised the

14. It may be inappropriate to use the current price as the "but-for" price when applying the SSNIP test to determine whether a single firm (or group of firms) has substantial market power – the ability to profitably set price above the competitive level. This inappropriate use of the SSNIP test is known as "the cellophane fallacy" in the economics literature because the U.S. Supreme Court committed this error in reaching the conclusion that DuPont did not have market power in the pricing of cellophane in the case of *United States v. du Pont & Co.*, 351 U.S. 377 (1956). See Dennis W. Carlton and Jeffrey M. Perloff, *Modern Industrial Organization*, 4th ed. at 646-647. See also Dennis W. Carlton, "Market Definition: Use and Abuse," *Competition Policy International*, Vol. 3, No. 1, Spring 2007.

15. See Renata Hesse and Joshua Soven, "Defining Relevant Product Markets in Electronic Payment Network Antitrust Cases," 73 *Antitrust Law Journal*, 2006 at 709.

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credit card acceptance fee by five percent above the competitive level. Because of the Merchant Restraints imposed by Visa and MasterCard, merchants could reduce their dependence on this now more costly credit card payment channel primarily by declining to accept all of Visa or MasterCard credit cards.¹⁶ Thus, the hypothetical monopolist test in the context of credit cards can be implemented by evaluating whether so many merchants would decline to accept credit cards in response to a price increase above the competitive level, or successfully "steer" customers to other payment options through the use of discounts, that the price increase would not be profitable.¹⁷ As I discuss later in this report, reduced merchant acceptance would not be sufficient to constrain a hypothetical monopolist of Visa and MasterCard credit card transaction processing from setting a credit card acceptance fee above the competitive level.


B. Market Definition in "Two-Sided" Markets

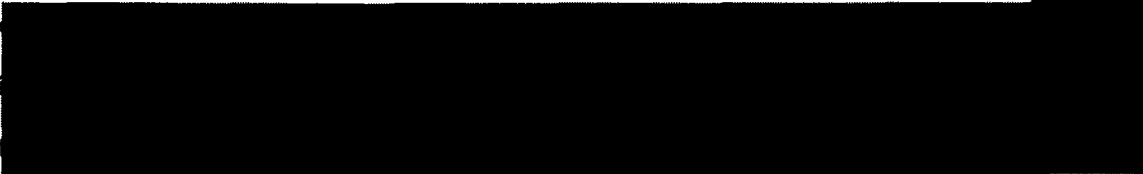
33. Payment cards are sometimes characterized as an example of a "two-sided" market. In two-sided markets, a "platform" allows two different types of consumers to interact with each other. For example, a standard example of a two-sided platform is a newspaper. Newspapers typically have two different types of customers – readers, who buy the newspaper, and advertisers, who buy advertising space in the newspaper. Payment card networks like Visa and MasterCard are often described as two-sided platforms (or markets) that allow cardholders to interact with merchants.

16. As I discuss later in my report, merchants could respond to higher card acceptance fees by offering discounts for other forms of payment (e.g., debit cards). However, as I also discuss, the empirical evidence indicates that offering discounts is not as effective as being able to surcharge credit card use to respond to relatively high card acceptance fees.

17. For the purpose of my market definition analysis, I hold constant everything except the level of competition among acquirers (e.g., I hold constant the interchange fee, annual fees to cardholders, and the level of rewards). In the hypothetical monopolist test, I ask whether a monopoly acquirer would be able to increase the credit card acceptance fee above the competitive level. My conclusion would be unchanged if I allowed other factors to adjust (such as the interchange fee) in response to changes in the level of competition among acquirers.

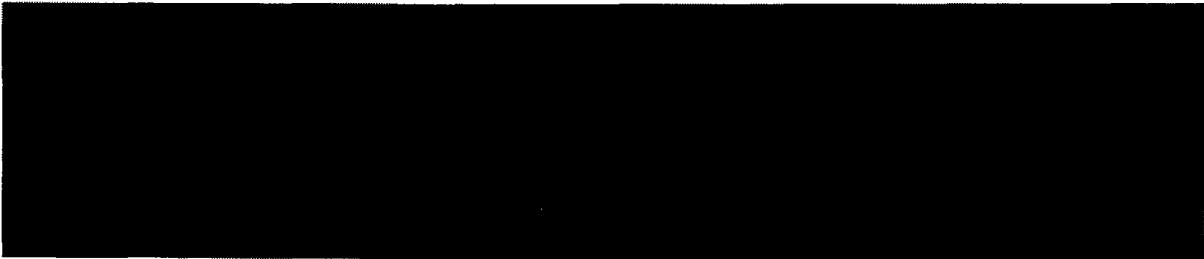
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34. In a two-sided market, each side is often characterized as having its own price. In the case of newspapers, readers pay one price, and advertisers pay a different price. 



35. In general, the demands faced by the two different sides of the market can be expected to be related. In the case of a newspaper, the value of advertising space to an advertiser typically increases as the number of readers of that newspaper increases (and the value of the newspaper to readers may increase as the amount of advertising increases).¹⁹ Because the two sides' demands can be expected to be related, the two sides' prices also may be related. For example, if a newspaper owner reduces the price it charges readers, the number of readers of that newspaper can be expected to increase, which may make advertising space in that newspaper more valuable. Thus, all else being equal, a reduction in the price charged to readers may result in the newspaper being able to charge a higher price for newspaper advertising.

36. Because changes in one price in a two-sided market may affect the price on the other side of the market, market definition in two-sided markets may be more difficult, and may have different implications, than in the typical case.²⁰ However, as I have discussed, defining markets in an antitrust case is not an end in itself, but is typically the first step in an analysis



19. Newspaper ads may be valuable to a substantial number of readers. That is, all else being equal, an increase in the number of newspaper ads could be expected to increase the number of newspaper buyers.

20. See Dennis W. Carlton, "Market Definition: Use and Abuse," *Competition Policy International*, Vol. 3, No. 1, Spring 2007.

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intended to evaluate an issue other than market definition. For certain questions, it can be appropriate to analyze only one price in a two-sided market.

37. For example, suppose that there are several competing newspapers in a city, and those newspapers plan to create a joint venture to pool and jointly sell and price all papers' advertising space in those newspapers (while continuing to compete for readers). In this scenario, it would be appropriate to analyze the likely effect of the proposed joint venture on the price of newspaper advertising (without reference to the price to readers). If newspaper advertising is part of a broader market that includes many other types of advertising, the proposed joint venture may not raise competition concerns. If, instead, newspaper advertising is a relevant market – because a hypothetical monopolist of newspaper advertising would be able to profitably impose a small yet significant and non-transitory increase in price – the proposed joint venture likely would, all else being equal, harm advertisers.

38. In my discussion of the newspaper joint venture, I have not addressed the effect of the proposed joint venture on the price paid by readers. It is possible that a joint venture that increased the price of newspaper advertising could benefit readers (i.e., as the result of a joint venture that creates or increases market power, each newspaper may have an incentive to reduce the price of a newspaper to increase demand for advertising). Similarly, in the case of the Visa and MasterCard networks, actions that raise the price paid by merchants for credit card network services could lower the price paid by cardholders for using a credit card.²¹

21. For example, all else being equal, an increase in interchange fees would increase card acceptance fees and issuers could choose to use some portion of the higher interchange fees they would receive to increase rewards on some credit cards, or increase the number of cards that offer rewards (some "standard" credit cards do not offer rewards). The available evidence indicates that changes in interchange fees are not fully "passed on" to cardholders. In particular, evidence from Australia indicates that when interchange fees were reduced by the Reserve Bank of Australia, issuing banks' margins fell (i.e., because interchange fees were reduced more than rewards payments). See Howard Chang, David S. Evans and Daniel D. Garcia Swartz, "The Effect of Regulatory Intervention in Two-Sided Markets: An Assessment of Interchange-Fee Capping in Australia," *Review of Network Economics*, Vol.4, Issue 4 – December 2005 at 328 ("We examine the impact to date of the Reserve Bank of Australia's decision to reduce interchange fees on credit cards in Australia by almost half.

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39. However, because the Merchant Restraints restrict the pricing freedom of merchants, the price paid by credit card users is, in effect, subsidized by taxing purchasers who do not use credit cards to pay for their purchases. In particular, if retailers charge the same price to consumers using credit cards and consumers using other less expensive methods of payments (such as debit cards), credit card acceptance fees for any purchases made using credit cards are, in part, paid by consumers using other methods of payments. Thus, consumers using other methods of payments are in effect providing a subsidy to credit card users by paying a portion of credit card acceptance fees.

40. To illustrate why this is the case, consider the following simplified example. Suppose that merchants accept only debit cards, credit cards and cash; suppose that the cost of accepting debit cards and cash is zero; and that credit card acceptance fees are 2 percent, of which 1.60 percent is the interchange fee. Suppose that merchants are not allowed to surcharge credit cards. Under these assumptions, suppose that merchants' sales are 50 percent debit card or cash transactions and 50 percent credit card transactions.²²

41. Under these assumptions, merchants' costs of accepting credit cards equals one percent of total sales (that is, a two percent fee on 50 percent of sales). If merchants pass along all card acceptance fees to consumers, then an item that would cost \$100 in the absence of card acceptance fees would be sold for \$101.

42. An issuing bank would be able to offer rewards of, for example, 1.5 percent (because the issuing bank receives an interchange fee of 1.6 percent). That is, a consumer using a credit card would pay \$101 for a unit and receive a reward of \$1.50, so that the

(...continued)

We find that, in the short run, issuers have recovered between 30 and 40 percent of the loss of interchange fees.").

22. For the purpose of this example, I assume 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. I return to this important distinction between surcharging and discounting later in this report.

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consumer's net price for the unit would equal \$99.50.²³ In contrast, a consumer using a debit card or cash would pay a net price of \$101. The higher price paid by debit and cash customers, in effect, subsidizes the lower price paid by customers paying with credit cards.

43. Now suppose that merchants are allowed to surcharge credit card transactions. If a merchant charges a two percent surcharge on credit card transactions, then debit card or cash users pay \$100 for the item and credit card users pay \$102; the merchant receives a net price of \$100 from all consumers. In this example, the net price paid by credit card users is higher than the price paid by debit card or cash customers (i.e., \$102 minus the \$1.50 in rewards, totaling \$100.50).²⁴ In other words, even if a cardholder received a reward equal to the entire amount of the card acceptance fee (i.e., \$2 in this example), the credit card customer would not pay a lower net price than the debit card or cash customer.

44. My example illustrates that the Merchant Restraints allow credit card networks to "reduce" the price paid by cardholders, compared to a world in which surcharging of credit card transactions is allowed, only by, in effect, taxing debit card and cash users and subsidizing credit card users. That is, the Merchant Restraints cause a distortion in the "price signals" received by consumers using credit cards to make purchases. In a but-for world without the Merchant Restraints, the total use of debit cards and cash likely would expand relative to the use of credit cards, at merchants that accept credit cards, as those merchants would be allowed to give price signals to consumers to use the less costly payment channel. As a result, consumers who do not use credit cards to make payments would benefit while users of credit cards would lose their advantage (i.e., because credit card users would no longer receive a subsidy from users of other less expensive forms of payment). As I discuss later in this report, the ability of merchants to give price signals to consumers would be a significant source of

23. So long as the value is greater than zero, nothing in my analysis depends on the size of the reward.

24. A customer may be willing to pay a higher net price than a debit or cash customer in order to use the credit function offered by a credit card. Nothing in my analysis depends on the net price paid by a credit card being higher than the net price paid by a debit card user.

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competitive discipline on credit card networks with respect to card acceptance fees paid by merchants.

C. Market for the Supply of Credit Card Network Services

45. As I have discussed, different types of payment cards have different characteristics. As a result, different consumers often carry different types of cards, or prefer to use different types of cards for different types of purchases. For example, a cardholder may prefer to buy groceries with a debit card, but prefer to buy more expensive items (e.g., furniture) with a credit card.²⁵ Because different consumers carry different types of cards, or have preferences for using a particular card for a given purchase, a merchant that does not accept one type of card (e.g., Visa credit cards) may risk losing sales to consumers who prefer to use that card or only carry that type of card.²⁶

46. If merchants were not concerned that declining to accept a particular type of payment card would cause a substantial loss of sales, merchants would have little or no reason to accept a more costly form of payment (e.g., credit cards with relatively high card acceptance fees) if less costly forms of payment were readily available. That is, if all forms of payment were good substitutes for each other from a merchant's perspective, the merchant would not be expected to accept relatively high-priced (to the merchant) payment forms.

47. In Canada, most merchants accept a wide variety of payment forms. For example, I understand that all or nearly all Canadian merchants of a significant size accept debit

25. See Alan S. Frankel, "Monopoly and Competition in the Supply and Exchange of Money," 66 Antitrust Law Journal 313, 1998 at 315 ("In practice, different forms of money and methods of transferring ownership of money impose different relative costs in different transactions. Thus, few consumers obtain a bank cashier's check to purchase a quart of milk, and few purchase a house with nickels.").

26. See Marc Rysman, "An Empirical Analysis of Payment Card Usage," LV Journal of Industrial Economics, 2007 at 2 ("With regards to usage, few consumers regularly use multiple networks. Most consumers put a great majority of their payment card purchases on a single network. . . . A merchant in a highly competitive environment most likely must associate with multiple payment networks or risk a real decrease in sales.").

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cards.²⁷ I understand that the cost to a Canadian merchant of accepting a debit card transaction is on average about 12 cents, regardless of the amount of the transaction.²⁸ Because card acceptance fees for credit cards are about two percent of the transaction amount, a debit card transaction typically will cost a merchant less than a credit card transaction for any purchase of more than about \$6.00.²⁹ During his examination for discovery in these proceedings, Visa's representative testified that credit cards "are a higher-cost form of payment as compared to cash, debit or cheques."³⁰

48. If, from a merchant's perspective, credit cards, debit cards and other forms of payment were close substitutes, merchants would not be expected to accept credit cards because the incremental cost of doing so is substantially higher than the incremental cost of other forms of payment, such as debit cards. Yet I understand that, as of 2010, over 670,000 merchant outlets in Canada accepted Visa or MasterCard credit card transactions.³¹

49. This evidence indicates that most merchants do not regard the acceptance of debit cards or other forms of payment as a sufficiently close substitute to the acceptance of credit cards as to allow the merchant to accept only debit cards, and also indicates that a

27. In 2010, 450,700 merchants in Canada accepted Interac debit cards. See <http://www.interac.ca/media/stats.php>.

28. A Bank of Canada Report (GSSS0035_00001377 at 00001381) states that median debit card fees are 12 cents with the lowest quartile paying a fee of seven cents per transaction. Also see Examination for Discovery of Michael Bradley on behalf of Visa Canada Corporation, December 6, 2011, page 448, describing fees for debit of "anywhere from, say, 3 cents up to, say, 15 cents a transaction."

29. Many merchants are likely to accept credit cards in part because consumers often make use of the "credit function" of a credit card. That is, even if a consumer does not have sufficient funds in a bank account to pay for a particular purchase with a debit card, the consumer can pay with a credit card. Even if a consumer pays all credit card balances in full every month, credit cards can be used to secure credit during the credit card's billing cycle (e.g., the consumer can use a credit card between pay cheques). For the same reason, merchants may accept credit cards even if accepting cash or cheques is cheaper than accepting credit cards.

30. Examination for Discovery of Michael Bradley on behalf of Visa Canada Corporation, December 6, 2011, pages 446-48, 451 and 569. Also see Bank of Canada Discussion Paper (GSSS0035_00001329).

31. Credit Card Statistics – VISA and MasterCard, *Canadian Bankers Association* (CBA003947).

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hypothetical monopolist of credit card network services would be able to profitably set fees for those services above the competitive level.

50. Furthermore, the ability of a hypothetical monopolist of credit card network services would not be constrained by the threat of entry because there are substantial entry costs associated with establishing a credit card network. For example, any entrant would have to solve the "chicken-and-egg" problem associated with starting a new network – that is, convincing merchants to accept a card that is not held by many cardholders, and convincing consumers to hold and use a card that is not accepted by many merchants. Indeed, there have been no major credit card network entrants in Canada in decades.³²

51. In summary, it is likely that a hypothetical monopolist acquirer of all Visa and MasterCard credit card transactions in Canada would be able to profitably set card acceptance fees at least five percent above the competitive price, all else being equal.³³

52. In contrast, Visa and MasterCard claim that the relevant market is broad, and includes all forms of payment (e.g., credit cards, debit cards, cash). For example, Visa claims that:

credit cards compete with all forms of payment including, but not limited to, card-based forms of payment, including credit cards, charge cards, debit cards, prepaid cards, merchant charge accounts and private label cards; paper based forms of payment, including cash, personal cheques, government cheques, travellers cheques, and money orders; mobile forms of payments, including payments through text messaging, mobile applications, and web browsers; and other electronic forms of payment not typically tied to a payment card or similar device, including online payment services, wire transfers and electronic benefits transfers. Visa Canada estimates that transactions over the

32. The last credit card network to enter in North America was the Discover network in 1986. (See http://www.discoverfinancial.com/news/FactSheet_Corporate.pdf.)

33. The Court in *U.S. v. Visa*, 2001, 98 Civ. 7076 (BSJ) at 28 (U.S.D.C. for the S.D.N.Y. October 9, 2001) cited the difficulty of entry as an indication of market power in the credit card industry: "[T]here are significant barriers to entry into the general purpose card network services market. Visa's CEO described starting a new network as a 'monumental' task involving expenditures and investment of over \$1 billion. (See Tr. 5224 (Pascarella, Visa U.S.A.); see also Dahir (Visa U.S.A.) Dep. at 200-01 (building a global brand and acceptance network would cost between \$2 and \$5 billion).) In addition to the high costs of establishing a network and developing a brand name a new entrant must also solve the so-called 'chicken-and-egg' problem of developing a merchant acceptance network without an initial network of cardholders who, in turn, are needed to induce merchants to accept the system's cards in the first place."

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Visa network account for only approximately 18 percent of consumer spending in Canada and less than one percent of business-to-business spending in Canada.³⁴

This position implies that a merger of the credit and charge card businesses of Visa, MasterCard and American Express would not raise competition concerns because the "market share" of the merged firm in an "all-forms-of payment" market would be modest. Such a merger would, on its face, raise serious competition concerns, and I highly doubt that competition authorities would allow such a transaction regardless of any assertions that the merging parties' shares were modest in an "all-forms-of payment" market.³⁵

53. I conclude that credit cards and other methods of payment are not in the same market from the perspective of merchants (i.e., the provision of network services for credit cards is a different market from the provision of network services for debit cards and the acceptance of cash and cheques).³⁶

D. Prior Findings on Markets for the Supply of Credit Card Network Services

54. The issue of market definition in the payment card industry has been addressed in a variety of other settings in Europe and the United States.³⁷ All the recent decisions that I

34. Response of Visa Canada Corporation (in this proceeding), ¶12.

35. In 2010, Visa accounted for 62 percent of credit card purchase volume and MasterCard for 30 percent. [REDACTED]

36. As I have discussed, in a market that includes Visa, MasterCard and American Express general purpose credit and charge cards, the aggregate share of Visa and MasterCard is approximately 92 percent and there has been no entry in this market in decades. As I also have discussed, the level of card acceptance fees is determined largely by default interchange fees, which are set by Visa and MasterCard. This evidence indicates that Visa and MasterCard have market power in the relevant market.

37. The issue of market definition in the credit card industry also has been addressed in Australia and New Zealand. A report by Professor Michael Katz commissioned by the Reserve Bank of Australia states that "[t]he overall degree of substitution among different payment mechanisms is sufficiently limited that the Australian Competition and Consumer Commission has concluded that, when assessing competition in a recent bank merger, credit cards constitute a relevant product market" (See "Reform of Credit Card Schemes in Australia II", 2001, Commissioned Report by Professor Michael L. Katz for the Reserve Bank of Australia at 7.) Based on its investigation, the Reserve Bank of Australia regulated Visa and MasterCard credit card interchange fees. In New Zealand, the New Zealand Commerce Commission challenged Visa and MasterCard practices, and defined the relevant

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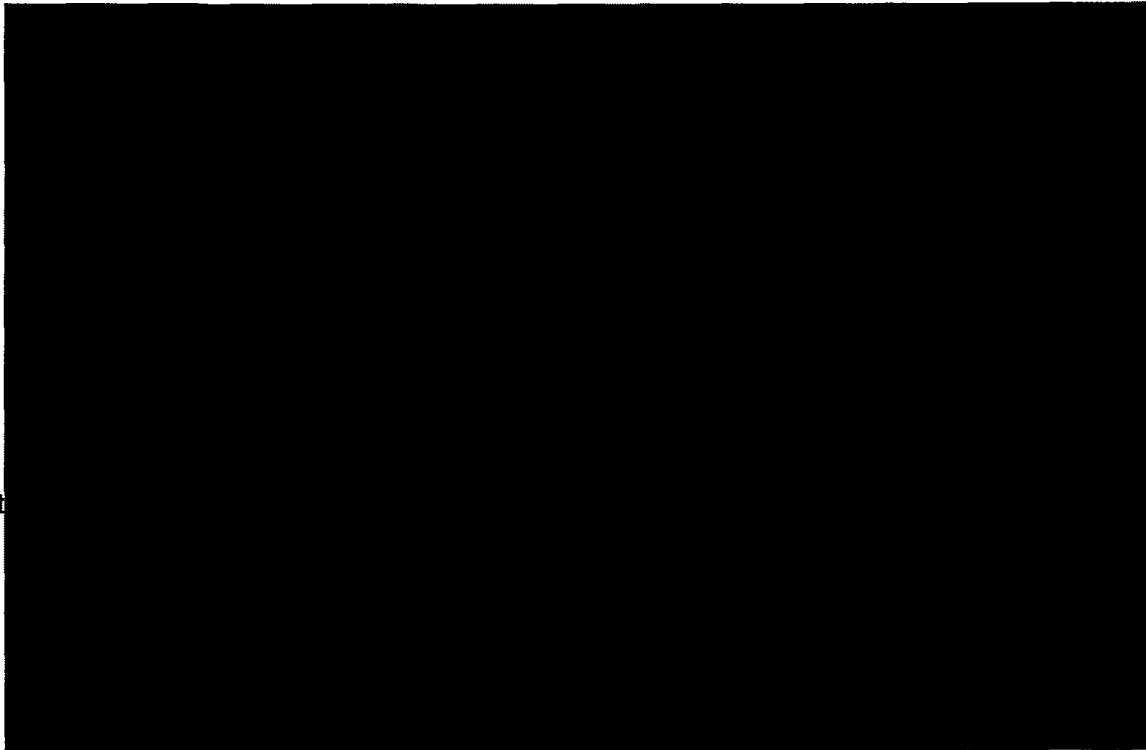
am aware of are consistent with my analysis here and are inconsistent with the position of Visa and MasterCard that the relevant market includes all payment instruments including cash and cheques.³⁸ As I discuss in this section of my report, the conclusions concerning market definition that have been reached elsewhere are consistent with my view that the provision of credit card network services to merchants is an appropriately defined market.

55. Over the last decade, the European Commission ("EC") has investigated MasterCard interchange fees on "cross-border" transactions.

(...continued)

market as the supply of merchant acquiring services in respect of Visa card transactions; and the supply of merchant acquiring services in respect of MasterCard card transactions. See New Zealand Commerce Commission, Third Amended Statement of Claim (MBJA0001_00000468 at 00000476). Visa and MasterCard reached a settlement with the New Zealand Commerce Commission that addressed the Commerce Commission's concerns (e.g., Visa and MasterCard agreed to allow surcharging of their credit cards).

38. Although I note that my conclusions concerning market definition are consistent with the prior decisions I discuss, I have not relied on those decisions in reaching my conclusions. My conclusions in respect of this issue are based on my own economic analysis.



57. In the United States, the issue of market definition with respect to payment cards has been raised in several major antitrust cases. For example, in *In re Visa Check/MasterMoney Antitrust Litigation* in the United States, the Court determined.⁴⁵

The evidence establishes conclusively that merchants have not switched to other payment devices despite significant increases in the interchange fees on the defendants' credit cards. (In this respect, the evidence suggests an even narrower product market, i.e. general purpose credit card services alone.) That *consumers* might switch to another form of payment in the event of a surcharge on their credit card transactions does not alter the fact that there is no cross-elasticity of demand at the merchant level between defendants' products and all other forms of payment.⁴⁶

58. In *United States v. VISA U.S.A. Inc., et al.*, ("*U.S. v. Visa*") defendants "argue[d] that the relevant market is one which includes all methods of payment including cash, checks



45. I submitted expert reports on behalf of plaintiffs on the issue of class certification in this litigation.

46. *Visa Check*, 2003 96-CV-5238 (JG) Decision at 10 (U.S.D.C. for the E.D.N.Y., 1 April 2003) (Lexis version) (emphasis in original).

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and debit cards," but the Court accepted the government expert's opinion that there is "a general purpose card [i.e., credit or charge, but not debit card] market separate from other forms of payment."⁴⁷

IV. Likely Competitive Effects of the Challenged Provisions

A. Introduction

59. The Commissioner claims that "[t]he Merchant Restraints prevent merchants from effectively encouraging customers to use lower-cost methods of payment and from declining to accept certain Visa and MasterCard credit cards, including those with higher Card Acceptance Fees. The Merchant Restraints impede or constrain competition for credit card network services, including competition with respect to Card Acceptance Fees."⁴⁸

60. I analyze below the economic issue of whether the Merchant Restraints affect the credit card acceptance fees paid by merchants. As I explain in this section of my report, I find that the Visa and MasterCard Merchant Restraints likely influence upwards the price paid by merchants for credit card network services and have an adverse effect on competition.

B. The Elimination of the Merchant Restraints Would Increase the Competitive Pressure on Card Acceptance Fees

61. I analyze the likely economic and competitive effects of eliminating the Merchant Restraints by evaluating a "but-for world" without those Restraints.

62. In the absence of the Merchant Restraints, a merchant could effectively respond to high card acceptance fees for a particular credit card by attempting to steer consumers to a different and less expensive credit card or method of payment. For example, a merchant could steer consumers away from a particular credit card by imposing a surcharge on its use.

47. *U.S. v. Visa*, 2001, 98 Civ. 7076 (BSJ) Decision, at 336 (U.S.D.C. for the S.D.N.Y., 9 October 2001).

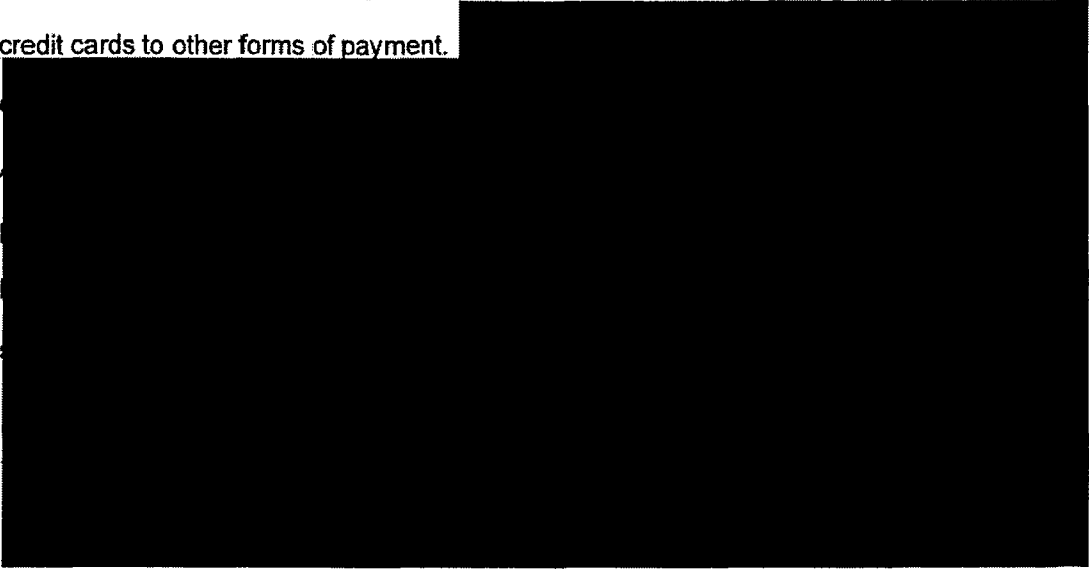
48. Statement of Grounds and Material Facts (in this proceeding), ¶3.

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Successful steering by merchants from a particularly expensive credit card to other credit cards or forms of payment would reduce the number of transactions made on the expensive card.

That is, in response to high credit card acceptance fees for a particular credit card, a merchant, while continuing to accept that card, could reduce the number of transactions using that card. In contrast, with the Merchant Restraints in place, the ability of merchants to steer consumers away from a particular credit card is limited.

63. As I discuss in more detail in the next section of this report, the available evidence indicates that surcharging is an effective tool for steering consumers away from using credit cards to other forms of payment.

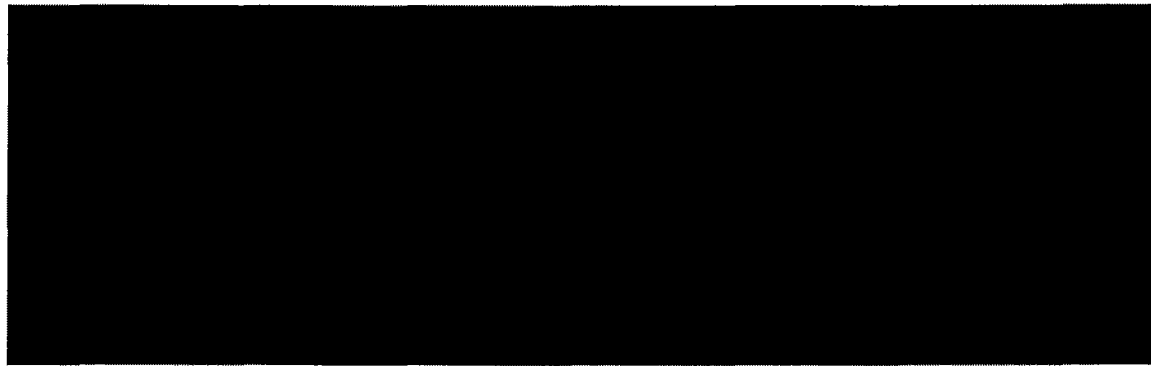


64. If a substantial number of merchants began to surcharge Visa credit cards, the number of transactions using those cards would be expected to fall. To avoid potential reductions in the number of transactions over its network, Visa would have an economic incentive to take actions that would reduce the likelihood or level of surcharging by lowering



acceptance fees on its credit cards (relative to their level if the Merchant Restraints remained in place). Because most of the acceptance fee on a credit card reflects the interchange fee on that card, Visa could reduce card acceptance fees on its credit cards by reducing interchange fees. That is, increases in the ability of merchants to steer consumers away from using a Visa credit card would give Visa an economic incentive to reduce credit card interchange fees in an attempt to increase the number of transactions over its network (by reducing the incentive of merchants to surcharge, or reduce the level of surcharge).

65. Indeed, the elimination of the Merchant Restraints would increase the ability of merchants to negotiate for lower interchange fees by threatening to steer consumers away from using a credit card, for example by surcharging credit card transactions. In this way, eliminating the Merchant Restraints would increase the competitive pressure on credit card acceptance fees even if surcharging or other forms of steering were not, in fact, implemented by merchants. For example, the Australian Merchant Payments Forum noted that "[b]lended surcharges have effectively been used as a negotiating tool by some merchants to lower their merchant fees"⁵⁰.



66. Because the elimination of the Merchant Restraints would create economic incentives for Visa and MasterCard to reduce interchange fees, leading to lower credit card

50. Australia Merchant Payment Forum: Submission to the Reserve Bank of Australia – Response to Review of Card Surcharging (VISA00536058 at 00536061).



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acceptance fees, I conclude that the Merchant Restraints influence upwards the prices paid by merchants to accept credit cards. Furthermore, the elimination of the Merchant Restraints would reduce merchants' costs in two ways. First, the reduction of interchange fees would reduce merchants' card acceptance fees, resulting in lower costs on all credit-card transactions. Second, the elimination of the Merchant Restraints likely would reduce the proportion of transactions made using credit cards relative to lower-cost forms of payment (e.g., debit cards).⁵³ Such a reduction in total merchants' costs would be expected, in the aggregate, to benefit consumers, and specifically consumers who use other forms of payment than credit cards.⁵⁴

67. Effectively, the elimination of the Merchant Restraints would unleash the competitive forces that have been lacking in the market for credit card network services. The Merchant Restraints currently restrict the responses by which merchants could place pressure on Visa and MasterCard.

C. Surcharging is More Effective than Discounting at Discouraging the Use of Relatively High-Cost Payment Methods

68. As I have discussed, under the terms of the Code of Conduct, merchants are allowed to discount by payment type, but they are not allowed to surcharge. Therefore, a

53. Thus, total credit card volume would be expected to fall at merchants that currently accept credit cards and surcharge. However, some merchants currently do not accept credit cards because of the cost of doing so, and could choose to accept credit cards if they could surcharge their use. For example, in the United States, in some cases utilities, universities and governments accept credit card payments only when they can charge the payer a "convenience fee" to offset the cost of accepting a credit card transaction. Similarly, if the cost of accepting credit cards fell once surcharging were allowed, merchants that currently do not accept credit cards may elect to do so. Thus, the ability to surcharge could increase the number of merchants accepting credit cards.

54. Though merchants' aggregate savings may be large, the amount per item may be small and thus difficult to detect (e.g., even if the cost of credit card acceptance fees fell substantially, it likely would be difficult to isolate an effect on average retail prices). For example, suppose that the average credit card acceptance fee were 2.00 percent with the Merchant Restraints in place, and that the elimination of those restraints would reduce acceptance fees by five percent, to an average of 1.90 percent. On a \$100 purchase, card acceptance fees would fall by only 10 cents. In general, empirically detecting a 10 cent price decline on a \$100 item would be difficult.

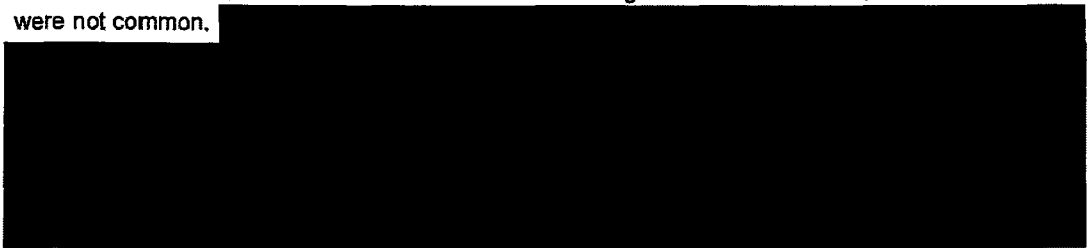
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central issue in this case is whether discounting is equivalent to surcharging. If it is, then the no-surcharge rule should have no economic effect. However, there are three powerful pieces of empirical evidence regarding the lack of equivalence between surcharging and discounting. First, Visa and MasterCard's own actions are inconsistent with any claim that surcharging and discounting are economically equivalent. Second, the empirical evidence on surcharging from countries where it has been allowed also shows that surcharging and discounting are not economically equivalent. Third, the empirical evidence that shows that many merchants use surcharging when it is allowed is consistent with the economics literature that finds that consumers respond differently to "opportunity costs" and "out-of-pocket costs."

69. The position of Visa and MasterCard in Canada is that they should not be forced to allow merchants to surcharge. But if discounting were equivalent to surcharging, then this position would make no sense, as discounting is now allowed. Instead, the Visa/MasterCard position is sensible only if discounting and surcharging have different effects. That is, if surcharging and discounting were equivalent, Visa and MasterCard would have no basis to allow discounting but oppose surcharging.

70. Empirical evidence shows that surcharging is more effective than discounting at influencing consumers' choice of payment method.⁵⁵ In particular, in countries where the ability to surcharge has been introduced, many merchants make use of the surcharging option. If discounting and surcharging were equivalent, introducing the ability of merchants to surcharge would be expected to have no effect and merchants would have the same incentive to impose surcharges as discounts. Thus, evidence that merchants introduced surcharging when it

55. The most complete evidence on surcharging is from Australia. Although merchants in Australia were allowed to offer discounts for cash before the "No Surcharge Rule" was removed, such discounts were not common.



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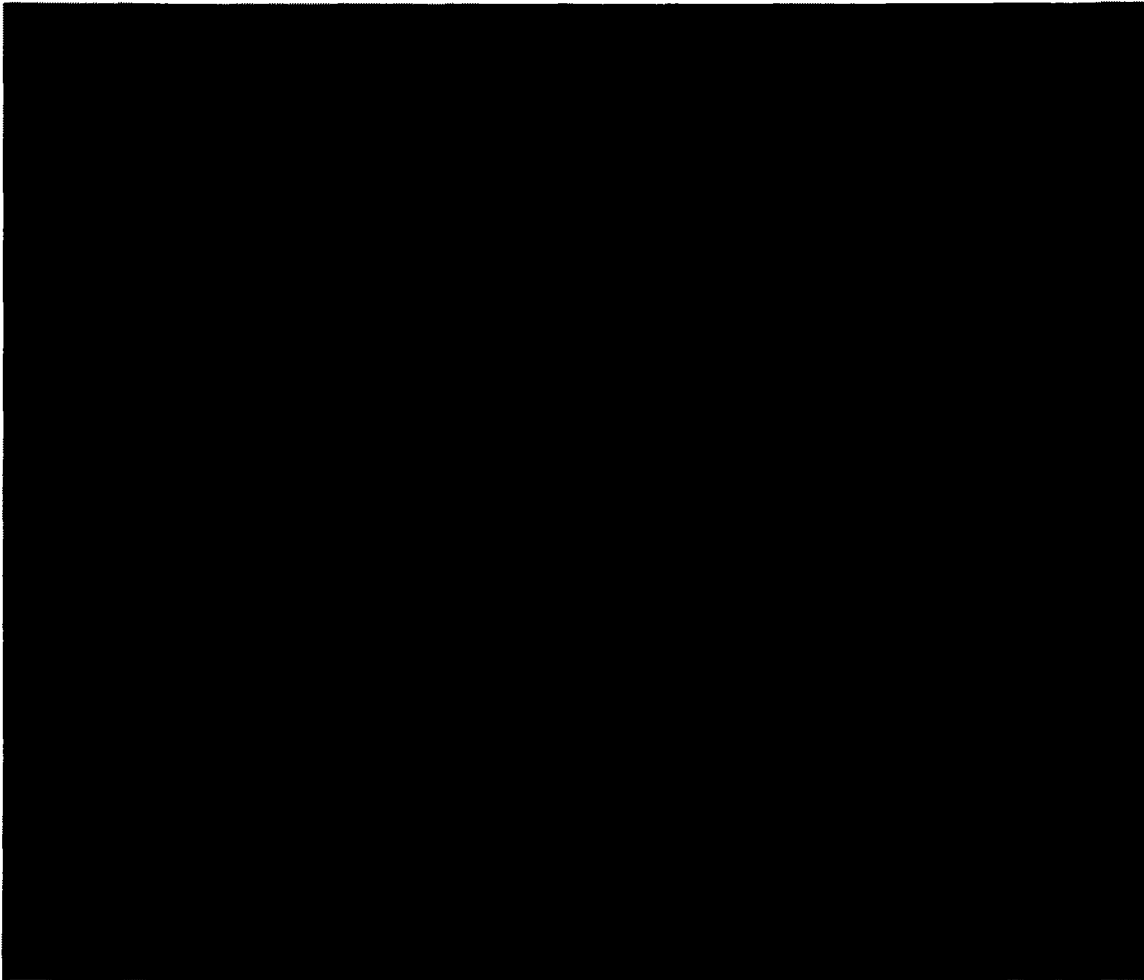
became possible to do so shows that surcharging and discounting do not have equivalent effects. The available evidence shows that when merchants are allowed to surcharge payment card transactions, a substantial number of them do so.

71. In Australia, no-surcharge rules for Visa and MasterCard credit cards were eliminated almost a decade ago, in 2003.⁵⁶ Initially, few merchants used surcharges, perhaps because their customers were not used to surcharges at the point of sale. [REDACTED]

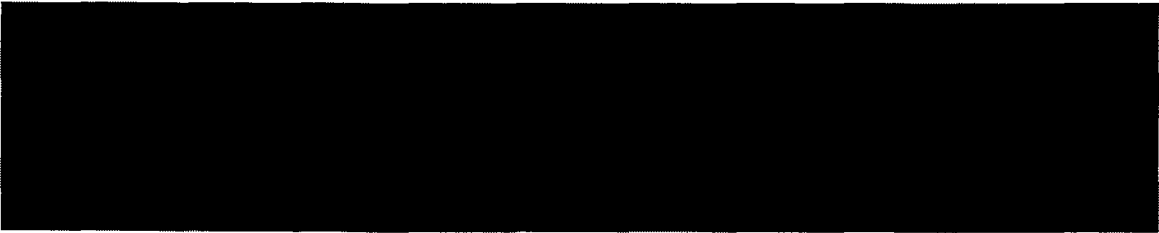
72. However, despite the increase in the number of merchants imposing surcharges, the evidence indicates that few consumers in Australia pay a surcharge. [REDACTED]

56. In addition, American Express and Diners Club voluntarily eliminated their no-surcharge rules at that time. [REDACTED]

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73. Surcharging of credit cards has been permitted in the United Kingdom since 1991.⁶¹ One major merchant, IKEA, found that in the United Kingdom, where it surcharges credit cards, 37 percent of credit card transactions were shifted from credit to debit cards as a result of



61. "The Credit Card (Price Discrimination) Order 1991 came into force on 28 February 1991, and made it unlawful for any person to make or carry out any agreement relating to credit cards to the extent that it imposes or requires the imposition of a 'no discrimination' or 'no surcharging' rule" (OFT, "Payment surcharges: Response to the Which? Super-complaint," June 2011).

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the surcharge. IKEA surcharged a fixed fee of 70 pence per transaction, which amounted to less than one percent of the average transaction value.⁶² In contrast, in the United States, where surcharges on credit cards are not permitted, IKEA has offered a three percent voucher for use of PIN debit cards (i.e., a discount for using a debit card as compared to using a credit card), and found that only nine percent of credit card transactions switched to debit cards. IKEA concludes that "rebate is a less clear option that is hard to steer."⁶³ That is, a major retailer that attempted to steer customers away from using credit cards found that surcharging was substantially more effective than discounting.

74. In New Zealand, surcharging on credit cards has been allowed since 2009.⁶⁴ Press reports indicate that surcharging has been adopted by firms in a variety of industries.⁶⁵

75. In the Netherlands, surcharging of payment cards is allowed. Because credit cards are rarely used in the Netherlands, the available evidence on surcharging is limited to debit cards.⁶⁶ Merchant fees for accepting debit cards in the Netherlands are about four to five

62. Scott Schuh, Oz Shy, Joanna Stavins and Robert Triest, "An Economic Analysis of the 2010 Proposed Settlement between the Department of Justice and Credit Card Networks," Federal Reserve Bank of Boston, Public Policy Discussion Papers, No. 11-4 at 27 (<http://www.bos.frb.org/economic/ppdp/2011/ppdp1104.pdf>).

63. See Martin Weiderstrand, IKEA EU Affairs, "Competition in Card Payments," presented on June 22, 2010, at the conference Payments Markets: Theory, Evidence, and Policy at the University of Granada, Spain at 17.

64. The elimination of the Visa and MasterCard no-surcharge rules in New Zealand was the result of the settlement of litigation brought by the New Zealand Commerce Commission. I prepared an expert report on behalf of the Commerce Commission in that matter. See Peter R. Taylor, "Card and Payments Australasia 2010 Conference" – 15 March 2010 (<http://www.comcom.govt.nz/cards-and-payments-australasia-2010-conference-15-march-2010/>).

65. See Amiri Halberg, "More Retailer Introducing Credit Card Surcharges," January 12, 2010, <http://topnews.net.nz/content/21654-more-retailer-introducing-credit-card-surcharges> ("Retailers Association chief executive John Albertson says some florists, taxi firms and utility providers are already in the cue for charging a fee for paying by credit card. Even the police is not behind, charging an extra 3% for the same. Independently owned BP stations are charging 60c extra for every transaction by credit card under \$30 and 90c for every transaction over \$30.").

66. See Wilko Bolt, Nicole Jonker and Corry van Renselaar, "Incentives at the Counter: An Empirical Analysis of Surcharging Card Payments and Payment Behavior in the Netherlands," *Journal of Banking and Finance*, 2010 ("Bolt et al"), fn 5, (GSSS5423_00000072 at 00000073) ("Prepaid cards and credit cards are hardly ever used in the Netherlands.").

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Euro cents per transaction.⁶⁷ Thus, the cost to a merchant of accepting a debit card is substantial for relatively small purchases (e.g., four to five percent for a one Euro transaction). A 2006 survey of merchants in the Netherlands found that 22 percent of all debit-card accepting merchants surcharged debit-card transactions below a threshold value; the average threshold value was 10 Euros.⁶⁸ That is, a substantial number of merchants elected to surcharge transactions for which payment card acceptance costs were relatively high.

76. The empirical evidence that many merchants use surcharging when it is allowed is consistent with the economics literature that finds that consumers respond differently to different types of pricing mechanisms. For example, Thaler explains that consumers may distinguish between "opportunity costs" and "out-of-pocket costs." In particular, consumers may react less to a price signal that is in the form of an opportunity cost – such as a discount for cash – than to one in the form of an out-of-pocket cost – such as a surcharge. Thaler notes:

Credit cards provide a particularly clear example. Until recently, credit card companies banned their affiliated stores from charging higher prices to credit card users. A bill to outlaw such agreements was presented to Congress. When it appeared likely that some kind of bill would pass, the credit card lobby turned its attention to form rather than substance. Specifically, it preferred that any difference between cash and credit card customers take the form of a cash discount rather than a credit card surcharge. This preference makes sense if consumers would view the cash discount as an opportunity cost of using the credit card but the surcharge as an out-of-pocket cost.⁶⁹

V. CONCLUSIONS

77. The relevant market for the purpose of evaluating the competitive effects of the Merchant Restraints is no broader than credit card network services. Credit cards and other methods of payment are not in the same market from the perspective of merchants. That is, the provision of network services for credit cards is a different market from the provision of network services for debit cards and the acceptance of cash and cheques.

67. See Bolt et al. (GSSS5423_00000072 at 00000074).

68. See Bolt et al. (GSSS5423_00000072 at 00000074).

69. Richard Thaler, "Toward a Positive Theory of Consumer Choice," *Journal of Economic Behavior and Organization*, 1, 1980 at 45.

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78. The Merchant Restraints influence upwards the price paid by merchants for credit card network services and create adverse competitive effects. Economic theory and the empirical evidence indicates that the ability of merchants to surcharge or threaten to surcharge credit cards would be expected to increase the competitive constraints faced by Visa and MasterCard and thus lead to a reduction in card acceptance fees.

79. Empirical evidence shows that surcharging is more effective than discounting at influencing consumers' choice of payment method. In particular, in countries where the ability to surcharge has been introduced, many merchants have made use of this ability. In addition, the opposition of Visa and MasterCard to surcharging is strong evidence that surcharging and discounting are not equivalent.

March 14, 2012

Date

Dennis W Carlton

Dennis Carlton

Exhibit A

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A.B., HARVARD UNIVERSITY (Summa cum laude): Applied Math and Economics, 1972.

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COMPASS LEXECON (formerly Lexecon), Chicago, Illinois (2008 – present) Senior Managing Director; LEXECON INC., (1977 – 2006), President 1997 – 2001, Senior Managing Director 2003 - 2006

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MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge, Massachusetts, Department of Economics (1975 – 1976) Instructor in Economics

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HARVARD UNIVERSITY, Public Policy Summer Course in Economics (1977), Professor

BELL TELEPHONE LABORATORIES (Summers 1976, 1977)

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Panelist, Concurrences "New Frontiers of Antitrust" Conference, Paris, February 2011.
Presenter, MIT "Economics of Antitrust" Symposium, January 2011
Keynote Speaker, 21st Annual Workshop of the Competition Law & Policy Institute of New Zealand, 2010
Keynote Speaker, Japanese Symposium on Competition, sponsored by Japan Fair Trade Commission, 2009
Recipient of Inaugural Robert F. Lanzilotti Prize, awarded by the International Industrial Organization Society for Best Paper in Antitrust Economics, 2008
Keynote Address to Israel Antitrust Conference, 2008
Lewis Bernstein Memorial Antitrust Lecture, Washington, D.C., 2006
Distinguished Visitor, University of Melbourne, April 2005
Milton Handler Lecture, New York, 2004
Keynote Address to the International Competition Network, Mexico, 2004
Alexander Brody Distinguished Lecture, Yeshiva University, 2000
Ph.D. Thesis chosen to appear in the Garland Series of Outstanding Dissertations in Economics
Recipient of the 1977 P.W.S. Andrews Memorial Prize Essay, best essay in the field of Industrial Organization by a scholar under the age of thirty
National Science Foundation Grant, 1977 - 1985
Recipient of Post-doctoral Grant from the Lincoln Foundation, 1975
National Science Foundation Fellowship, 1972 - 1975
Phi Beta Kappa, 1971
John Harvard Award, 1970
Detur Book Prize, 1969
Edwards Whitacker Award, 1969
M.I.T., National Scholar Award, 1968

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Advisory panel to the Department of Justice and the FTC on the merger guidelines, 2010
Co-editor, Journal of Law and Economics, 1980 - present
Visiting Committee, MIT, Department of Economics, 1995 - 2011
Member, Advisory Board, Economics Research Network, 1996 - present
Member, Advisory Board of Antitrust and Regulation Abstracts, Social Science Research Network, 1998 - present
Advisory Board, Massachusetts Institute of Technology, Department of Economics, 1999 - present
Editorial Board, Competition Policy International (CPI), 2010 - present, Co-Editor, Competition Policy International (CPI), 2004 - 2009
Member, Economic Task Force - Antitrust Division, American Bar Association, 2010 - present
Advisory Board, Journal of Competition Law and Economics, 2004- present
Adjunct Scholar, American Enterprise Institute for Public Policy Research, 2007 - present
Deputy Assistant Attorney General for Economic Analysis, Antitrust Division, U.S. Department of Justice, 2006 - 2008
Presidential Appointment to the Antitrust Modernization Commission, 2004 - 2007

PUBLIC

Invited Panelist at Public Hearing on the Retail Banking Sector Inquiry: Payment Cards, before the European Commission in Brussels, Belgium, July 17, 2006.
 Consultant on Merger Guidelines to the FTC, 2003
 Professor, George Mason Institute for Judges, October 2001
 Chairman, FTC Round Table on Empirical Industrial Organization (September 11, 2001)
 Participant in the Round Table on the Economics of Mergers Between Large ILECS before the Federal Communications Commission, February 5, 1999
 Member, Steering Committee, Social Science Research Council, Program in Applied Economics, 1997 - 1999
 Participant in roundtable discussions on "The Role of Classical Market Power in Joint Venture Analysis," before the Federal Trade Commission, November 19, 1997 and March 17, 1998.
 Participant in meetings with Committee of the Federal Reserve on Payment Systems, June 5, 1997
 Associate Editor, Regional Science and Urban Economics, 1987 - 1997
 Resident Scholar, Board of Governors of the Federal Reserve System, Summer, 1995
 Accreditation Committee, Graduate School of Business, Stanford University, 1995
 Associate Editor, The International Journal of Industrial Organization, 1991 - 1995
 Editorial Board, Intellectual Property Fraud Reporter, 1990 - 1995
 Consultant on Merger Guidelines to the U.S. Department of Justice, 1991 - 1992
 Member, Advisory Committee to the Bureau of the Census, 1987 - 1990
 National Bureau of Economic Research, Research Associate
 Member, American Economics Association, Econometrics Society

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- "Revising the Horizontal Merger Guidelines," Journal of Competition Law & Economics (2010), also appears in Journal of Competition Law – CADE (Brazil) Vol. 1, No. 23 (2011).
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- Deposition and Expert Submission of Dennis W. Carlton in Re: 2003 NPM Adjustment Proceeding pursuant to Master Settlement Agreement, November 22, 2005 (Deposition), October 10, 2005 (Expert Submission), January 30, 2006 (Expert Final Submission).
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- Expert Report of Dennis W. Carlton in Re: Marjorie Ferrell, et al., v. Wyeth-Ayerst Laboratories, Inc., et al. In the United States District Court for the Southern District of Ohio, Civil Action No. C-1-01-447, May 3, 2006 (Expert Report).
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- Declaration of Dennis W. Carlton in Re: Wireless Telephone Services Antitrust Litigation, Michael Freeland, et al., on behalf of himself and others, v. AT&T Corporation, et al. In the United States District Court, Southern District of New York, Master File 02 Civ. 2637 (DLC) and Separate File 04 Civ. 8653 (DLC), May 5, 2006 (Declaration).

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- Declaration, Deposition, Direct Testimony and Rebuttal Testimony of Dennis W. Carlton in Re: Certain Baseband Processor Chips and Chipsets, Transmitter and Receiver (Radio) Chips, Power Control Chips, and Products Containing Same, Including Cellular Telephone Handsets, In the United States International Trade Commission, May 19, 2006 (Declaration), June 1, 2006 (Deposition), June 5, 2006 (Direct Testimony), June 7, 2006 (Rebuttal Testimony) July 10, 2006 (Live Testimony).
- Expert Report, Supplemental Expert Report, Second Supplemental Expert Report, Reply Expert Report, Deposition, Statement, and Testimony of Dennis W. Carlton in Re: Verizon Services Corp., Verizon Communications Inc., MCI Communications Corp., and Verizon Business Global LLC vs. Cox Fibernet Virginia, Inc., Cox Virginia Telecom, Inc., Cox Communications Hampton Roads, LLC, CoxCom, Inc., and Cox Communications, Inc., in the US District Court for the Eastern District of Virginia, Case No. 1:08-cv-157 CMH-TRJ, May 30, 2008 (Expert Report), June 13, 2008 (Supp. Expert Report), July 2, 2008 (Second Supp. Expert Report), July 14, 2008 (Expert Report in Reply to Expert Report of Michael C. Keeley), July 29, 2008 (Deposition), September 17, 2008 (Statement), September 18, 22, and 29, 2008 (Testimony).
- Declaration, and Reply Declaration of Dennis W. Carlton (with A. Shampine and H. Sider) in Re: Verizon Wireless and ALLTELL Holdings LLC, in the Federal Communications Commission, WT Docket 08-95, June 13, 2008 (Declaration), August 19, 2008 (Reply Declaration).
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- Preliminary Report and Preliminary Analysis of Dennis W. Carlton in Re: Internet Corporation of Assigned Names and Numbers (ICANN) for the introduction of new top level domains (TLDs), March 2009 (Preliminary Report), March 2009 (Preliminary Analysis).
- Brief of Evidence, and Rebuttal Brief of Evidence of Dennis Carlton and Gustavo Bamberger in Re: New Zealand Commerce Commission, and DSE (NZ) Limited (and others) v Cards NZ Limited and others, in the High Court of New Zealand, Auckland Registry, CIV 2006-485-2693, May 4, 2009 (Brief of Evidence), September 7, 2009 (Rebuttal Brief of Evidence).
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- Declaration, Deposition, and Affidavit of Dennis W. Carlton in Re: Chicago Board Options Exchange, Incorporated, Dow Jones & Company, Inc., and the McGraw- Hill Companies, Inc., v. International Securities Exchange, LLC and the Options Clearing Corporation in the Circuit Court of Cook County, Illinois County Department, Chancery Division, No. 06 CH 24798, October 30, 2009 (Declaration), January 29, 2010 (Deposition), March 26, 2010 (Affidavit).
- Responses of Dennis Carlton in Re: Verizon Horizontal Merger Guidelines Review Project to the U.S. Department of Justice and Federal Trade Commission, November 9, 2009 (Responses).
- Declaration and Reply Declaration of Dennis W. Carlton and Gary S. Becker in the matter of Preserving the Open Internet Broadband Industry Practices, before the Federal Communications Commission in Washington D.C., GN Docket No. 09-191, January 14, 2010 (Declaration), April 7, 2010 (Reply Declaration).
- Declaration and Reply Declaration of Dennis W. Carlton and Hal Sider in Re: Special Access Rates for Price Cap Local Exchange Carriers, AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services, before the Federal Communications Commission in Washington D.C., WC Docket No. 05-25, January 19, 2010 (Declaration), February 24, 2010 (Reply Declaration).
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- Declaration and Expert Disclosure Statement of Dennis W. Carlton in Re: Light Cigarettes Marketing and Sales Practices Litigation, in the United States District Court, District of Maine, MDL Docket No. 1-09-MD-2068, January 28, 2010 (Declaration).
- Declaration and Expert Disclosure Statement of Dennis W. Carlton in Re: Karen L. Lawrence, et. al., v. Philip Morris, Inc., before the Superior Court of the State of New Hampshire, No. 09-C-518, June 28, 2010 (Declaration).
- Report of Dennis W. Carlton and Gustavo E. Bamberger in Re: Vector Limited, New Zealand, August 20, 2010 (Report).
- Expert Report, Rebuttal Expert Report, and Deposition of Dennis W. Carlton in Re: Delta/Airtran Baggage Fee Antitrust Litigation in the United States District Court for the Northern District of Georgia, Atlanta Division, Civil Action File Number 1:09-Md-2089-Tcb, January 7, 2011 (Expert Report), February 4, 2011 (Rebuttal Expert Report), February 24, 2011 (Deposition).
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Expert Report, Expert Response Report, Expert Reply Report, and Depositions of Dennis W. Carlton in Re: DSM Desotech INC. v. 3D Systems Corporation and 3D Systems, Inc. in the United States District Court for the Northern District of Illinois, Docket No. 08C1531, May 13, 2011 (Expert Report), June 24, 2011 (Expert Response Report), August 5, 2011 (Expert Reply Report), August 26, 2011 (Deposition), October 28, 2011 (Response) November 14, 2011 (Deposition).

Expert Report of Dennis W. Carlton in Re: Israel Antitrust Authority v. Bank Hapoalim, Bank Leumi, Israel Discount Bank, et al., May 31, 2011 (Expert Report).

Reply Expert Report, and Deposition of Dennis W. Carlton in Re: HTC Corporation et al. v. IPCOM GMBH & Co., KG in the United States District Court District of Columbia, Case No. 1:08-cv-01897-RMC, June 24, 2011 (Reply Expert Report), August 5, 2011 (Deposition).

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Expert Reports of Dennis W. Carlton in Re: TFT-LCD (Flat Panel) Antitrust Litigation, in the United States District Court Northern California San Francisco Division, No. C07-1827 SI, MDL No. 1827, February 23, 2012 (Expert Report Concerning Motorola Mobility Inc.), February 23, 2012 (Expert Report Concerning Nokia Corporation and Nokia Inc.), February 23, 2012 (Expert Report Concerning Dell Inc. and Dell Products L.P.), February 23, 2012 (Expert Report Concerning Eastman Kodak Company), February 23, 2012 (Expert Report Concerning ATS Claim, LLC; AT&T Mobility LLC et al.; Best Buy Co., Inc. et al.; Costco Wholesale Corporation; Electrograph Systems, Inc. et al.; Target Corp. et al.).




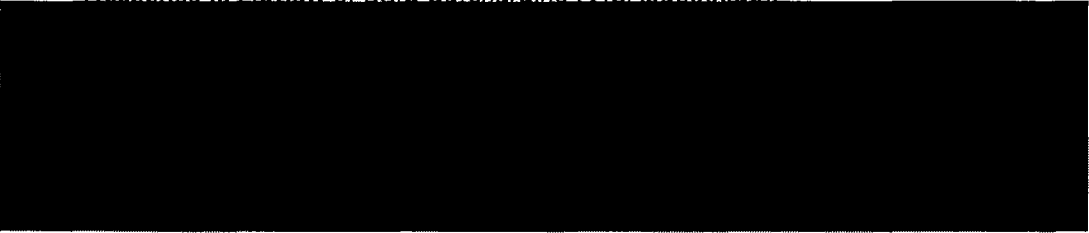
Submission, Supplemental Submission of Dennis Carlton, Charles Augustine and Gustavo Bamberger on behalf of Meridian Energy to the New Zealand Electricity Authority, February 23, 2012 (Submission), March 8, 2012 (Supplemental Submission).

Expert Reports of Dennis W. Carlton in Re: Apple Inc. and NeXT Software Inc., v. Motorola Inc. and Motorola Mobility Inc., March 1, 2012 (Expert Report), March 6, 2012 (Expert Report).

Exhibit B

List of Materials Relied On in Report

1. [REDACTED]
2. Examination for Discovery of Michael Bradley on behalf of Visa Canada Corporation.
[REDACTED]
5. MasterCard Rules, Rule 5.1 [REDACTED]
6. Visa International Operating Regulations Core Principle 6.4 "Merchant Qualification Standards" (GSSS5893_00001550).
7. [REDACTED]
8. *Code of Conduct for the Debit and Credit Card Industry* (http://www.fin.gc.ca/n10/data/10-049_1-eng.asp).
9. Dennis W. Carlton and Jeffrey M. Perloff, *Modern Industrial Organization*, 4th ed.
10. Canadian Merger Enforcement Guidelines (<http://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/03384.html>).
11. Dennis W. Carlton, "Market Definition: Use and Abuse," *Competition Policy International*, Vol. 3, No. 1, Spring 2007.
12. Renata Hesse and Joshua Soven, "Defining Relevant Product Markets in Electronic Payment Network Antitrust Cases," 73 *Antitrust Law Journal*, 2006.
[REDACTED]
14. Howard Chang, David S. Evans and Daniel D. Garcia Swartz, "The Effect of Regulatory Intervention in Two-Sided Markets: An Assessment of Interchange-Fee Capping in Australia," *Review of Network Economics*, Vol.4, Issue 4 – December 2005.
15. Alan S. Frankel, "Monopoly and Competition in the Supply and Exchange of Money," 66 *Antitrust Law Journal* 313, 1998.
16. Marc Rysman, "An Empirical Analysis of Payment Card Usage," *LV Journal of Industrial Economics*, 2007.
17. <http://www.interac.ca/media/stats.php>.

18. Bank of Canada Report (GSSS0035_00001377).
19. Bank of Canada Discussion Paper (GSSS0035_00001329).
20. Credit Card Statistics – VISA and MasterCard, *Canadian Bankers Association* (CBA003947).
21. http://www.discoverfinancial.com/news/FactSheet_Corporate.pdf.
22. *U.S. v. Visa*, 2001, 98 Civ. 7076 (BSJ) Decision (U.S.D.C. for the S.D.N.Y., 9 October 2001).
23. Response of Visa Canada Corporation (in this proceeding).

25. "Reform of Credit Card Schemes in Australia II", 2001, Commissioned Report by Professor Michael L. Katz for the Reserve Bank of Australia.

27. *Visa Check*, 2003 96-CV-5238 (JG) Decision (U.S.D.C. for the E.D.N.Y., 1 April 2003) (Lexis version).
28. Statement of Grounds and Material Facts (in this proceeding).

30. John Bagnall, Sophia Chong and Kylie Smith, "*Strategic Review of Innovation in the Payments System: Results of the Reserve Bank of Australia's 2010 Consumer Payments Use Study*," Reserve Bank of Australia, June 2011.
31. Australia Merchant Payment Forum: Submission to the Reserve Bank of Australia – Response to Review of Card Surcharging (VISA00536058).

34. Woolworths Limited submission to the Reserve Bank of Australia (VISA00536120).
35. OFT, "Payment surcharges: Response to the Which? Super-complaint," June 2011.
36. Scott Schuh, Oz Shy, Joanna Stavins and Robert Triest, "An Economic Analysis of the 2010 Proposed Settlement between the Department of Justice and Credit Card Networks," Federal Reserve Bank of Boston, Public Policy Discussion Papers, No. 11-4 (<http://www.bos.frb.org/economic/ppdp/2011/ppdp1104.pdf>).

37. Martin Weiderstrand, IKEA EU Affairs, "Competition in Card Payments", presented on June 22, 2010, at the conference Payments Markets: Theory, Evidence, and Policy at the University of Granada, Spain.
38. Peter R. Taylor, "Card and Payments Australasia 2010 Conference" – 15 March 2010 (<http://www.comcom.govt.nz/cards-and-payments-australasia-2010-conference-15-march-2010/>).
39. Amiri Halberg, "More Retailer Introducing Credit Card Surcharges," January 12, 2010, <http://topnews.net.nz/content/21654-more-retailer-introducing-credit-card-surcharges>.
40. Wilko Bolt, Nicole Jonker and Corry van Renselaar, "*Incentives at the Counter: An Empirical Analysis of Surcharging Card Payments and Payment Behavior in the Netherlands*," Journal of Banking and Finance, 2010 (GSSS5423_00000072).
41. Richard Thaler, "*Toward a Positive Theory of Consumer Choice*," Journal of Economic Behavior and Organization, 1, 1980.

Exhibit C**ACKNOWLEDGEMENT OF EXPERT WITNESS**

I, Dennis Carlton, 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.

March 14, 2012

Date

Dennis W Carlton

Dennis Carlton

CT-2010-010

THE COMPETITION TRIBUNAL

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

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

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

BETWEEN:

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 DENNIS CARLTON
MARCH 14, 2012**

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