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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 ASSOCIATION and

THE TORONTO-DOMINION BANK

Intervenors

EXPERT REPORT OF JEFFREY CHURCH

April 10, 2012

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1. Introduction

1.1 Overview of the Commissioner of Competition's Allegations

1. The Commissioner of Competition (the "Commissioner") has filed an application requesting an order from the Competition Tribunal under Section 76 of the *Competition Act* that would prohibit Visa Canada Corporation ("Visa") and MasterCard International Incorporated ("MasterCard") from implementing and enforcing particular rules on their payment platforms. I understand that the two requirements for a prohibition order under Section 76 are that (i) the challenged conduct has influenced upward or discouraged the reduction in price at which Visa and MasterCard's customers resell the products of Visa and MasterCard (as required under Section 76(1)(a)(i)); and (ii) the conduct described in (i) has had, or is likely to have, an adverse effect on competition in a relevant market (as required under Section 76(1)(b)).

2. The operating rules ("Rules") at issue in this matter identified by the Commissioner include the unilateral or independent adoption by Visa and MasterCard of some or all of the following:

    (a) The No-Surcharge Rule. The No-Surcharge Rule ("NSR") prohibits merchants from imposing additional charges on a consumer who pays with a Visa credit card (in the case of Visa's rule) or a MasterCard credit card (in the case of MasterCard's rule).

    (b) The Honour all Cards Rule. The Honour all Cards Rule ("HACR") requires, in the case of Visa, that if a merchant accepts any Visa credit cards it must accept all Visa branded credit cards, or in the case of MasterCard, if a merchant accepts any MasterCard credit cards it must accept all MasterCard credit cards.

    (c) The No Discrimination Rule. The No Discrimination Rule ("NDR") requires that merchants who accept MasterCard credit cards not engage in conduct that discriminates against or discourages the use of MasterCard cards in favour of any other brand of credit card accepted by the merchant.

The effect of the first two Rules is that a merchant that chooses to accept a network's credit cards cannot discriminate against cardholders of that network by charging them more than the posted price or by refusing to accept their credit card.

3. I have been asked by counsel for Visa and MasterCard to consider and respond to the report of Professor Ralph Winter ("*Winter Report*") filed on behalf of the Commissioner of Competition with the Competition Tribunal on March 12, 2012.[1] The *Winter Report* provides an economic analysis of whether the Merchant Rules have had, or is likely to have, an adverse effect on competition and whether this effect influences upward or discourages the reduction of the price at which customers of Visa and MasterCard sell (not resell) a product in Canada.[2] As explained in detail below, the analysis in the *Winter Report* adopts a causality that appears to be very different from that required by Section 76 of the *Competition Act*.

1.2 Questions Addressed

4. In this report I address the following questions:

    (a) Are the Rules properly considered conduct that constitutes price maintenance, as understood and analyzed as a matter of economics and competition policy?

    (b) Even if the Rules constitute price maintenance, do they have an adverse effect on competition in a market having regard to, among other things, the two-sided nature of credit card platforms?

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[1] Expert Report of Ralph A. Winter in The Commissioner of Competition v. Visa Canada Corporation and MasterCard International Incorporated, CT-2010-010, filed March 12, 2012. Hereafter the "Winter Report". I do not address every statement or conclusion in the expert report of Professor Winter, but that does not necessarily mean that I agree with statements or conclusions that I do not address.

[2] I have also reviewed three other expert reports provided on behalf of the Commissioner of Competition. These are the Expert Report of Alan S. Frankel in The Commissioner of Competition v. Visa Canada Corporation and MasterCard International Incorporated, CT-2010-010, filed March 9, 2012; Expert Report of Dennis Carlton in The Commissioner of Competition v. Visa Canada Corporation and MasterCard International Incorporated, CT-2010-010, filed March 14, 2012; Expert Report of Mike McCormack in The Commissioner of Competition v. Visa Canada Corporation and MasterCard International Incorporated, CT-2010-010, filed March 14, 2012. Hereafter the "Frankel Report", "Carlton Report" and "McCormack Report".

In considering the above, I believe it is appropriate to comment specifically on Professor Winter's view on the comparative effectiveness of surcharging and discounting as a mechanism to steer customers to alternative forms of payment.

1.3 Summary of Opinion

1.3.1 The Rules are Not Price Maintenance

5. Price maintenance under the *Competition Act* requires establishing the *conduct* of price maintenance and that price maintenance had, is having, or is likely to have, an adverse effect on competition. The Rules should not be characterized as price maintenance for the following reasons:

   (i) The Rules do not limit in any way the price at which acquirers or merchants may offer to sell their products.

   (ii) Visa and MasterCard have not entered into agreements or engaged in equivalent conduct that influence upwards the price at which the services they provide to their customers are resold. There is no product of Visa or MasterCard that is "resold" by acquirers, and thus there is no relevant price for Visa or MasterCard to influence. Visa and MasterCard provide services to acquiring banks which are used as inputs by the acquiring banks to provide services to merchants

   (iii) According to the theory of competitive harm presented by Professor Winter, the alleged price that is "influenced upwards" by the Rules is the Acquirer Fees (defined by him to be the interchange rate plus the network access fee for acquirers) of Visa and MasterCard. It is not the merchant discount charged by acquiring banks to merchants that is influenced upwards by the Rules.

   (iv) The theory used by Professor Winter to establish an adverse effect on competition is not a recognized theory of harm in the economics and competition policy literature on price maintenance.

6. Professor Winter's test for establishing that the Rules are price maintenance and therefore subject to Section 76 involves a reverse causality. The analysis consistent with Section 76

requires establishing conduct that is price maintenance (an agreement or a threat, promise or similar conduct that influences upwards or has discouraged the reduction of the price at which a firm's product is resold) and second that this price maintenance has an adverse effect on competition in a relevant market. Professor Winter's theory is backwards: the Rules adversely affect competition, thereby influencing upward the "prices" that Visa and MasterCard charge acquirers for the services Visa and MasterCard provide. The price maintenance requirement is allegedly met because the increase in the "prices" charged acquirers is passed onto merchants as higher merchant fees.

1.3.2 The Rules Do Not Result in An Adverse Effect on Competition

7. The core of Professor Winter's argument is that the Rules reduce the incentive for Visa or MasterCard to lower their Acquirer Fees because the Rules reduce the extent to which volume is increased by doing so. However, Professor Winter's analysis makes two simplifications that render his assessment of the effect on competition flawed. Both arise because of insufficient attention paid to the two sided nature of a credit card payment network.

8. The first simplification is that Professor Winter assumes that the relevant market is competition between Visa and MasterCard to supply Credit Card Network Services to Acquirers. As a result he concentrates on the incentives for undercutting the Acquirer Fee. The error is not recognizing that Visa and MasterCard would have the same incentives to undercut a positive margin on a transaction by reducing the network access fee for issuers. His analysis does not recognize the ability for card platforms to increase transaction volume on the issuer side of the platform. A credit card network can also increase its volumes by decreasing its network access fee charged issuers, thereby increasing the number of cardholders and the number of cardholders that utilize its cards. Assuming competition among issuers, issuers would pass reductions in their network access fee to cardholders. My conclusion is that, with the Rules, competition between Visa and MasterCard reduces the network access fee for issuers until network revenues equal network costs. The Rules—even assuming Professor Winter is correct that there would be higher acquirer fees—would not affect market power of Visa and MasterCard. Hence the Rules cannot have an adverse effect on competition: they do not enhance, create or maintain market power.

9. The second source of error in Professor Winter's analysis is that he does not recognize that the Rules play an important role in promoting transaction volumes on a network. They do this by preventing conduct by merchants that would lower the value of obtaining or using a credit card. The particular concern regarding merchant conduct that the Rules seek to control is hold up of card holders and free riding. If the Rules are not in place, consumers are susceptible to renegotiation by the merchant on the basis of the form of payment they present. The merchant may not accept their credit card or may raise the price based on their type or brand of credit card. The potential for this hold up reduces the value to the consumer of holding that brand or type of credit card if it is widespread. Merchants, especially merchants that do not expect repeat business, have an incentive to engage in hold up, i.e., free ride on the investments made by the card network and merchants that abide by the Rules. The Rules prevent the merchants from this type of hold up, preserving incentives for consumers to hold and use the cards of a given network.

10. Therefore the adoption of the Rules by Visa and MasterCard is not based on creating, maintaining, or preserving market power and there is no adverse effect on competition. Instead they are examples of non price restraints that network operators impose on participants on one side of the platform to avoid negative externalities that reduce the incentive of participants on the other side of the platform to join or use the network. Hence there is a legitimate business justification that motivates unilateral adoption of the Rules by Visa and MasterCard. The Rules enhance internetwork or interbrand competition.

1.3.3 Market Definition

11. In my view the relevant market cannot be the supply of CCNS by credit card networks to acquirers. The major reason for the difference in my assessment is that Professor Winter's analysis of the relevant market ignores the implications of the fact that Visa and MasterCard are payment networks that compete with other payment methods. The theory of monopoly pricing by a two sided platform operator identifies the relevant margin to assess the profitability of platform pricing to be the sum of the network acquirer fee plus the network issuer fee (i.e., the fees actually charged by Visa and MasterCard, not the "Acquirer Fee" constructed by Professor Winter which includes interchange) less the marginal cost to complete a transaction. Moreover, it indicates the relevant demand elasticity to be the

aggregate elasticity of demand, i.e., the sum of the demand elasticity on both sides of the platform, not just one side, and they should reflect network and feedback effects. In practice what this means is that the proper application of the hypothetical monopolist test to a payment platform should use the total transaction fee earned by the credit card platform and include both avenues of substitution, merchant substitution and cardholder substitution, as the price of a transaction on a payment platform rises. This is not the analysis done by Professor Winter.

1.3.4 Discounts v. Surcharges

12. Professor Winter's analysis relies for its conclusions on the assumption that discounting is not an effective steering mechanism or as effective as surcharging. Surcharging would be more effective if consumers respond differently to surcharges than discounts and/or surcharging was more prevalent than discounting. Professor Winter therefore provides a number of reasons for why surcharging is a more effective steering mechanism than discounting. In my view Professor Winter does not establish that:

    (i) discounting is not an effective steering mechanism or, indeed, that in the absence of the Rules, there would be widespread adoption of surcharging by merchants to steer consumers to different forms of payment— surcharging might arise because of retailer market power and holdup of consumers;

    (ii) the prevalence of surcharging indicates that surcharging is a more effective steering means of steering than discounting;

    (iii) surcharges are as, or more, effective than discounts as a steering mechanism.

1.4 Background and Qualifications

13. I am a Full Professor in the Department of Economics at the University of Calgary. I received a Ph.D. in economics from the University of California, Berkeley in 1989, and have been continuously employed in the Department of Economics at the University of Calgary thereafter, teaching courses in industrial organization, competition policy, regulatory economics, and microeconomics. I am the coauthor of a book on the regulation of natural gas pipelines in Canada, a text in industrial organization, and a recent monograph on the

competitive implications of vertical and conglomerate mergers. I have had a long standing research interest in the economics of networks and competition policy. A complete list of my publications is included in my curriculum vitae, which is marked and attached hereto as Appendix A. I have acted as an expert on a wide range of regulatory and competition policy matters. I have been accepted as an expert in proceedings before the National Energy Board, the Alberta Energy Utilities Board, the Canadian Radio-Television and Telecommunications Commission, the Federal Court of Canada, and the Supreme Court of British Columbia. Appendix B and the footnotes to my report document the material I relied upon in my analysis. Appendix C is my signed Acknowledgement of the Expert Witness statement.

1.5 Organization

14. I have organized my report as follows. First, I consider the nature of price maintenance as a matter of economics and competition policy. I then consider whether the Rules constitute price maintenance as considered in economics and competition policy. Subsequently I analyze whether the Rules, even if they constitute price maintenance (which I conclude they do not), have an adverse effect on competition in a market. In doing so, I explain the implications of the two sided nature of payment platforms for both understanding the competitive effects of the Rules and market definition. In the last section, I consider Professor Winter's views on the relative effectiveness of discounting and surcharging as steering mechanisms.

2. The Rules are Not Price Maintenance

15. In this section I consider whether the characterization of the Rules as price maintenance is appropriate from the perspective of the economics and competition policy of price maintenance. I conclude that the conduct at issue in this matter, the Rules, are not price maintenance (an agreement or a threat, promise or similar conduct that influences upwards or has discouraged the reduction of the price at which a firm's product is resold) as understood by competition policy and economics, let alone price maintenance that has an adverse effect on competition.

2.1 Definition of Price Maintenance

16. The economics literature on vertical restraints addresses the incentives and effects of restrictions, usually contractual or conduct that has a similar effect, between different levels in a supply chain. In the simplest scenario, absent any vertical restraints, an upstream firm (seller) posts a price, the downstream firm (buyer) selects the quantity purchased and all of the rights to the input supplied are transferred by the upstream firm to the downstream firm. But there are many alternatives where, as here, some of the property or decision rights might be retained by the upstream firm and thereby constrain the buyer (downstream firm). These are known generally as vertical restraints.[3]

17. There are many examples of vertical restraints on downstream firm conduct that do not involve its pricing. Non-price vertical restraints include exclusive territories (restriction on the geographic area in which sales can be made by the downstream firm), exclusive dealing (the downstream firm can only deal in the supplier's brand), and limitations on additional services that can be provided. Non-price vertical restraints are distinguished from vertical restraints that involve restrictions on the downstream firm's ability to set the price of the product transferred.

18. In antitrust policy and economics, price maintenance involves a supplier (often a manufacturer) retaining rights over the price set by its downstream distributors (typically retailers) when they resell its product. The downstream firms provide distribution services to the upstream firm, but these services do not typically involve a physical transformation of the supplier's product. Instead, the downstream distributers' activities involve expenditures to enable resale of the supplier's product. As a result, price maintenance has generally been referred to as resale price maintenance (RPM).

19. Representative definitions of RPM from the economic and competition policy literature include:

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[3] M. Trebilcock, R. Winter, P. Collins and E. Iacobucci, (2002), *The Law and Economics of Canadian Competition Policy,* University of Toronto Press at 373-375; F. Mathewson and R. Winter, (1998), "The Law and Economics of Resale Price Maintenance," *Review of Industrial Organization* 13: 57-84 at 58.

(a) “This restraint describes any contract in which an upstream firm (e.g., a manufacturer) retains the right to control the price at which a product is sold downstream, usually in a retail market. Resale price maintenance often refers to the specific restraint of a minimum price at which a product can be resold, but it can refer to a price ceiling as well. The context in which they are most often observed involves contracts between manufacturers and the distributors (resellers) of their products.”[4]

(b) “A resale price maintenance (RPM) agreement is a contract in which a manufacturer and a downstream distributor (retailer) agree to a minimum or maximum price the retailer will charge its customers (consumers).”[5]

(c) “Resale price maintenance (RPM) is a vertical price restraint that prevents distributors from lowering resale prices below a specified minimum.”[6]

(d) “. . . a resale price maintenance agreement where a manufacturer sets a minimum price that retailers may charge.”[7]

(e) “The term ‘resale price maintenance’ encompasses a number of price-related understandings between upstream and downstream firms. The most common variety involves retailers agreeing with a supplier that they will not charge customers less than a certain price for the supplier’s product, leaving the retailers free to charge any price above that level (‘minimum RPM’).”[8]

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[4] M. Trebilcock, R. Winter, P. Collins and E. Iacobucci, (2002), *The Law and Economics of Canadian Competition Policy,* University of Toronto Press at 375, footnote omitted; See also F. Mathewson and R. Winter, (1998), "The Law and Economics of Resale Price Maintenance," *Review of Industrial Organization* 13: 57-84 at 58.

[5] K. Elzinga and D. Mills, (2010), "The Economics of Resale Price Maintenance," W. D. Collins, eds., *Issues in Competition Law and Policy*, III, ABA: 1841-1858 at 1841.

[6] R. Blair and D. Kaserman, (2009), *Antitrust Economics,* 2nd ed., Oxford University Press at 372.

[7] D. Carlton and J. Perloff, (2005), *Modern Industrial Organization,* 4th ed., Pearson at 423, emphasis removed and footnote omitted.

[8] OECD, (2008), Roundtable on Resale Price Maintenance, DAF/COMP (2008) 37 at p. 23.

(f) "Resale price maintenance involves the setting of a vertical price floor on downstream distributors of a product . . ."[9]

(g) ". . ., resale price maintenance, which is manufacturer or supplier regulation of the price at which the product is resold by independent dealers."[10]

The common elements of RPM are an agreement (or conduct which has a similar effect) between a supplier and a downstream party under which the supplier retains some decision making authority over the retail price that the downstream party sets for the upstream firm's product. RPM can involve either (a) a vertical price floor that sets a minimum resale price or (b) a vertical price ceiling that sets a maximum resale price. Since Section 76 is directed at agreements or conduct that influences upwards or discourages the reduction of the price set by the downstream party, the relevant concern is minimum price maintenance. In what follows I do not, therefore, address maximum price maintenance and all references to price maintenance are to minimum price maintenance.

2.2 Price Maintenance under the *Competition Act*

20. Section 76 contains the price maintenance provisions of the *Competition Act*. As I understand it, price maintenance (defined as an agreement or a threat, promise or similar conduct that influences upwards or discourages the reduction of the price at which a firm's product is resold) may be prohibited where it has had, is having, or is likely to have, an adverse effect on competition in a relevant market. Section 76 is almost identical to the criminal provision it replaced (old Section 61), except that sub-section 76(1)(a)(i) expressly refers to "resale" and the provision now also requires that the price maintenance referenced in sub-section 76(1)(a) must have an adverse effect on competition, which I understand to entail that the conduct in sub-section 76(1)(a) must enhance, maintain, or create some material amount of market power in a relevant market.

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[9] R. A. Winter, (2009), "Presidential Address: Antitrust Restrictions on Single-Firm Strategies.," *Canadian Journal Of Economics* 42: pp. 207-1239 at 1209.

[10] H. Hovenkamp, (2005), Federal Antitrust Policy: The Law of Competition and its Practice, 3rd edition, Thomson West. at 447, footnote omitted.

2.3 The Rules and Price Maintenance

2.3.1 The Rules Do Not Constitute Price Maintenance

21. The conduct in this case, the Rules on the Visa and MasterCard network, cannot and should not be characterized as price maintenance as a matter of economics and Canadian competition policy.[11]

22. First, the Rules do not limit in any way the price at which either acquirers or merchants may offer to sell their products. Neither the NSR nor the HACR contemplates any limitation on the discretion of competing acquirers or competing merchants to apply whatever price they so choose to the variety of products and/or services they may provide. The Rules apply to the conduct of merchants at the point of sale. They restrict the ability of merchants to impose surcharges and selectively accept cards. The nature of the NSR is to restrict any additional charges that can be charged by merchants depending on the form of payment for their products: but that is not the same as restricting the price that merchants or acquirers charge. Moreover, even if the Rules could be characterized as price maintenance, it would be maximum price maintenance, influencing prices downward, not minimum price maintenance which influences prices upward.

23. Second, Visa and MasterCard have not entered into agreements or engaged in equivalent conduct that influence upwards the price at which the services they provide to their customers are resold. There is no product of Visa or MasterCard that is "resold" by acquirers, and thus there is no relevant price for Visa or MasterCard to influence. Visa and MasterCard provide services to acquiring banks which are used as inputs by the acquiring banks to provide services to merchants. The bundle of services provided by Visa and MasterCard to acquirers involves connection to the Visa and MasterCard network and access to authorization, clearing and settlement services. The service provided by the acquirers to merchants is the ability to accept payment by credit cards from customers. Merchants are not

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[11] Appendix D provides a brief overview of the economics of resale price maintenance. The overview includes a discussion of the rationales for RPM, both pro and anti-competitive, and a discussion of the implications the economics of RPM has for efficient enforcement policy. In particular, there appears to be a consensus that RPM is generally pro-competitive and that there are only rare circumstances—when it facilitates collusion, which has not been alleged or applies here—where RPM, even if were present, should be subject to challenge.

connected to the Visa and MasterCard networks by acquirers, but instead to the proprietary systems of the acquirers.[12] Card acceptance costs are a cost of doing business, but card acceptance services are no more "resold" than other inputs, e.g., electricity or computer programmers. The product or service provided by Visa and MasterCard is not simply resold, physically unchanged, by acquiring banks to merchants or merchants to their customers. The Rules are not price maintenance, but instead non-price vertical restraints: they restrain the behaviour of merchants, but not with respect to the price at which Visa and MasterCard services are resold—since those services are not resold by merchants.[13]

24. Third, and of particular salience, is that even accepting (for argument's sake) Professor Winter's analysis on its own terms, it is not the price of a downstream firm that is alleged to be influenced upward or discouraged from being reduced by the Rules, but rather the "prices" charged by Visa and MasterCard themselves to acquirers.[14] The allegation is that the Rules influence upwards Visa and MasterCard's own "prices" for the services they sell to acquirers, i.e., not the price of a downstream distributor. Winter only posits that the downstream distributor's price is "maintained" by virtue of costs being passed on.

25. Fourth, the economic analysis of price maintenance is very different than Professor Winter's economic analysis of the Rules. Mutual adoption of price maintenance by two manufacturers may facilitate collusion and reduce price competition between them because their retailers cannot pass on reductions in wholesale prices to their customers and thereby increase sales volume for manufacturers. But, under Professor Winter's analysis, the Rules are (allegedly) anticompetitive because they effectively result in price matching: the price increase for use of a credit card affects equally the "cost" of all forms of payment because it raises retail prices equally. Hence the economic analysis and incentives of price maintenance and the Rules are fundamentally different.

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[12] See Witness Statement of Brian Weiner in The Commissioner of Competition v. Visa Canada Corporation and MasterCard International Incorporated, CT-2010-010, filed April 10, 2012 at 39. McCormack Report at 48-51.

[13] See H. Hovenkamp, (2005), *Federal Antitrust Policy: The Law of Competition and its Practice*, 3rd edition, Thomson West at p. 473 for an example in the context of the retailing of gasoline.

[14] See Section 3.1 below for discussion of Professor Winter's analysis.

2.3.2 Winter Does Not Apply The Proper Price Maintenance Analysis

26. Consistent with prevailing antitrust economics of price maintenance, the section of the *Competition Act* that Professor Winter relies upon provides for intervention by the Tribunal where, as I understand it, a party engages in price maintenance that has had, or is likely to have, an adverse effect on competition in a relevant market.

27. Professor Winter's application of Section 76, however, has a reverse order of causality. Professor Winter's theory is that the Rules adversely affect competition, thereby influencing upward the "prices" that Visa and MasterCard charge acquirers for the services Visa and MasterCard provide.[15] The price maintenance requirement is allegedly met because the increase in the "prices" charged acquirers is passed onto merchants as higher merchant fees. However, the causality in the economics and competition policy literature goes from the conduct to an effect on competition: first establishing price maintenance and second an effect on competition from the price maintenance.

28. In this regard, several examples in Winter's Report are worth highlighting.

- In the opening summary: [16] "The Merchant Rules are structured so as to eliminate or substantially reduce important sources of competitive discipline on and between Visa and MasterCard. This substantial reduction or elimination of competition between Visa and MasterCard has the effect of influencing upward and discouraging the reduction of the prices at which Acquirers supply Credit Card Network Services to merchants. From the perspective of economics, the upward influence condition and adverse-competitive-impact condition of section 76 are met."

- In discussing the competitive effects of the Rules:[17] "For this reason, in assessing whether the Merchant Rules raise prices in the relevant market through an adverse impact on competition in that market, and thereby influence upwards the

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[15] Moreover, as I indicated above, not only is Professor Winter's causality fundamentally at odds with the basic premise that price maintenance involves influencing upward or discouraging the reduction of the price that someone else charges, it renders the price maintenance conduct which is the essence of section 76 (and the economic understanding of RPM) irrelevant to the analysis.
[16] Winter Report at 22.
[17] Winter Report at 79.

downstream Merchant Service Fees, I need not address the issue of whether the excess revenue from the higher price takes the form of higher Interchange Fees or higher Network Fees."

- In discussing Adverse Competitive Effect I:[18] "The immediate impact of the adverse effect is, as explained, higher prices in the relevant market. These higher prices (Acquirer Fees) paid by Acquirers are passed directly onto merchants in the form of higher Merchant Service Fees. In other words, the prices at which the Acquirers offer their product to merchants are influenced upwards by the Merchant Rules."

- In the summary of competitive effects of the Rules:[19] "First, the Merchant Rules suppress competition between Visa and MasterCard by constraining the ability and incentive of either firm to undercut high prices set by the other. . . . The immediate effects of the adverse competitive impact are felt in higher fees for Acquirers, which are passed on to merchants in the form of higher Merchant Service Fees."

- In the conclusion:[20] "The adverse competitive impacts of the Merchant Rules in the relevant market lead to higher prices to Acquirers, which are then passed on by the Acquirers in the form of higher Merchant Service Fees. Thus, the Merchant Rules influence upwards the prices charged by Acquirers, which are the customers of Visa and MasterCard."

29. From an antitrust economics and policy perspective, it is important that Professor Winter's approach and attempt to shoehorn the Rules into the price maintenance provisions be firmly rejected. If Professor Winter's approach is accepted, any conduct that adversely affects competition in a market for an input could be prohibited as price maintenance, provided the adverse effect causes a higher input price and there is some pass through of the higher input price to the price of the downstream product. [21] Indeed, accepting the causality advocated by Professor Winter makes the requirement of price maintenance (Section 76(1)(a)) redundant (as price would be lower but for an adverse effect on competition) and turns the price

[18] Winter Report at 85.
[19] Winter Report at 107(a).
[20] Winter Report at 119.
[21] An exception is the relatively unusual circumstance when an increase in the price of an input upstream does not result in any pass through of increased costs to downstream prices.

maintenance provision into one applicable to any conduct that results in an adverse effect on competition in an input market. A second unfortunate consequence appears to be equating pass on from a higher input price to price maintenance; it should not be an issue for downstream firms to respond to higher input prices by raising the price of their products.

30. If the Rules do not amount to price maintenance and thus do not constitute the conduct contemplated by Section 76, it is unnecessary to go on to consider whether or not they have an adverse effect on competition under the effects section of that provision (it is also unnecessary to identify the relevant market). In any event, I consider whether the *Winter Report's* conclusions on the adverse effect of the Rules on competition are borne out. In what follows, I conclude that they are not. The analysis in the *Winter Report* on the effect of the Rules on competition is problematic and the determination of the relevant market incomplete. While a number of problems are identified, a particular problem with the analysis worth highlighting is that in the consideration of the relevant market and the effect of the Rules on competition, the *Winter Report* does not consider the implications of the essential characteristic of payment platforms: they are two sided.

3. Two-Sided Platforms and Professor Winter's Theory of Anticompetitive Harm

3.1 Professor Winter's Theory of the Case

31. Professor Winter develops two theories to attempt link the Rules to an (alleged) adverse effect on competition: that the Rules "suppress competition" and result in "cost externalization".[22] According to Professor Winter both of these effects reduce the incentives Visa and MasterCard have to reduce their "Acquirer Fees" (which he defines as the sum of the network access fee charged acquirers and the interchange fee). The reduction in the incentive to lower Acquirer Fees results, according to his theory, in a softening of competition between Visa and MasterCard in the provision of network services to acquirers,

[22] In order to focus on, and critique, particular aspects of the *Winter Report,* it is necessary to assume and restate for the sake of argument other aspects of it and, in certain cases, apply terminology that Professor Winter employs. In doing so, I am in no way acknowledging that I agree with these other aspects of his Report.

resulting in an increase in the price of network services to acquirers. This is the adverse effect of the Rules alleged by Professor Winter. The price maintenance he then alleges is that acquirers pass this higher "price" onto merchants as a larger merchant discount.

32. Professor Winter's "suppression" theory ("Adverse Effects I") assumes that in the absence of the Rules, competition among acquirers and merchants would result in (widespread) surcharging and this surcharging would steer a substantial volume of consumers to use alternative forms of payment that have lower or no surcharges. Thus, a card platform that lowered its Acquirer Fees might be rewarded by an increase in usage and card membership, according to his theory.

33. Moreover, with the Rules in place, Professor Winter asserts that a unilateral reduction in a card platform's Acquirer Fees would have much less of an effect on volumes since it does not result in either consumers switching credit cards or an increase the number of consumers who carry that card. Hence the benefit—increased card usage—from a reduction in fees is reduced, leading to both Visa and MasterCard having less incentive to "undercut" than they would in the absence of the Rules and resulting in higher Acquirer Fees for acquirers for network services.

34. The "cost externalization hypothesis" ("Adverse Effects II")advanced by Professor Winter is based on similar considerations, but the scope of the analysis is widened to include other competing forms of payment. Under the "cost externalization" hypothesis, when the Rules are in effect, an increase in Acquirer Fees is only partially passed onto cardholders because not all of a merchant's customers will use a card of the network that increased its Acquirer Fee (they may use other cards or cash for example). As the increase in the average retail price is paid by all consumers, this means, according to Professor Winter, that the transaction volume loss which would result from an increase in the Acquirer Fees will be less than would occur if the full increase in Acquirer Fees was passed on in its entirety to the cardholder.

35. In the rest of this section I explain why I do not agree with Professor Winter's assessment of the effect of the Rules on competition. The difference in assessment arises principally because Professor Winter ignores the implications of the fact that Visa and MasterCard provide network services simultaneously to both acquirers and issuers, i.e., are engaged in a

two-sided business, and that competition in this business depends on the interdependence of the acquiring and issuing sides.

36. In the subsequent section (Section 4) I explain why I do not agree with Professor Winter's conclusion that the relevant market is Credit Card Network Services. Again the major reason for our difference in assessment is that Professor Winter's analysis of the relevant market ignores the implications of the fact that Visa and MasterCard are payment networks that compete with other payment methods.

37. In Section 5, I consider the validity of a number of assumptions regarding the relative effectiveness and prevalence of discounting and surcharging that underlie Professor Winter's analysis.

3.2 Two Sided Platforms vs. One Sided Firms

38. Two-sided platforms typically have the following two features:[23]

(a) *Two Sides*. The platform provides services or products to two groups (the sides), who benefit from being brought together by the platform. Participation by cardholders and merchants on the same network allows consumers to realize the benefits of using a card and merchants to realize the benefits of accepting the card.

(b) *Cross Network Effects*. There are two network effects associated with a payment network. The first is a usage externality. Merchants that accept a card to complete a transaction create surplus for their customers and customers who use a credit card might create benefits or impose costs on the retailer. The second is a membership externality. The greater the number of merchants that accept the card, the greater the value to having a card for consumers. Similarly, the greater

[23] See E. G. Weyl, (2010), "A Price Theory of Multi-sided Platforms," American Economic Review 100: pp. 1642-1672 and M. Rysman, (2009), "The Economics of Two-Sided Markets," Journal of Economic Perspectives 23: pp. 125-143. The identification of a two sided market is a source of some debate. These two features seem to be necessary conditions. See, as well, J.-C. Rochet and J. Tirole, (2006), "Two-Sided Markets: A Progress Report," RAND Journal of Economics 37: pp. 645-667.

the number of consumers that carry a card, the greater the benefit to a merchant from accepting a card.

39. Pricing by a two sided platform, such as a payment network, is a more complicated exercise than for a firm in a one sided market. The pricing decision by a payment network involves (i) setting an overall price level for a payment transaction and (ii) allocating the recovery of that price between the two sides in a manner that maximizes transaction volume.[24] The allocation of the price between the two sides can have a signficant impact on volumes on the network. A platform operator interested in maximizing transaction volume would take into account the sensitivity of demand on each side to its price as well as feedback effects, i.e., how participation on one side of the market affects network benefits and hence the willingness of the other side to participate.

40. Professor Elzinga has, in his Report, discussed two sided markets and the implications of the two-sided nature of Visa and MasterCard's businesses to this proceeding so I will not repeat much of that discussion here.

41. However, there are two important aspects of payment platforms that are worth emphasizing:

(i) Visa and MasterCard provide network services simultaneously to both acquirers and issuers, i.e., are engaged in a two-sided business, and competition in this business depends on the interdependence of the acquiring and issuing sides.

(ii) The interchange rate is a balancing mechanism between issuers and acquirers.[25] Interchange is not a revenue source for Visa or MasterCard, but instead is provided by acquirers to issuers. Interchange paid by acquirers to issuers simply allocates the recovery of network access fees and other costs between the issuers and acquirers— the two sides of the market. It is a mechanism to internalize the usage externality between cardholders and merchants. Visa and MasterCard do

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[24] The price of a transaction, the overall price level, will be recovered by charging each side a separate price. But this does not indicate that there are two relevant markets. See below at Section 4.

[25] See J. C. Rochet, (2003), "The Theory of Interchange Fees: A Synthesis of Recent Contributions," Review of Network Economics 2: pp. 97-124 and M. Verdier, (2011), "Interchange fees in payment card systems: A survey of the literature," *Journal of Economic Surveys* 25: pp. 273-297.

not earn revenue or profits directly from interchange. From the perspective of Visa and MasterCard interchange is a flow from acquirers to issuers. Increases in the interchange rate or in aggregate interchange fees paid (as volumes increase) does not raise their profits, but instead increases in the interchange fees paid flow from acquirers to issuers, who use interchange revenues to compete for cardholders.

42. While the *Winter Report* recognizes that credit cards are two sided platforms,[26] the competition analysis is done only with regard to the services provided by Visa and MasterCard to acquiring banks. As discussed above, the core of Professor Winter's argument is that Rules reduce the incentive of Visa or MasterCard to lower their Acquirer Fees because the Rules reduce the extent to which volume is increased by doing so. Notably Professor Winter includes in his definition of the Acquirer Fee both the network access fee for acquirers *and* the interchange fee paid to issuers, even though as indicated in the previous paragraph, Visa and MasterCard do not earn revenue or profits directly from interchange. In evaluating the market power of Visa and MasterCard, it is *their* margin that is relevant for assessing their incentives.[27] Professor Winter's discussion of the incentives for undercutting the Acquirer Fee is therefore at best ambiguous because he does not make clear whether he means a reduction in the interchange fee or the network access fee for acquirers. In addition, Professor Winter's analysis makes two simplifications that render his assessment of the effect on competition flawed (described below). Both arise because of insufficient attention paid to the two sided nature of a credit card payment network.

3.3 Two Sides Mean Two Opportunities to Undercut

43. The relevant product market for assessing competition between Visa and MasterCard is not the provision of network services to acquirers.[28] Visa and MasterCard compete for

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[26] See Winter Report at 32.

[27] Their margin is the difference between the price to complete a transaction (network access fee for acquirers plus the network access fee paid by issuers) and the marginal cost of completing a transaction.

[28] See Section 4 below for discussion of market definition.

transaction volume by setting rates that the have effect of inducing merchants to accept their cards *and* provide incentives for consumers to carry their cards and use them.

44. Suppose, as alleged by Professor Winter, that the Rules reduce Visa and MasterCard's incentive to lower the fees charged acquirers and the result is the profitable exercise of market power on the acquirer side. If that is the case, the result will be positive margins for transactions, i.e., the sum of the network acquirer fee and the network issuer fee will exceed the cost of a transaction.

45. The competition that Professor Winter assumes between Visa and MasterCard on the acquirer side in the absence of the Rules has implications for competition between them on the issuer side. MasterCard could "undercut" Visa and increase its volumes by decreasing its network issuer fee. Just as Professor Winter explains that an incentive for undercutting of a positive margin on the network exists on the acquirer fee in the absence of the Rules,[29] similar considerations exist on the issuer side and and remain even with the Rules. Issuers—again assuming competition consistent with Professor Winter—would pass this onto cardholders, inducing more consumers to obtain MasterCard cards and cardholders to increase use of MasterCard cards.[30]

46. Professor Winter's analysis assumes that eliminating the Rules would result in widespread surcharging and, as a result, card platforms that lower their Acquirer Fee would have increased demand for transaction volume from three sources. [31] However, by focusing only on the acquirer side of the platform, his analysis does not recognize the ability for card platforms to increase transaction volume on the issuer side of the platform. A credit card network can also increase its volumes by decreasing its network access fee for issuers,

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[29] Winter Report at 72.

[30] Indeed, if Rules lead to an increase in acquirer fees and costs for merchants, it should at the margin, reduce acceptance by merchants. The reduction in acceptance by merchants reduces the attractiveness of the card to consumers, leading to a negative feedback effect. To mitigate this feedback effect, a payment network would find it optimal to increase benefits to cardholders by raising the interchange fee and lowering the network access fee charged issuers ("financed" from the increase in acquirer fees).

[31] See Winter Report at 72.

thereby increasing the number of cardholders and the number of cardholders that utilize its cards.

47. The Commissioner's own expert, Mr. McCormack confirms the importance of competition by Visa and MasterCard for issuers:[32] "MasterCard considers its primary competitive advantage in seeking Issuers to be its higher interchange rates, which generate higher revenues for Issuers. Indirectly, these higher rates also bring MasterCard additional revenue, due to increased use of MasterCard credit cards and of the MasterCard network." From an issuer's perspective it does not matter whether the increase in revenue is from a higher interchange fee or a lower network access fee for issuers, or something else, such as a rebate or incentive.

48. Unlike the debate over the relative effectiveness of discounts versus surcharges and the effect of the Rules on the prevalence of surcharges, there is little disagreement regarding the effect of increased interchange fees on cardholders. As Mr. McCormack notes:[33] "From a cardholder's standpoint, increases in rewards may incent the cardholder to use a credit card more frequently in place of other methods of payment, including debit cards, cash, cheques or other credit cards with less lucrative rewards."

49. When the potential for competition on both sides of the credit card network are considered, it is hard to see how the Rules can have an anticompetitive effect. Without the Rules, Professor Winter concludes that competition between Visa and MasterCard will result in revenue from the network acquirer fee and the network issuer fee covering the costs of operating the network.[34] My conclusion is that with the Rules competition between Visa and MasterCard reduces the network access fee for issuers until network revenues equal network costs. The Rules—even assuming Professor Winter is correct that there would be higher acquirer fees—would not affect market power of Visa and MasterCard. Hence, the Rules cannot have an adverse effect on competition: they do not enhance, create or maintain market power.

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[32] McCormack Report at 138.
[33] McCormack Report at 143.
[34] Winter Report at 74.

50. It is important to recognize that the Commissioner and Professor Winter do not claim that the adoption of the Rules is collusive. The Rules are not alleged to be adopted because Visa and MasterCard understand that they are profitable *only* because of an anticompetitive effect that arises from *mutual* adoption. Instead the adoption of the Rules are consistent with each network's unilateral self interest because they promote network volumes. As indicated by Professor Elzinga, other payment networks which seem very unlikely to have market power have rules similar to the Rules and the Rules have been in place on the Visa network for over 30 years.[35] The reason the Rules promote network volumes is that they prevent conduct (see the next section on "bad behaviour") by merchants that reduce the attractiveness of their network to consumers.

3.4 "Bad Behaviour" by Merchants

51. The other consideration that Professor Winter has missed is the potential for behaviour by merchants to reduce the attractiveness for consumers of using a credit card. Platform operators will not only price access to their network appropriately based on price elasticity of demand and network effects, but they will also adopt non price restraints to prevent behaviour that reduces the value of joining or using a network. These network rules are implemented to control and reduce negative externalities that cannot be addressed by appropriate pricing alone.[36] The particular concern regarding bad behaviour applicable to a payment network and the Rules is hold up of card holders and free riding.[37]

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[35] See Expert Report of Kenneth G. Elzinga in The Commissioner of Competition v. Visa Canada Corporation and MasterCard International Incorporated, CT-2010-010, filed April 10, 2012 at 231. Hereafter the "Elzinga Report". See Witness Statement of William Sheedy in The Commissioner of Competition v. Visa Canada Corporation and MasterCard International Incorporated, CT-2010-010, filed April 10, 2012 at 53.

[36] See K. Boudreau and A. Hagiu, (2009), "Platform Rules: multi-sided platforms as regulators," A. Gawer, eds., *Platforms, Markets and Innovation*, Edward Elgar: 163-191 and D. Evans, (2011), Governing Bad Behavior by Users of Multi-Sided Platforms, University of Chicago Institute for Law & Economics Olin Research Paper No. 582, for general discussion of the growing awareness and importance of non-price rules to control negative externalities and promote efficient governance of a two sided platform.

[37] It should be noted that rules designed and intended to reduce "bad behaviour", behaviour that reduces the value of joining and using the network by participants, is fundamental to the successful operation of many two sided platforms. For instance the video game market in the United States collapsed in the early 1980s. The reason usually attributed is that the dominant platform, Atari, did not have a mechanism to "lock out" unauthorized games. As a result Atari was not able to prevent the market from being flooded with poor quality games. The inability of consumers to be able to identify the quality of games meant that they withdrew from the network and the market

3.4.1 Rules, Hold Up of Cardholders, and Free Riding by Merchants

52. The Rules insure that holders of a credit card or type of credit card will not be discriminated against by merchants.[38] Merchants cannot discriminate against a network's cards by declining or discouraging their acceptance or charging an additional fee for their use.[39] Consumers make a decision to frequent a merchant based on information provided about the accepted means of payment. If the Rules are not in place, consumers are susceptible to renegotiation by the merchant on the basis of the form of payment they present. The merchant may not accept their credit card or may raise the price based on their type or brand of credit card. The potential for this hold up—which Professor Elzinga calls bait and switch—reduces the value to the consumer of holding that brand or type of credit card if it is widespread.[40] This reduces the number of transactions made by consumers using that card and the number of consumers that hold that card. The result harms the network, the extent of which depends ultimately on the extent of network effects.

53. Merchants, especially merchants that do not expect repeat business, have an incentive to engage in hold up.[41] That is, they have an incentive to free ride on the investments made by the card network and merchants that abide by the Rules (or their equivalent). The merchants who engage in hold up benefit from the increase in demand from appearing to accept all forms of payment and certainty regarding the price, but are able to increase their profits by switching to a less costly form of payment to them or adding a surcharge. The damage that they do to the card network—the reduction in the number of cardholders or cardholders' willingness to use a type or brand of card—affects the network and all merchants on the network. Indeed because of network effects it also negatively affects all other cardholders.

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collapsed. A central component of Nintendo's successful entry six years later was a security chip that locked out unauthorized games, thereby giving Nintendo the ability to approve and control the quality of compatible games. See K. Boudreau and A. Hagiu, (2009), "Platform Rules: multi-sided platforms as regulators," A. Gawer, eds., *Platforms, Markets and Innovation*, Edward Elgar: 163-191. Both Boudreau and Hagiu, as well as D. Evans, (2011), Governing Bad Behavior by Users of Multi-Sided Platforms, University of Chicago Institute for Law & Economics Olin Research Paper No. 582, develop in detail a number of case studies that document the the important role of platform rules in constraining conduct that imposes costs on other participants.

[38] See Elzinga Report at 84-86.

[39] Holders of a premium or high rewards card will also be protected by the Rules. In the absence of the Rules consumers who hold a premium card or a brand that has a higher merchant discount are vulnerable to hold up.

[40] See Elzinga Report at 226-230.

[41] See Elzinga Report at 226-230.

As cardholders react to uncertainty over acceptance and transaction price by using a card less or withdrawing from that network, the willingness of merchants to accept the card declines, reducing the number of accepting merchants and hence the benefit to all cardholders.[42]

54. This understanding of the Rules is very similar to the rules imposed by franchisors on franchisees. Franchisors typically establish a set of very strict rules for their franchisees, so that the experience (product or service) provided to a consumer is consistent regardless of the franchisee. In the absence of such rules, some franchisees, especially those in locations where consumers are unlikely to be repeat customers, will have an incentive to substitute to lower cost or alternative inputs that increase their profits, but result in a different than expected experience for consumers. This type of behaviour negatively affects consumers expectations, the reputation of the franchise brand, and therefore demand for all franchisees.

3.5 The Rules Do Not Result in an Adverse Effect on Competition

55. To summarize, once it is recognized that Visa and MasterCard can compete for transaction volume not only by lowering the acquirer fee, but also by reducing the network fee of issuers, then consistent with Professor Winter's analysis of competition between Visa and MasterCard without Rules, competition with the Rules results in a competitive outcome.

56. The adoption of the Rules by Visa and MasterCard is not, therefore, based on creating, maintaining, or preserving market power and there is not an adverse effect on competition. Instead they are examples of non price restraints that network operators impose on participants on one side of the platform to avoid negative externalities that reduce the incentive of participants on the other side of the platform to join or use the network. Hence there is a legitimate business justification that motivates unilateral adoption of the Rules by Visa and MasterCard. The Rules enhance internetwork or interbrand competition. It is internetwork competition that controls the extent of market power by a payment network.

57. From his assessment on the efficacy of competition between Visa and MasterCard, in the absence of the Rules, Professor Winter observes that competition policy:[43]

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[42] Elzinga Report at 229-230.

> . . . does not allow anticompetitive, price-enhancing practices to be successfully defended on the grounds that the resulting excess in price is invested largely or entirely on product promotion or improvement. The presumption in competition policy is that competitive markets yield efficient and thus desirable outcomes, including an efficient balance of price and non-price competition. Business practices or agreements that distort this balance by suppressing competition in prices are proscribed in competition policy generally.

58. Competition policy's presumption that competitive markets are efficient is not robust if there are market failures: the hold up problem and free-riding are examples of a relevant market failure. They create a role for Rules that is welfare enhancing because they could alleviate, in part, the undesirable consequences of the market failure, and in doing so increase the number of cardholders and volume of transactions.

59. The "cost externalization" hypothesis links the reduction in incentives to reduce Acquirer Fees to a sharing of the burden of Acquirer Fees with other forms of payment. According to Professor Winter non credit card users "subsidize" credit card users. In this context what is important to remember, as with the issue of the distributional effects of RPM,[44] is that the distributional effects of conduct—without something more—does not make conduct an issue for competition policy (even if the Rules were price maintenance, which they are not). The something more is an enhancement, preservation, or maintenance of market power. The impossibility of having the evidence to assess the effect on aggregate consumer welfare of the Rules is an additional consideration that militates strongly against the use of competition policy to regulate the Rules. It is not enough to simply identify the possibility of a cross subsidy Professor Winter must prove it reduces aggregate consumer welfare and prove that it results in an adverse effect on competition within a relevant market. Professor Winter has not, in my opinion, done so, for the reasons stated above.

4. Market Definition

60. The reason to define markets in a competition policy matter is usually to identify market power and to identify if the conduct at issue harms competition in a market. Since the ability

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[43] Winter Report at 78.
[44] See Section D.3 in Appendix D.

of a firm to exercise market power depends on the willingness and ability of its customers to substitute to other products or other suppliers in response to a price increase, defining a relevant market involves identifying the possibilities for substitution, typically by consumers. The standard approach is to use the hypothetical monopolist test to identify the smallest set of products such that a hypothetical monopolist of those products would find it *profit maximizing* to impose a small but significant and non transitory increase in price ("SSNIP") above competitive levels.[45] This approach identifies the set of products that constrain the pricing of a product.

61. Professor Winter purports to use the hypothetical monopolist test to define the relevant market in this case.[46] His conclusion is that the relevant market is the supply of Credit Card Network Services. As defined by Professor Winter, Credit Card Network Services (CCNS) are the services provided by a payment network to *merchants,* including "authorization, clearing, and settlement of credit card transactions."[47] In the application of the test, however, the market is defined around the transactions between the payment network and acquirers. The price used by Professor Winter is the total fee he alleges is paid by acquirers for processing (the interchange fee plus the acquirer network access fee) and the acquirers are identified as the customers of the credit card companies.

62. The application of the hypothetical monopolist test by Professor Winter is incorrect in a number of aspects and its proper application would not be supportive of his conclusions regarding the relevant market. Some of these aspects raise issues in the context of the application of the test to a one sided market, i.e., the treatment of CCNS as an input in a supply chain by the credit card companies to acquirers. In this context Professor Winter's application is biased towards finding relevant markets that are too narrow, thereby overstating the market power of Visa and MasterCard. More problematic, however, is that Professor Winter does not account for, and appreciate, the implications that credit card networks are two sided platforms.

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[45] I have ignored the geographic dimension since it is uncontroversial that the relevant geographic market is Canada.
[46] Winter Report at 52-64.
[47] Winter Report at 11.

4.1 Two Sided Platforms and Market Definition

63. The conduct at issue is the Rules of Visa and MasterCard. Professor Winter's theory of the case is that the Rules create or preserve market power for Visa and MasterCard in an input market. However, payment networks are two sided platforms. The product is a transaction that requires participation by a buyer using a card and a merchant accepting the card. Hence, Visa and MasterCard compete against each other and other payment platforms. They do this by making use and acceptance of their cards attractive to cardholders and merchants. Assuming that issuers and acquirers are competitive, Visa and MasterCard are able to make use and acceptance of their cards attractive for cardholders and merchants by, among other things, establishing the costs paid and benefits received by issuers and acquirers. Issuers pay a network access fee to Visa and MasterCard but receive an interchange fee paid by acquirers. Acquirers pay a network access fee to Visa and MasterCard and pay interchange to issuers. The price for a transaction is the sum of the two network access fees paid to the card networks (acquirer and issuer access fees). This is price for using a platform to complete a transaction. The assessment of market power by Visa and MasterCard and defining the relevant market depends on the profit margin of Visa and MasterCard. This is the difference between the price to complete a transaction and the marginal cost of completing a transaction. The interchange fee paid by acquirers to issuers simply allocates the recovery of network access fees and other costs between the issuers and acquirers – the two sides of the market.

64. Intuitively it is not possible in a payment network for the number of transactions on the acquirer side to fall *without* the number of transactions on the issuer side falling by the *same* amount. The two sides are perfect complements: the network must provide transaction services to both sides for a transaction to be completed. Merchants would not demand acquirer services on a network unless their customers demanded issuer services on the same network. There is no independent demand for acquiring services or for CCNS by acquirers on a network.

65. One way to see that the approach of defining the market around CCNS provided by Visa (or MasterCard) misses an important avenue of substitution is to ask if the only supplier (which

of course is the case, there is only one supplier, that is Visa) of Visa CCNS could raise the price of CCNS to all acquirers who demand Visa CCNS above competitive levels by a SSNIP. The demand for Visa CCNS services is derived from, or flows from, the demand by consumers to use a Visa card to complete a transaction. According to Professor Winter's theory of the case, in the absence of the Rules (which is how the market should be defined so that the effect of the Rules can be identified), merchants would surcharge and an increase in the acquirer fee by Visa would result in a substantial substitution by cardholders, rendering the increase in the acquirer fee by a SSNIP unprofitable. But, the competition between Visa and MasterCard is for transaction volume, not just the provision of CCNS to acquirers. Competing for transaction volume involves competing for issuers as well.

66. The theory of monopoly pricing by a two sided platform operator identifies that the relevant margin to assess the profitability of platform pricing is the sum of the network acquirer fee plus the network issuer fee (i.e., the fees actually charged by Visa and MasterCard, not the "acquirer fee" constructed by Professor Winter which includes interchange) less the marginal cost to complete a transaction.[48] This marginal cost is the sum of the costs to provide the necessary services to the issuer and the acquirer. Moreover, it identifies that the relevant demand elasticity is the aggregate elasticity of demand, i.e., the sum of the demand elasticity on both sides of the platform, not just one side.

67. Since it is the sum of demand elasticities across the two sides that matters, the potential for substitution on transaction volume will be higher than only looking at one side of the market. This makes it more difficult for the hypothetical monopolist test to be satisfied when both sides of the platform are considered instead of one side. As a result, the market is likely to be defined too narrowly if there is a focus only on one side.

68. Moreover, the relevant demand elasticities should reflect network and feedback effects. The cross platform feedback or network effects mean that pricing by a two sided platform will be

[48] See E. Emch and T. S. Thompson, (2006), "Market Definition and Market Power in Payment Card Networks," Review of Network Economics 5: pp. 45-60; J.-C. Rochet and J. Tirole, (2003), "Platform Competition in Two-Sided Markets," *Journal of the European Economic Association* 1: pp. 990-1029; and E. G. Weyl, (2010), "A Price Theory of Multi-sided Platforms," American Economic Review 100: pp. 1642-1672.

more complicated and differ from that of a firm that does not operate a two sided platform. For instance, a two sided platform will consider that even though the price elasticity of demand on one side of the market is relatively inelastic, if the network cross elasticity is high, raising the price to exercise market power on the inelastic side will result in a significant decrease in demand by the other side. This may be enough to render the initial price increase unprofitable. But the feedback effects do not end there: the reduction in membership on the other side will feedback to the price inelastic side, reducing demand, etc. That is, any initial change in price effect will be magnified by a multiplier effect based on the extent of cross platform network effects.

69. In practice what this means is that the application of the hypothetical monopolist test to a payment platform identifies a different relevant price and two different avenues of substitution, merchant substitution and cardholder substitution, as the price of a transaction on payment platform rises. While merchant price elasticity might be quite inelastic (as argued by Professor Winter), cardholder price elasticity and network effects for both might be quite elastic, leading to a large decrease in volume for a small increase in the acquirer fee.

70. Indeed, the theory of anticompetitive harm expressed by the Commissioner in the application is based on the Rules restricting substitution by consumers to other forms of payment, i.e., that the benefit of the elimination of the Rules arises because of the significant substitution by cardholders if they were subject to surcharges.[49] The competitive constraint of this substitution is reflected in different interchange rates for different kinds of transactions. That is, the nature of the purchase or transaction may have implications for choice of payment by consumers and merchants. As a result, different interchange rates for different types of transactions likely reflects differential competition between payment platforms based on the characteristics of the transaction.[50]

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[49] Elzinga Report at 147-148 . Professor Winter in his discussion of the limited incentives to discount when the Rules are in effect assumes that a high price advertised by a merchants that accept credit cards (from which they discount) would put them at a disadvantage vis-a-vis merchants that do not accept credit cards. This depends on significant diversion of demand between credit cards and other forms of payment. Winter Report at 111.

[50] See Elzinga Report for more empirical evidence that is supportive at 254.

71. In this section, I have discussed the implications for market definition of two sided platforms. Without consideration of these implications, conclusions on the relevant market for a two sided platform based on a one sided analysis are susceptible to a misidentification of the relevant market. They will mischaracterize the extent of competition, and in particular ignore that competition occurs on both sides of the platform, and therefore exclude important sources of competitive constraint, resulting in too narrow a relevant market.

4.2 The Application of the Hypothetical Monopolist Test to the CCNS Supplied to Acquirers

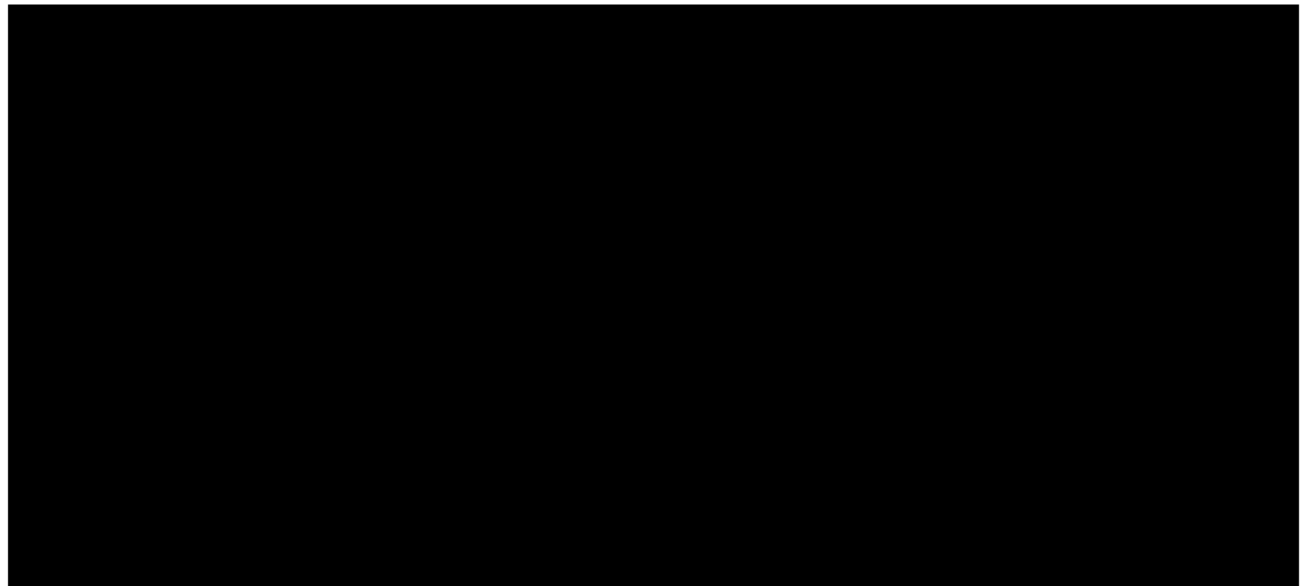
72. In this section I consider some of the details of Professor Winter's application of the hypothetical monopolist test to CCNS supplied to acquirers. While I do not agree that this is an appropriate exercise, as explained in the previous section, the point of this section is to identify issues in the application of the hypothetical monopolist test to CCNS to acquirers. In my view there are a number of aspects to Professor Winter's application that result in a bias in favour of finding a narrow relevant market. For example, (i) the appropriate sales loss is the critical sales loss, not the break even critical sales loss; and (ii) the break even critical sales loss is much smaller than that determined by Professor Winter.

73. The objective of the hypothetical monopolist test is to identify the potential for the exercise of market power: this involves asking whether the hypothetical monopolist *would* increase prices by 5% (or the relevant SSNIP), not whether it *could*. It *would* if a SSNIP or something larger was profit maximizing. While its profits might increase when it raises its prices by a SSNIP, if the profit maximizing price increase is less than the SSNIP it would not raise its prices by a SSNIP. Thus, while a SSNIP could raise its profits, a smaller price increase would raise them by even more.

74. This means that the relevant loss in sales is the *critical sales loss* ("CSL"). The critical sales loss is the percentage decrease in demand just sufficient to make the profit maximizing price increase by a hypothetical monopolist equal to the SSNIP. However, the sales loss used by Professor Winter is the break-even critical sales loss ("BECSL") which is the reduction in

volume from a SSNIP which would leave profits unchanged.[51] The BECSL is usually much larger than the CSL since the BECSL is determined by finding the lost volume required to set the total reduction in profits from a SSNIP from lost sales equal to the total gain in profits from the higher value of inframarginal sales. The CSL, on the other hand, determines the lost volume not required to dissipate all the gains from a price increase, but the smaller amount that makes a SSNIP the most profitable price increase.

75. The implication drawn by Professor Winter is that because the BECSL is so large—50 %—there is no way that a SSNIP would not be profitable, *because* the reduction in volume could not possibly be that large.[52] Using the CSL would likely set a lower threshold and make the required loss smaller.



77. For the purposes of the hypothetical monopolist test, the relevant price is the net price received by the hypothetical monopolist, since this determines its profits and hence its

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[51] See J. Church and R. Ware, (2000), *Industrial Organization: A Strategic Approach,* McGraw-Hill at 607-609; G. Werden, (1998), "Demand Elasticities in Antitrust Analysis," *Antitrust Law Journal* 66: pp. 363-414; and G. Werden, (2008), "Beyond Critical Loss: Properly Applying the Hypothetical Monopolist Test," *Global Competition Policy* February: pp. 1-5.

[52] See Winter Report at 63.

[53] J. Church and R. Ware, (2000), *Industrial Organization: A Strategic Approach,* McGraw-Hill at 609; and G. Werden, (1998), "Demand Elasticities in Antitrust Analysis," *Antitrust Law Journal* 66: pp. 363-414.

behaviour. The appropriate price charged by a hypothetical monopolist of CCNS is the network acquirer fee not the interchange fee plus the network acquirer fee. The interchange fee is irrelevant to its profits (if revenues from acquirers are included in defining profits, so too should the payments to issuers be deducted) and hence not relevant to its determination of the profit maximizing price. Hence, the evidence on the effect on the interchange fee increase on MasterCard's acceptance is irrelevant for defining the relevant market.[56]

5. Discounts v. Surcharges

78. I note that the *Winter Report* relies for its conclusions on the assumption that discounting is not an effective steering mechanism or as effective as surcharging. Surcharging would be more effective if consumers respond differently to surcharges than discounts and/or surcharging was more prevalent than discounting. Professor Winter admits that surcharging and discounting in "an ideal, frictionless market" would be perfect substitutes and therefore a ban on surcharging and the Rules would have "no impact".[57]

79. The *Winter Report* provides a number of arguments for why surcharging is a more effective steering mechanism than discounting:

    (i) Merchants are restricted to advertising a single price. The argument for limited incentives to discount is based on a hypothesis about the nature of competition between merchants that discount and ones that do not accept credit cards. Professor Winter concludes that the high price advertised by the credit card merchants (from which they discount) would put them at a disadvantage vis-a-vis merchants that do not accept credit cards.[58]

    Similarly, Professor Winter cites recent evidence that suggests that consumers respond differently to (i) higher posted prices and (ii) lower posted prices plus a tax added at check out with no difference in the actual transaction price. Professor

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[56] Winter Report at 59.
[57] Winter Report at 109.
[58] Winter Report at 111.

Winter concludes from this that higher posted prices reduce demand relative to lower posted prices plus a surcharge.[59]

(ii) The prevalence of surcharging in Australia and the infrequency of discounting even though both are allowed.[60]

(iii) Revealed preference that Visa and MasterCard permit discounts but not surcharges.[61]

80. First, Professor Winter's argument and conclusion ((i) above) that merchants are more likely to surcharge than discount because of competition with other retailers is based on the assumption that restrictions on advertising constrain merchants to advertise a single price and his personal observations that discounting for cash seems to be limited to retail gasoline. Professor Mulvey's evidence is that merchants engage in a variety of multidimensional pricing to influence demand and they frequently advertise prices that are discounted at the point of sale.[62]

81. The "evidence" on the difference in demand between higher and lower posted prices even though transaction prices are identical simply suggests that consumers prefer to have the merchant do the calculation for them *before* they make their purchase decision. If merchants wanted to discount cash or credit payments and were constrained from doing so only by consumer response to higher posted prices, as asserted, presumably they could relatively easily respond by posting both a high price and showing the discount available. As Professor Mulvey indicates, multidimensional pricing is not unusual or unfamiliar to consumers.

82. An explanation for limited discounting is self selection and matching at many stores, i.e., the relative variation in the merchant discount at a merchant is not very large, so that the marginal and average discount are similar. That is at many stores the clientele is relatively homogeneous in that they have similar interests, incomes, locations, and hence credit cards.

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[59] Winter Report at 113.
[60] Winter Report at 114.
[61] Winter Report at 115.
[62] See Expert Report of Michael S. Mulvey in The Commissioner of Competition v. Visa Canada Corporation and MasterCard International Incorporated, CT-2010-010, filed April 10, 2012 at 52-53. Hereafter "Mulvey Report".

Thus, especially at speciality stores with a local clientele, it is unlikely that the marginal merchant discount is very different from the average discount. Evidence consistent with this would be competitive pressure for lower interchange fees for merchants whose mix of customers results in a large variation across type of credit card.[63]

83. Even within the confines of Professor Winter's analysis, no merchant is at a competitive disadvantage if all merchants accept credit cards and all are subject to the Rules. One of the Commissioner's experts suggests that all or most merchants that face inter-merchant competition accept both Visa and MasterCard.[64] Hence, no merchants would be subject to the competitive disadvantage suggested by Professor Winter: all would be constrained, according to his analysis, to advertise the same price. A competitive disadvantage only arises if some merchants did not accept credit cards and as a result there was significant diversion by consumers to other forms of payment. But that would suggest that other forms of payment and credit cards are in the same relevant market.

84. Second, the alleged prevalence of surcharging in Australia ((ii) above) is just as consistent with the theory that the Rules are intended to prevent surcharging that takes advantage of consumers, i.e., holds them up. That is, the alleged prevalence of surcharging is just as consistent with free riding and the exercise of market power by retailers.

85. Indeed, if there was significant competition between retailers, it should be expected that one of the margins over which they would compete would be surcharging. To the extent merchant *A* surcharges and *B* does not, then surcharging could effectively steer customers not to use another payment method but from *A* to *B*, i.e., right out the door, for the current purchase and maybe future business. Just as the Prisoners' Dilemma suggests that a merchant in competition with other merchants will accept both Visa and MasterCard,[65] competition between retailers means that they will not surcharge. If a competing retailer does surcharge, a retailer can capture significant sales volume by not surcharging. Since the incentives are the

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[63] While I do not think the subsidization argument by other forms of payment (cash and debit) to credit cards or between types of credit cards with different interchange fees warrants an antitrust response, to the extent that at many merchants customer homogeneity results in card homogeneity, the extent of subsidization will be reduced.
[64] For example see Frankel Report at 70.
[65] Frankel Report at 70.

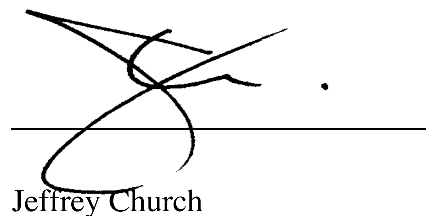
same for both, neither surcharge. This suggests that surcharging is more likely to be observed by retailers that have significant market power.

86. The likelihood that this is more than just a possibility is strongly suggested by the survey evidence referenced by Professor Mulvey in his report. This evidence indicates that consumers would respond very negatively to surcharges. The negative response takes two forms: (i) reduced probability that a consumer would return to the merchant in the future and (ii) a significant likelihood that they would "walk away" and not complete the sale.[66]

87. The final point with regard to the evidence on the Australian experience relied upon by Professor Winter is that the relevant evidence is whether consumers will substitute at point of sale when there is surcharging, not that surcharges are adopted. The evidence of surcharging might suggest that consumers do not substitute—that the value of using a surcharged card to them exceeds the extra cost (for instance they are liquidity constrained and cannot use debit or cash).

88. Third, there is no contradiction or inconsistency between Visa and MasterCard allowing discounting and prohibiting surcharging (Professor Winter's (iii) above). As explained above, surcharging, if widespread, results in consumer hold up that reduces the willingness of consumers to hold and use a credit card. Visa and MasterCard have an efficiency basis for understanding that discounts and surcharges have different effects—they have different effects on the "quality" of the network. Such an explanation undercuts the implication of Thaler that only differential consumer response to discounts and surcharges explains Visa and MasterCard's preference for discounts over surcharges.[67]

Date: April 10, 2012



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[66] Mulvey Report see 34.
[67] Carlton Report at 76.

Appendix A

Jeffrey Robert Church
March 2012

Contact Information

Department of Economics
University of Calgary
2500 University Drive, N.W.
Calgary, Alberta
T2N 1N4
Phone: (403) 220 6106
Fax: (403) 282-5262
e-mail: jrchurch@ucalgary.ca

Citizenship

Canadian

Education and Professional Qualifications

- Ph.D., Economics, University of California, Berkeley 1989, specialization in Industrial Organization and International Trade. Supervisory Committee Richard Gilbert, Michael Katz, and Jeffrey Perloff.
- B.A. First Class Honours (Economics), University of Calgary 1984.
- Qualified as an expert witness before the National Energy Board, the Alberta Energy Utilities Board, the Canadian Radio-Television and Telecommunications Commission, the Federal Court of Canada, and Supreme Court of British Columbia.

Positions Held

Academic Appointments

- Professor, Department of Economics, University of Calgary (since July 1, 2001).
- Academic Director, Centre for Digital Economy @ the University of Calgary (2012-).
- IAPR Professor, Institute for Advanced Policy Research, University of Calgary, *Coordinator of the Markets, Institutions, and Regulation* Working Group (July 1, 2006 to

June 30, 2009).
- Associate Professor, Department of Economics, University of Calgary (1994-2001).
- Assistant Professor, Department of Economics, University of Calgary (1989-1994).

Other Appointments
- Chairperson, Terra Nova Reference Price Committee, Newfoundland (2007 and 2010-).
- Fellow, Economics Network for Competition and Regulation (ENCORE), Netherlands, (since 2007).
- Founding Academic Director, Centre for Regulatory Affairs in the Van Horne Institute for International Transportation and Regulatory Affairs, University of Calgary (1998-2001).
- T.D. MacDonald Chair in Industrial Economics, Competition Bureau, Industry Canada, Hull, Quebec (1995-1996).
- President, Church Economic Consultants Ltd. (1992-).
- Director, Berkeley Research Group (2010-2011).
- Member, C.D. Howe Institute Competition Policy Council (2011-).

Academic Awards and Distinctions

Teaching Awards
- Faculty of Social Science Distinguished Teacher Award, University of Calgary 1994 and 2004.
- Superior Teaching Award, Department of Economics, University of Calgary, 1997, 1999, 2000, 2002, 2003, 2004, 2011.
- Students' Union Teaching Excellence Award, University of Calgary 1994-95.

Major Academic Distinctions
- Faculty of Social Sciences Gold Medal, University of Calgary 1984.
- Listed as one of the leading competition economists in the world in the Directory of Competition Economists in *The International Who's Who of Competition Lawyers and Economists*. London: Global Competition Review 1998 onwards.

Research Interests

- Industrial Organization
- Economics of Regulation
- Competition Policy

Publications

Refereed Journal Articles

- **"**Indirect Network Effects and Adoption Externalities." (with N. Gandal and D. Krause) *Review of Network Economics* 7: 325-346, 2008.
- **"**The Church Report's Analysis of Vertical and Conglomerate Mergers: A Reply to Cooper, Froeb, O'Brien and Vita." *Journal of Competition Law & Economics* 1: 797-802, 2005.
- "Specification Issues and Confidence Intervals in Unilateral Price Effects Analysis." (with O.Capps, Jr. and H.A. Love) *Journal of Econometrics* 113, 3-31, 2003.
- "Systems Competition, Vertical Merger, and Foreclosure." (with Neil Gandal) *Journal of Economics and Management Strategy* 9, 25-52, 2000.
- "Abuse of Dominance under the 1986 Canadian *Competition Act*." (with Roger Ware) *Review of Industrial Organization* 13, 85-129, 1998.
- "Strategic Entry Deterrence: Complementary Products as Installed Base." (with Neil Gandal) *European Journal of Political Economy* 12, 331-354, 1996.
- "Delegation, Market Share and the Limit Price in Sequential Entry Models." (with Roger Ware) *International Journal of Industrial Organization* 14, 575-609, 1996.
- "Complementary Network Externalities and Technological Adoption." (with Neil Gandal) *International Journal of Industrial Organization* 11, 239-260, 1993.
- "Bilingualism and Network Externalities." (with Ian King) *Canadian Journal of Economics* XXVI, 337-345, 1993. Reprinted in *Economics of Language*. ed. D. Lamberton. International Series of Critical Writing in Economics, Vol. 150, Northampton, MA.: Edward Elgar Publishing, 2002.
- "Comment on 'Energy Politics in Canada, 1980-81: Threat Power in a Sequential Game'." *Canadian Journal of Political Science* XXVI, 61-64, 1993.
- "Integration, Complementary Products and Variety." (with Neil Gandal) *Journal of Economics and Management Strategy* 1, 651-675, 1992.
- "Network Effects, Software Provision and Standardization." (with Neil Gandal) *Journal of Industrial Economics* XL, 85-104, 1992.

Invited Papers

- "Too Many Tweets: Internet Billing Practices in Canada," *Policy Options* May 2011: 54-59.
- "Trade-Dress and Pharmaceuticals in Canada: Efficiency, Competition and Intellectual

Property Rights," (with Roger Ware) *Policy Options* 18: 9-12, 1997.

Books and Monographs

- *The Impact of Vertical and Conglomerate Mergers on Competition* Brussels: European Commission, 2004 at http://europa.eu.int/comm/competition/mergers/others/#study. Published as European Commission, 2006, *The Impact of Vertical and Conglomerate Mergers on Competition* Luxembourg: Office for Official Publications of the European Communities.
- *Industrial Organization: A Strategic Approach* (with Roger Ware) San Francisco: IRWIN/McGraw-Hill, 2000. Second edition forthcoming from Cambridge University Press.
- *Traditional and Incentive Regulation: Applications to Natural Gas Pipelines in Canada* (with Robert Mansell) Calgary: Van Horne Institute, 1995.
- *Econometric Models and Economic Forecasts: A Computer Handbook Using MicroTsp* New York: McGraw-Hill, 1990.

Chapters in Books

- "Conglomerate Mergers." in W.D. Collins ed., *Issues in Competition Law and Policy* Volume 2 Chicago: American Bar Association, pp. 1503-1552, 2008.
- "Vertical Mergers." in W.D. Collins ed., *Issues in Competition Law and Policy* Volume 2 Chicago: American Bar Association, pp. 1455-1502, 2008.
- "Platform Competition in Telecommunications." (with N. Gandal) in M. Cave, S. Majumdar, and I. Vogelsang eds., *Handbook of Telecommunications* Vol. 2 Amsterdam: North-Holland, pp. 119-155, 2005.
- "Mergers and Market Power: Estimating the Effect on Market Power of the Proposed Acquisition by The Coca-Cola Company of Cadbury-Schweppes' Carbonated Soft Drinks in Canada." (with A. Abere, O. Capps, Jr. and H.A. Love) in D. Slottje ed., *Economic Issues in Measuring Market Power*, Contributions to Economic Analysis, Vol. 255, Amsterdam: North-Holland, pp. 233-294, 2002.
- "The Economics of Coordinated Effects and Merger Analysis." in D. Houston ed., *CBA Competition Law Conference 2000* Juris Publisher: Yonkers, N.Y., pp. 561-575, 2001.
- "Network Industries, Intellectual Property Rights, and Competition Policy." (with Roger Ware) in N. Gallini and R. Anderson eds., *Competition Policy, Intellectual Property Rights and International Economic Integration* Calgary: University of Calgary Press, pp. 227-285, 1998.

Papers and Proceedings

- "The Interface Between Competition Law and Intellectual Property in Canada: An Uneasy Alliance or Holy War?" on CD-ROM, *2005 Annual Fall Conference on Competition Law*. Ottawa: Canadian Bar Association, 2005.
- "The Economics of Exclusionary Contracts and Abuse of Dominance in Canada." on CD-ROM, *2003 Annual Fall Conference on Competition Law*. Ottawa: Canadian Bar Association, 2003.
- "Competition Policy and the Intercity Passenger Transportation System in Canada." in M. Duncan, ed. *Directions: A New Framework for Transportation* Calgary: Van Horne Institute, pp. 21-25, 1993.
- "Commodity Price Regulation in Canada: A Survey of the Main Issues." (with Robert Mansell) *Papers and Proceedings of the Fifth Annual Regulatory Educational Conference,* Canadian Association of Members of Public Utility Tribunals, 1991.

Public Reports

- *Transmission Policy in Alberta and Bill 50* (with William Rosehart and John MacCormack). School of Public Policy, University of Calgary Research Paper, 2009.
- *Buyer Power: Background Note*. Competition Committee, Directorate for Financial and Enterprise Affairs, OECD, Paris, 2009, Available at http://www.oecd.org/dataoecd/38/63/44445750.pdf.
- *Vertical Mergers: Background Note*. Competition Committee, Directorate for Financial and Enterprise Affairs, OECD, Paris, 2007. Available at http://www.oecd.org/dataoecd/25/49/39891031.pdf.
- *An Evaluation of Traditional and Incentive Regulation for Canadian Natural Gas Pipelines*. (with Robert Mansell) Study submitted to, and available from, the National Energy Board of Canada, 1992.
- *Methodology for Evaluating Natural Gas Transmission System Reliability Levels and Alternatives*. (with Robert Mansell) Study prepared for, and available from, the Canadian Petroleum Association, 1991.

Public Regulatory Interventions

- Submission of The Director of Investigation and Research to Industry Canada re: Canada Gazette Notice No. DGTP-008-95 Review of Canadian Overseas Telecommunications and Specifically Teleglobe Canada's Role October 27, 1995 (with David Smith).
- Reply Comments of The Director of Investigation and Research to Industry Canada re: Canada Gazette Notice No. DGTP-008-95 Review of Canadian Overseas

Telecommunications and Specifically Teleglobe Canada's Role December 11, 1995 (with David Smith).

- Submission of The Director of Investigation and Research to The Canadian Radio-Television and Telecommunications Commissions re: Telecom Notice CRTC 95-36 Implementation of Regulatory Framework, Local Interconnection and Network Component Unbundling January 26, 1996 (with Cal Gundy and Patrick Hughes).
- Final Argument of The Director of Investigation and Research to The Canadian Radio-Television and Telecommunications Commissions re: Telecom Notice CRTC 95-36 Implementation of Regulatory Framework, Local Interconnection and Network Component Unbundling October, 1996 (with Cal Gundy and Patrick Hughes).
- Final Oral Argument of The Director of Investigation and Research to The National Energy Board in PanCanadian Petroleum Limited application dated 26 July 1996 for an order requiring Interprovincial Pipe Line Inc. to transport natural gas liquids for PanCanadian Petroleum Limited from Kerrobert, Saskatchewan (MH-4-96) November 1996 (co-author).
- Opening Statement to the Alberta Utilities and Energy Board in Federated Pipe Lines Ltd. Application to Construct and Operate a Crude Oil Pipeline from Valhalla to Doe Creek, Alberta Energy and Utilities Board March (Decision 98-12) March 1998.
- Final Argument of The Director of Investigation and Research to The Canadian Radio-Television and Telecommunications Commissions re: Telecom Notice CRTC 98-10 Local Competition Start-Up Proceeding November, 1998 (with Cal Gundy).
- *Commissioner of Competition Intellectual Property Enforcement Guidelines,* Hull, Quebec: Competition Bureau. External member Commissioner of Competition's Drafting Team, first draft released in June 1999, second draft released April 2000, final version released September 2000.
- Final Argument of The Commissioner of Competition to The Canadian Radio-Television and Telecommunications Commissions re: Telecom Notice Public Notice 2001-37 - Price Cap Review and Related Issues October 2001 (with Cal Gundy).
- Comments of The Commissioner of Competition to The Canadian Radio-Television and Telecommunications Commissions re: Telecom Notice Public Notice 2001-47 Framework for the expansion of local calling areas and related issues November 2001 (with Cal Gundy and Masood Qureshi).
- Written Comments of the Competition Bureau to the Alberta Electricity Industry Structure Review February 2002 (with David Krause and Mark Ronayne).
- Final Submission of the Commissioner of Competition to the Ontario Energy Board’s Natural Gas Forum Consultation on the Ontario Natural Gas Market November 2004

(with Mark Ronayne).

- The Commissioner of Competition Evidence, Final, and Reply Argument, The Canadian Radio-Television and Telecommunications Commissions re: Telecom Notice Public Notice 2005-2, Forbearance from Regulation of Local Exchange Services June, September, and October 2005 (part of the Competition Bureau's drafting team).
- *Market Power and the Mackenzie Gas Project,* Evidence filed before the National Energy Board, Mackenzie Gas Project, GH-1-2004, June 2005.
- The Commissioner of Competition Evidence, Supplementary Material, Final Argument, and Reply Argument, The Canadian Radio-Television and Telecommunications Commissions re: Telecom Notice Public Notice 2006-14, Review of Regulatory Framework for Wholesale Services and Definition of Essential Service 2007 (part of the Competition Bureau's drafting team).
- Commissioner of Competition, *Abuse of Dominance Provisions as applied to the Telecommunications Industry,* Hull, Quebec: Competition Bureau. External member Commissioner of Competition's Drafting Team, first draft released September 2006, final version released June 2008.
- *Foreign Ownership Restrictions of Canadian Telecoms: An Analysis of Industry Canada's Proposals* (with assistance of BRG), re Industry Canada Consultation on Opening Canada's Doors to Foreign Investment in Telecommunications: Options for Reform, July 2010. Available online at http://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/Rogers.pdf/$file/Rogers.pdf.
- Spectrum Policy as Competition Policy: A Good Choice for Canada? (with assistance of BRG) re Industry Canada Consultation on a Policy and Technical Framework for the 700 MHz Band and Aspects Related to Commercial Mobile Spectrum Gazette Notice SMSE-018-10, February 2011. Available online at http://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/smse-018-10-jeffreychurch-rogers.pdf/$FILE/smse-018-10-jeffreychurch-rogers.pdf.
- *Economic Principles and Usage Based Billing,* The Canadian Radio-Television and Telecommunications Commissions re: Telecom Notice of Consultation CRTC 2011-77 Review of billing practices for wholesale residential high-speed access services March 2011. Available online at https://services.crtc.gc.ca/pub/ListeInterventionList/Documents.aspx?ID=156065&Lang=e.
- *The Competitive Effects of Vertical Integration: Content and New Distribution Platforms in Canada* (with assistance of BRG), The Canadian Radio-Television and Telecommunications Commissions re: Broadcasting Notice of Consultation CRTC 2010-783 Review of the regulatory framework relating to vertical integration, April 2011.

Available online at https://services.crtc.gc.ca/pub/ListeInterventionList/Documents.aspx?ID=156953&Lang=eDocuments.aspx?ID=156065&Lang=e.

- *In the Matter of a Complaint by Imperial Oil with Respect to Enbridge Southern Lights GP (ESL) Tariffs No. 1 and 2 Expert Evidence* (with assistance of BRG), The National Energy Board, Hearing Order RH-1-2011, July 2011 and *Reply Evidence* September 2011. Available online at https://www.neb-one.gc.ca/ll-eng/livelink.exe?func=ll&objId=704264&objAction=browse and https://www.neb-one.gc.ca/ll-eng/livelink.exe?func=ll&objId=718914&objAction=browse.
- *Western Alberta Transmission Line Application Evidence of Dr. Jeffrey Church and Mr. John MacCormack,* Application No. 1607067, Proceeding ID 1045, Alberta Utilities Commission, September 2011.
- *Critical Transmission Review Committee Request for Information*, Submission of Dr. Jeffrey Church and Mr. John MacCormack, January 2012.

Book Reviews

- *Competition Policy: A Game -Theoretic Perspective* (by Louis Phlips) for *The Economic Journal,* 107, 1590-1592, 1997.

Websites

- *Industrial Organization: A Strategic Approach*. URL: http://www.econ.ucalgary.ca/iosa/
- *Industrial Organization: A Strategic Approach Instructor's Manual*. URL: http://www.econ.ucalgary.ca/iosa/IM/

Research In Progress

- "Network Externalities, Technological Progress, and Competitive Upgrades." (with Michael Turner) Mimeo, Department of Economics, University of Calgary 2002.
- "Direct and Indirect Strategic Effects: A Taxonomy of Investment Strategies." (with L. Moldovan) Mimeo, Department of Economics, University of Calgary 2006.
- "Market Power in the Alberta Red Meat Packing Industry." (with D. Gordon) IAPR Technical Paper 07-004, Institute for Advanced Policy Studies, University of Calgary 2007.
- "Exclusive Provision and Standardization in a Two-Sided Market." (with J. Mathewson) Mimeo, Department of Economics, University of Calgary 2009.
- "Asymmetries, Simulation and the Assessment of Input Foreclosure in Vertical

Mergers." (with A. Majumdar and M. Baldauf) Mimeo, Department of Economics, University of Calgary 2010.

- " Coase, Hotelling and Capacity Constraints in Discrete Time: A Difference in Economics" (with L. Vojtassak and J. Boyce) Mimeo, Department of Economics, University of Calgary 2010.

Presentations

- "Spectrum Policy as Competition Policy." Workshop on Auction Design and Competition in Canadian Wireless Markets, Centre for Digital Economy, University of Calgary, Ottawa, September 2011.
- "Issues in the Economic Regulation of Pipelines in Canada." Canada's Pipeline and Energy Transportation Infrastructure, C.D. Howe Institute, Banff, June 2011.
- "Competition Issues in Network Industries." CBA Competition Law Spring Forum 2011: Focus on Civil, Toronto, May 2011.
- " Regulatory Governance and the Alberta Integrated Electric System." 11th Annual Alberta Power Summit, Calgary, November 2010.
- " Asymmetries, Simulation and the Assessment of Input Foreclosure in Vertical Mergers." Bates White Seventh Annual Antitrust Conference, Washington, D.C., June 2010 and Annual Meeting of the Canadian Economics Association, Ottawa, June 2011.
- "The Competition Act and the Fair Efficient and Open Competition Regulation." Workshop for the Alberta Utilities Commission, Calgary, April 2010 (with Barry Zalmanowitz).
- "Transmission Policy in Alberta and Bill 50." School of Public Policy Workshop, Electricity Transmission Policies: Issues and Alternatives, Calgary, October 2009 and the National Energy Board, Calgary, February 2010.
- "Economics of Vertical Mergers." British Institute for International and Comparative Law, 7th Annual Merger Conference, London, November 2008.
- "Telecommunications in Canada: Market Structure and the State of the Industry." 2008 Telecommunications Invitational Forum, Landgon Hall, Ontario, April 2008.
- "Cartel Cases Under Section 45: Is Proof of Market Definition the Achilles Heel?" Panelist, Competition, Crime and Punishment, Canadian Bar Association National Competition Law Section Spring Conference, Toronto, April 2008.
- "Forbearance of Local Telecommunications in Canada: One Back, Two Forward?" Telecommunications and Broadcasting Current Regulatory Issues and Policy Insight Communications Conference, Ottawa, April 2007.

- "The Economics of Non-Horizontal Merger Guidelines." ENCORE Workshop on the Assessment of Non-Horizontal Mergers, The Hague, April 2007.
- "Stumbling Around in No Man's Land is Dangerous: Competition Policy, the CRTC, and Deregulation of Local Telecom in Canada." Competition Policy in Regulated Industries: Principles and Exceptions, C.D. Howe Institute Policy Conference, Toronto, November 2006.
- " Competition in Local Telecommunications in Canada: Grading the CRTC." Delta Marsh Annual Conference, Department of Economics, University of Manitoba, Winnipeg, October 2006.
- "Grading the CRTC: Forbearance from the Regulation of Retail Local Exchange Services Telecom Decision 2006-15." part of the Panel on Local Competition at the Annual Meetings of the Canadian Economics Association, Montreal, May 2006.
- "The Interface Between Competition Law and Intellectual Property in Canada: An Uneasy Alliance or Holy War?" Presented at the Canadian Bar Association Annual Fall Conference on Competition Law, Gatineau, November 2005.
- "Game Theory and Industrial Organization: An Introduction." Competition Tribunal, Knowlton, Quebec, October 2005.
- "The Impact of Vertical and Conglomerate Mergers on Competition: An Overview of the Survey And Implications for Competition Policy." DG IV European Commission, Brussels, July 2004, UK Competition Commission, London, September 2005, British Institute of International and Comparative Law/Competition Law Forum, Brussels, September 2005 and Conference on Economics in Competition Policy, Ottawa, April 2006.
- "The Economics and Competition Policy of Exclusionary Agreements." Competition Bureau, Gatineau, April 24-25, 2005.
- "Intellectual Property Issues and Abuse: The IP/Competition Policy Interface in Canada." 2004 Competition Law and Policy Forum, Langdon Hall, Cambridge, Ontario, April 2004.
- "Efficiencies Gained and Paradise Lost? Or the Inverse? Comments on the Propane Case." Economics Society of Calgary Seminar Regulation vs. Competition: Different Shades of Grey, Calgary, October 2003.
- " The Economics of Exclusionary Contracts and Abuse of Dominance in Canada" Presented at the Canadian Bar Association Annual Fall Conference on Competition Law, Hull, October 2003.
- "Network Externalities, Technological Progress, and Competitive Upgrades" Presented at PIMS-ASRA Alberta Industrial Organization Conference, Calgary, November 2002.

- Panelist, The Changing Competition Law Landscape, Osler, Hoskin & Harcourt, Calgary, June 2002.
- Panelist, Efficiencies in Mergers Under the Competition Act, Annual Meeting of the Canadian Economics Association, Calgary, June 2002.
- "Specification Issues and Confidence Intervals in Unilateral Price Effects Analysis" Presented at the Annual Meeting of the Canadian Economics Association, Calgary, June 2002.
- “The Economics and Econometrics of Unilateral Effects Analysis.” Competition Bureau, Gatineau, January 7th and 8th, 2002 (with Oral Capps, Jr. and H. Alan Love).
- “Economics and Antitrust of Network Industries.” Competition Bureau, Gatineau, January 2001.
- "The Economics of Coordinated Effects and Merger Analysis." Presented at the Canadian Bar Association Annual Fall Conference on Competition Law, Ottawa, September 2000.
- "Network Externalities, Technological Progress, and Competitive Upgrades." Presented at the Annual Meeting of the Canadian Economics Association, Vancouver, June 2000.
- "Competition Policy for Network Industries." Presented at Centre for the Study of Government and Business New Challenges for Competition Policy Panel, Annual Meeting of the Canadian Economics Association, Vancouver, June 2000.
- "Applying Antitrust Concepts in IT Industries." Presented at Roundtable on Reassessing the Role of Antitrust in Mega-Mergers and IT Industries Faculty of Law, University of Toronto, June 2000.
- "The Economics of Electricity Restructuring: The Case of Alberta." Canadian Law and Economics Conference, Toronto, September 1999.
- "Refusals to License and the IP Guidelines: Abuse of Dominance and Section 32." McMillan Binch Symposium on Intellectual Property Rights and Competition Policy, Toronto, June 1999.
- "The Economics of Electricity Restructuring: The Alberta Case." presented at Economic Society of Calgary conference Alberta's Electricity Market—Moving Towards Deregulation, Calgary, May 1999.
- "Competition in Natural Gas Transmission: Implications for Capacity and Entry." presented at Van Horne Institute conference The New World in Gas Transmission: Regulatory Reform and Excess Capacity, Calgary, April 1999.
- "Bill 27: The Regulatory Framework." presented at Canadian Institute of Resources Law conference on Restructuring Alberta's Electricity System: How will It Work?, Calgary, June 1998.
- Panelist, Antitrust and Telecommunications, Global Networking '97 Conference, Calgary,

June 1997.

- "Network Industries, Intellectual Property Rights, and Competition Policy." presented at Author's Symposium on Competition Policy, Intellectual Property Rights and International Economic Integration, Ottawa, May 1996.
- Panelist, Symposium on Barriers to Entry, Bureau of Competition Policy, Ottawa, March 1995.
- "Branded Ingredient Strategies," presented at the Summer Conference on Industrial Organization, University of British Columbia, Vancouver, August 1994.
- "Equilibrium Foreclosure and Complementary Products," the Annual Meetings of the European Association for Research in Industrial Economics, Tel-Aviv, September 1993, the Annual Meeting of the Canadian Economics Association, Ottawa, June 1993 and the Mini-Conference on Network Economics at Tel Aviv University, July 1992.
- "Competition Policy and the Intercity Passenger Transportation System in Canada," presented at the Van Horne Institute for International Transportation and Regulatory Affairs symposium on *The Final Report of the Royal Commission on National Passenger Transportation,* The University of Calgary, February 1993.
- "Integration, Complementary Products and Variety," presented at the Annual Meeting of the Canadian Economics Association, Prince Edward Island, June 1992 and Telecommunications Research Policy Conference, Solomons Island, MA, September 1991.
- "The Role of Limit Pricing in Sequential Entry Models," presented at the Twenty-Fifth Annual Meeting of the Canadian Economics Association, Kingston, June 1991.
- "Commodity Price Regulation in Canada: A Survey of the Main Issues," presented at the Fifth Annual Regulatory Educational Conference, Canadian Association of Members of Public Utility Tribunals, May 1991.
- "Complementary Network Externalities and Technological Adoption," at the Twenty-Fourth Annual Meeting of the Canadian Economics Association, Victoria, June 1990 and at the Fifteenth Canadian Economic Theory Conference, Vancouver, June 1990.

Invited Seminars

- Department of Economics, University of Montreal, June 2011.
- Faculty of Commerce and Business Administration, University of British Columbia, April 2002
- Department of Economics, University of Toronto, March 2002
- School of Business & Economics, Wilfred Laurier University March 2002
- Competition Bureau, January 2002

- Department of Economics, University of Laval, April 1996
- Department of Economics, Carleton University, Ottawa, January 1996
- Stern School of Business, New York University, December 1995
- Bureau of Competition Policy, Industry Canada, Ottawa, March 1994
- Department of Economics, Simon Fraser University, November 1992
- Department of Economics, University of Victoria, November 1992
- Department of Economics, University of Toronto, October 1991
- Department of Economics, Queen's University, Kingston, October 1991
- Department of Economics, University of Alberta, February 1990

Refereeing

American Economic Review, Canadian Journal of Agricultural Economics, Canadian Journal of Economics, Canadian Journal of Political Science, Canadian Public Policy, C.D. Howe Institute, Energy Journal, European Economic Review, FCAR, Information Economics and Policy, International Economics and Economic Policy, International Economic Review, International Journal of the Economics of Business, International Journal of Industrial Organization, Journal of Econometrics, Journal of Economic Behavior and Organization, Journal of Economic Education, Journal of Economic Psychology, Journal of Economics, Journal of Economics and Business, Journal of Economics and Management Strategy, Journal of Industrial Economics, Journal of International Economics, Journal of Law, Economics, & Organization, Management Science, Marketing Science, National Science Foundation, RAND Journal of Economics, Journal of Economic Surveys, Review of Industrial Organization, Review of Network Economics, Routledge , SSHRC, University of Cambridge Press.

Professional Service

- Chair, Canadian Bar Association National Competition Law Section Economics and Law Committee, 2005-2007.
- Vice-Chair Canadian Bar Association National Competition Law Section Economics and Law Committee, 2004-2005.
- Juror, James M. Bocking Memorial Award, Canadian Bar Association National Competition Law Section, 2006, 2007, 2008, 2009, 2010, 2011, and 2012.
- Co-Editor, *Journal of Economics & Management Strategy,* 2001-2007.
- Editorial Board, *Canadian Journal of Economics*, 1993-1996.

- Theme Head Economics Sessions and Programme Committee, International Telecommunications Society and the International Council for Computer Education Global Networking '97 Conference, Calgary, June 1997.
- Organizer, Roundtable on Vertical Mergers, Competition Committee, Directorate for Financial and Enterprise Affairs, OECD, Paris, 2007. See http://www.oecd.org/dataoecd/25/49/39891031.pdf
- Organizer, Roundtable on Buyer Power, Competition Committee, Directorate for Financial and Enterprise Affairs, OECD, Paris, 2008. See http://www.oecd.org/dataoecd/38/63/44445750.pdf
- External Examiner for E. Croft Ph.D., Policy Programme, Faculty of Commerce and Business Administration, University of British Columbia, April 1999, B. Isaacs Ph.D., Department of Economics, Simon Fraser University, May 2000, J. Landa Ph.D., Department of Economics Carleton University, May 2001, J. Latulippe Ph.D, Department of Economics, University of Montreal, June 2011.
- House of Commons Standing Committee on Industry, Science and Technology Roundtable Participant on Competition Policy, December 2001.
- House of Commons Standing Committee on Industry, Science and Technology, Deregulation of Telecommunications, February 2007.

Teaching Experience

Graduate

- Ph.D. Micro Theory
- Industrial Organization
- Regulatory Economics
- Markets and Public Policy (School of Public Policy)

Undergraduate

- Regulatory Economics
- Competition Policy
- Honours Micro Theory
- Industrial Organization
- Intermediate Microeconomics

Professional

- Regulatory economics through the Centre for Regulatory Affairs.
- Principles of Microeconomics, Industrial Organization and Competition Policy for the Competition Bureau.

Graduate Student Supervision/Examination

Completed

- Supervisor, M. Ec. Programme, Mark Larsen, "Calgary Crossfield Sour Gas: A Case Study in the Costs of Regulation," Department of Economics, University of Calgary, 1993.
- Supervisor, M. A. Programme, George Given, "The Dynamics of Industries Characterized by Complementary Network Externalities," Department of Economics, University of Calgary, 1994.
- Supervisor, M. Ec. Programme, R. Allan Wood, "Subsidies to Municipal Golfers in Calgary, AB. ," Department of Economics, University of Calgary, 1995.
- Supervisor, M. A. Programme, Marcy Cochlan, "Branded Ingredient Strategies," Department of Economics, University of Calgary, 1995.
- Supervisor, M. Ec. Programme, Shaun Hatch, "Optimal Pricing and the Allocation of Water Under Uncertainty: A Stochastic Nonlinear Programming Approach," Department of Economics, University of Calgary, 1995.
- Supervisor, M. A. Programme, Denelle Peacey, "Priority Pricing," Department of Economics, University of Calgary, 1995.
- Supervisor, M.A. Programme, Michael Turner, "Analysis of Product Upgrades in Computer Software," Department of Economics, University of Calgary, 1999.
- Supervisor, M.A. Programme, Kurtis Hildebrandt, "Market Dominance and Innovation in Computer Software Markets," Department of Economics, University of Calgary, 1999.
- Supervisor, M.A. Programme, Alex Harris, "Optimal Multiproduct Tolling on an Oil Pipeline," Department of Economics, University of Calgary, 2000.
- Supervisor, M.A. Programme, Noelle Bacalso, "Conceptual Hazards Associated with Power Purchase Arrangements," Department of Economics, University of Calgary, 2000.
- Supervisor, M.A. Programme, Laura Jolles, “Antitrust Logit Model,” Department of Economics, University of Calgary, 2005.
- Supervisor, M.A. Programme, Mohamed Amery, “The Procurement of Ancillary Services in Alberta,” Department of Economics, University of Calgary, 2007.
- Supervisor, M.A. Programme, Graham Thomson, “Optimal Price Cap Regulation,” Department of Economics, University of Calgary, 2008
- Supervisor, M. A. Programme, Kevin Wipond, “ Market Power in the Alberta Electrical Industry,” Department of Economics, University of Calgary, 2008.
- Supervisor, M.A. Programme, Nicholas Janota, “Introducing Competition into Regulated

Network Industries: From Hierarchies to Markets in Canada's Railroad Industry," Department of Economics, University of Calgary, 2009.

- Supervisor, M.A. Programme, Cory Temple, "A Beggars' Banquet? Copyright, Compensation Alternatives, and Music in the Digital Economy," Department of Economics, University of Calgary, 2010.
- Supervisor, M.A. Programme, Susan Baker, "Loyalty Programs: A Review of the Competition Commissioner versus Canada Pipe Case," Department of Economics, University of Calgary, 2011.
- Supervisor, M.A. Programme, Michael Ata, "A Bayesian Approach to Antitrust Liability: Exclusive Dealing and Predation," Department of Economics, University of Calgary, 2011.
- Supervisor, Ph.D. Programme, David Krause, "Internalizing Network Externalities," Department of Economics, University of Calgary, 2002.
- Supervisory Committee, Ph.D. Programme, Lucia Vojtassak, "Equilibrium Concepts in Exhaustible Resource Economics." Department of Economics, University of Calgary, 2006.
- Examination Committee Member, M. Ec. Programme, Murray Sondergard, "An Examination of the Efficient Markets Hypothesis for the Toronto Stock Exchange," Department of Economics, University of Calgary, 1992.
- Examination Committee Member, M.A. Programme, Denise Froese, "Auctioning Private Use of Public Land," Department of Economics, University of Calgary, 1993.
- Examination Committee Member, M.Ec. Programme, Merrill Whitney, " Economic Espionage as a Form of Strategic Trade Policy" Department of Economics, University of Calgary, 1994.
- Examination Committee Member, M.Ec. Programme, Robert Richardson, "North-South Disputes Over IPRs" Department of Economics, University of Calgary, 1994.
- Examination Committee Member, M. Ec. Programme, Eva Cudmore, "The Viability of New Entry into the Alberta Electrical Generation Industry," Department of Economics, University of Calgary, 1997.
- Examination Committee Member, M. A.. Programme, Geok (Suzy) Tan, Course Based M.A, Department of Economics, University of Calgary, 1997.
- Examination Committee Member, M.A. Programme, Kris Aksomitis, "Strategic Behaviour in the Alberta Electricity Market," Department of Economics, University of Calgary, 2002.

Current

- Supervisor, M.A. Programme, Richard Kendall-Smith, and Jecielle Alonso, Department of Economics, University of Calgary.

University Service

- University Research Grants Committee 1994/95
- Dean's Academic Appointment Committee, Department of Mathematics and Statistics 2001
- ISEEE Tier II Chair in Energy and Climate Change Search Committee 2005/06
- Faculty of Social Sciences Academic Program Review Committee 2000/01
- Faculty of Social Sciences Executive Council 2002/03
- Department of Economics, Ad Hoc Outreach Committee 2001/02
- Curriculum Fellow, Department of Economics, 2001
- Department of Economics Representative on Van Horne Institute Sub-Committee on Centre for Regulatory Affairs 1997/98
- Department of Economics Advisory Committee 1997/98
- Department of Economics Undergraduate Curriculum Committee 1993/94, 1994/95, 1996/97, 1997/98, 1999/00, 2000/01, 2001/02, 2010/11
- Department of Economics Honours Advisor 1992/93, 1993/94, 1994/95, 2006/07
- Department of Economics Hiring Committee 1990/91, 1991/92, 1994/95, 1998/99, 1999/00, 2002/03, 2003/04, 2004/05, and 2005/06
- Department of Economics Computer Committee 1992/93, 1993/94, 1996/97, and 1997/98
- Department of Economics Ph.D. Ad Hoc Committee 1990/91 and 1992/93
- Department of Economics Ad Hoc Committee on the Status of Women 1991/92
- Department of Economics Striking Committee 1991/92
- Department of Economics Guest Lecturers Committee 1990/91 and 1991/92
- Department of Economics Graduate Curriculum Committee 1989/90
- Department of Economics Library Coordinator 2006/07
- Department of Economics Graduate Studies Committee 2007/08 and 2008/09
- Department of Economics Fund Raising Coordinator 2006/07, 2007/08, and 2008/09
- University of Calgary Appointment Appeals Committees 2008
- Haskayne School of Business, Academic Appointment Review Committee 2007/08, 2008/09
- General Promotions Committee, University of Calgary 2008/2009, 2010/2011

Consulting Experience

President of Church Economic Consultants Ltd., for whom I have written consulting reports and provided advice on issues in regulatory and antitrust economics for Alberta Beef Producers, Apotex, Australian Competition and Consumer Commission, Bell Canada Enterprises, Bayer CropScience, BC Ferries, BP Canada Energy Company, the Canadian Association of Petroleum Producers, the Canadian Cattlemen's Association, the Canadian Competition Bureau, The Coca-Cola Company, The Conference Board of Canada, Enbridge Pipelines, EPCOR, European Commission, Foothills Pipelines, Google Inc., James Richardson International Limited, Mackenzie Explorers Group, Maple Leaf Foods, Microcell, Nokia, Nova Gas Transmission, OECD Competition Division, Pacific Gas & Electric, Pan Alberta Gas, PanCanadian Petroleum, Peace Pipe Line, Perimeter Transportation, Rogers Communications, Superior Propane, TransAlta, TransCanada Pipelines, Williams Energy, and eight major motion picture film studios.

Other

- 3M National Coaching Certification Program Level 1 Softball January 2002
- 3M National Coaching Certification Program Coach Level Hockey November 2002
- 3M National Coaching Certification Program Level 1 Baseball September 2003

APPENDIX B: Sources and Documents Relied Upon in Report

Academic Sources

Blair, R., and D. Kaserman. 2009. *Antitrust Economics*. 2nd ed. New York: Oxford University Press.

Boudreau, K., and A. Hagiu. 2009. "Platform Rules: multi-sided platforms as regulators." In A. Gawer, ed., *Platforms, Markets and Innovation*. Northampton: Edward Elgar, 163-191.

Carlton, D., and J. Perloff. 2005. *Modern Industrial Organization*. 4th ed. Boston: Pearson.

Church, J., and R. Ware. 2000. *Industrial Organization: A Strategic Approach*. San Francisco: McGraw-Hill.

Elzinga, K., and D. Mills. 2010. "The Economics of Resale Price Maintenance." In W. D. Collins, ed., *Issues in Competition Law and Policy*. III. Chicago: ABA, 1841-1858.

Emch, E., and T. S. Thompson. 2006. "Market Definition and Market Power in Payment Card Networks." *Review of Network Economics* 5: 45-60.

Evans, D. 2011. Governing Bad Behavior by Users of Multi-Sided Platforms. University of Chicago Institute for Law & Economics Olin Research Paper No. 582.

Hovenkamp, H. 2005. *Federal Antitrust Policy: The Law of Competition and its Practice*. 3rd edition. Thomson West.

Klein, B. 2009. "Competitive Resale Price Maintenance." *Antitrust Law Journal* 76: 431-482.

Mathewson, F., and R. Winter. 1998. "The Law and Economics of Resale Price Maintenance." *Review of Industrial Organization* 13: 57-84.

OECD. 2008. Roundtable on Resale Price Maintenance. DAF/COMP (2008) 37.

Rochet, J.-C., and J. Tirole. 2003. "Platform Competition in Two-Sided Markets." *Journal of the European Economic Association* 1: 990-1029.

Rochet, J.-C., and J. Tirole. 2006. "Two-Sided Markets: A Progress Report." *RAND Journal of Economics* 37: 645-667.

Rochet, J. C. 2003. "The Theory of Interchange Fees: A Synthesis of Recent Contributions." *Review of Network Economics* 2: 97-124.

Rysman, M. 2009. "The Economics of Two-Sided Markets." *Journal of Economic Perspectives* 23: 125-143.

Shaffer, G. 2009. Theories of Harm from Resale Price Maintenance. Federal Trade Commission Hearings on Resale Price Maintenance, February 19, 2009.

Trebilcock, M., et al. 2002. *The Law and Economics of Canadian Competition Policy*. Toronto: University of Toronto Press.

Verdier, M. 2011. "Interchange fees in payment card systems: A survey of the literature." *Journal of Economic Surveys* 25: 273-297.

Werden, G. 1998. "Demand Elasticities in Antitrust Analysis." *Antitrust Law Journal* 66: 363-414.

Werden, G. 2008. "Beyond Critical Loss: Properly Applying the Hypothetical Monoplist Test." *Global Competition Policy* February: 1-5.

Weyl, E. G. 2010. "A Price Theory of Multi-sided Platforms." *American Economic Review* 100: 1642-1672.

Winter, R. 1993. "Vertical Control and Price Versus Nonprice Competition." *Quarterly Journal of Economics* 108: 61-76.

Winter, R. A. 2009. "Presidential Address: Antitrust Restrictions on Single-Firm Strategies." *Canadian Journal of Economics* 42: 207-1239.

Material Filed

Expert Report of Ralph A. Winter in The Commissioner of Competition v. Visa Canada Corporation and MasterCard International Incorporated, CT-2010-010, filed March 12, 2012.

Expert Report of Alan S. Frankel in The Commissioner of Competition v. Visa Canada Corporation and MasterCard International Incorporated, CT-2010-010, filed March 9, 2012.

Expert Report of Dennis Carlton in The Commissioner of Competition v. Visa Canada Corporation and MasterCard International Incorporated, CT-2010-010, filed March 14, 2012.

Expert Report of Mike McCormack in The Commissioner of Competition v. Visa Canada Corporation and MasterCard International Incorporated, CT-2010-010, filed March 14, 2012.

Expert Report of Kenneth G. Elzinga in The Commissioner of Competition v. Visa Canada Corporation and MasterCard International Incorporated, CT-2010-010, filed April 10, 2012.

Witness Statement of Brian Weiner in The Commissioner of Competition v. Visa Canada Corporation and MasterCard International Incorporated, CT-2010-010, filed April 10, 2012.

Witness Statement of William Sheedy in The Commissioner of Competition v. Visa Canada Corporation and MasterCard International Incorporated, CT-2010-010, filed April 10, 2012.

Expert Report of Michael S. Mulvey in The Commissioner of Competition v. Visa Canada Corporation and MasterCard International Incorporated, CT-2010-010, filed April 10, 2012

Appendix C

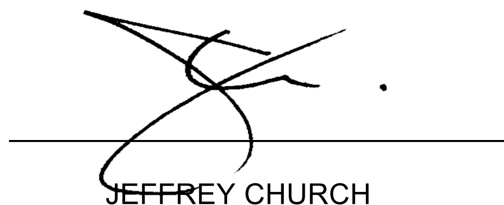
Acknowledgement of Expert Witness

I, Jeffrey Church, 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.

Date: April 10, 2012



JEFFREY CHURCH

APPENDIX D The Economics of Price Maintenance

1. This Appendix contains a brief overview of the economic and competition policy understanding of the rationale, effects, and appropriate enforcement policy for resale price maintenance.

2. In the antitrust economics and competition policy literature the explanations for the existence and use of resale price maintenance ("RPM") are of two sorts. The first sort considers their potential to be anticompetitive. The second sees them as a mechanism that contributes to efficient distribution.[1] As discussed below, there is a consensus in the economics and competition policy of price maintenance that price maintenance is typically pro-competitive and intervention is warranted only in very limited circumstances such as where it appears to facilitate collusion.

D.1 Anticompetitive Theories Justifying Intervention in respect of Price Maintenance

3. As discussed below, the two most prominent anticompetitive explanations for the use of RPM focus on its potential to facilitate collusion at the upstream or downstream level (the cartel hypotheses). In addition, the literature on RPM has considered the possibility that it could be an effective mechanism to relax competition between downstream retailers,[2] or that it could be used by a dominant firm to foreclose entry.[3]

4. The potential for RPM to facilitate collusion among manufacturers has been attributed to two effects. The first is that it can enhance detection of deviations from a coordinated outcome. If manufacturers' prices are not observable, coordination among manufacturers may be difficult, as their ability to detect and punish deviations from the coordinated outcome is reduced compared to when prices are public and observable. Using RPM to fix retail prices eliminates retail price variations and hence manufacturers do not have to

[1] Efficient distribution means that the profits of the supplier, or the aggregate profits of the supplier and its downstream distributors, are maximized.

[2] See G. Shaffer, (2009), Theories of Harm from Resale Price Maintenance, Federal Trade Commission Hearings on Resale Price Maintenance, February 19, 2009, for a summary of the strategic use of RPM to dampen competition in the downstream market.

[3] See the discussion in B. Klein, (2009), "Competitive Resale Price Maintenance," Antitrust Law Journal 76: pp. 431-482.

ascertain whether reductions in retail prices are due to a reduction in a rival's wholesale price or a reduction in retailing costs. In addition, RPM may eliminate, perhaps only in part, the incentive to cheat on the coordinated outcome by reducing wholesale prices. The profitability of cheating depends on the increase in sales volume from deviating on the coordinated outcome by reducing price. Under RPM retailers cannot pass through lower wholesale prices to their customers, and hence the ability to increase volumes by lowering the wholesale price is limited. Instead, its effect is primarily to transfer margin from the manufacturer to the retailer.

5. An alternative hypothesis is that retailers with downstream market power may be able to threaten a group boycott of a manufacturer (or manufacturers) unless it (they) implements (implement) RPM at the collusive level in the downstream market. Cheating on the agreement by retailers by pricing below the price floor is enforced by the threat that the manufacturer will discontinue supplying any retailer that undercuts the collusive price.

6. There is no allegation of collusive behaviour by the Commissioner of Competition or her experts that Visa and MasterCard are foreclosing competition. The anticompetitive theories that identify an anticompetitive effect of RPM in the downstream market are also not applicable.

D.2 Pro-competitive Explanations for Price Maintenance

7. There are also a number of pro-competitive or efficiency rationales for the adoption and implementation of RPM. In general a manufacturer—for a given wholesale price—would prefer that its retailers price as low as possible, since that maximizes sales volume and profits. Hence, RPM is a bit of a puzzle since it appears to be against the interests of the manufacturer. Indeed, if markets were perfectly competitive there would not be a role for RPM. However, RPM can be beneficial to the manufacturer and consumers if demand for the manufacturer's product is enhanced by the provision of services and other activities

of its retailers, and retailers do not have the appropriate incentives to provide those services.[4]

8. In such circumstances RPM can increase the output *and* profits of a manufacturer by substituting nonprice competition between its retailers—competition over services—for price competition. The increase in services provided by retailers will increase demand (at every price consumers will purchase a greater quantity) and this increase may more than make up for the potentially higher price that results from the restriction in price competition brought on by RPM.

9. Three explanations for why retailers do not provide the efficient level of services have been developed. These are (i) free riding by retailers on the provision of services.; (ii) excessive incentives by retailers to focus on price competition; and (iii) incomplete contracting.

(i) *Free Riding*.

Free riding occurs when someone benefits from expenditures or investments made by another without having to pay. The provision of pre-sale services that inform and persuade a customer to purchase a product are susceptible to free riding. The reason is that "full service" retailers are vulnerable to price competition from discount retailers. Full service retailers make substantial expenditures on informed sales staff, demonstrations, etc., while discount retailers do not, but because they do not, they have lower costs and hence can offer lower prices. Free riding occurs when a customer is convinced to purchase by the services offered by a full service retailer, but buys from a discount retailer. The result is unsustainable: the full service retailer will cut back on its service, which harms both consumers and the manufacturer. Consumers are harmed because they are not provided with services that they value;[5] manufacturers because without those services demand will be

[4] See F. Mathewson and R. Winter, (1998), "The Law and Economics of Resale Price Maintenance," *Review of Industrial Organization* 13: pp. 57-84 at 67; and R. A. Winter, (2009), "Presidential Address: Antitrust Restrictions on Single-Firm Strategies.," *Canadian Journal of Economics* 42: pp. 207-1239 at 1214-1215.

[5] The value to consumers of the services is how much better off they are from buying the good relative to their next best alternative that presumably would have been purchased in the absence of the services provided by the retailer.

reduced. By setting the wholesale and the retail price, the manufacturer sets its retailers' margin under RPM. This fixed margin prevents discounters from free riding by lowering retail prices, provides an incentive for retailers to provide service, and fosters competition among a manufacturer's retailers over services to make a sale and capture the margin.

(ii) *Excessive Incentives to Price Competition.*

Professor Winter suggests elsewhere that the balance between price and service competition by retailers will not be profit-maximizing, with retailers having an incentive to compete too aggressively on price and provide insufficient service, when a retailer's ratio of price elasticity to service elasticity is greater than that of the brand.[6] In these circumstances, from the perspective of the brand, the focus should be on providing services and pricing to promote interbrand competition to attract marginal consumers. Retailers, on the other hand, have an incentive to focus too much on inframarginal consumers and inter-retailer competition by lowering prices instead of providing services to advance interbrand competition. RPM prevents the tendency for excessive price competition and creates a margin that promotes service competition.

(iii) *Incomplete Contracting*

A related, pro-competitive explanation for RPM is based on the assessment that competition between retailers does not result in the efficient level of point of sale service when (a) point of sale service is brand specific; (b) it influences marginal consumers; (c) it has very little inter-retailer effect but substantial effect on diverting demand from other brands; (d) retailers' margins on incremental sales are less than the manufacturers'; and (e) contracting on service levels is ineffective or too costly because of transaction costs.[7] In these circumstances, manufacturers use RPM to create a profit margin ("rent") for the retailer, which

[6] See R. A. Winter, (2009), "Presidential Address: Antitrust Restrictions on Single-Firm Strategies.," *Canadian Journal of Economics* 42: pp. 207-1239. For example, suppose there are two types of consumers, those who have already decided to purchase brand *A* (inframarginal consumers) and those trying to decide between brand *A* and brand *B* (marginal consumers). It may be the case in these circumstances, Professor Winter suggests, that consumers on the interbrand margin may be relatively service sensitive but their demand relatively price insensitive, while for intrabrand customers, their demand is relatively insensitive to services, but their choice of retailer price sensitive.

[7] See B. Klein, (2009), "Competitive Resale Price Maintenance," Antitrust Law Journal 76: pp. 431-482.

when coupled with monitoring and termination if service provision is too low, implements a self-enforcing agreement under which the retailer expands point of sale service. Not only does the margin created by RPM provide incentives for retailers to provide point of sale service, it also provides incentives for retailers to carry the manufacturer's product.

D.3 Antitrust Policy and the Welfare Economics of Pro-competitive Explanations for RPM

10. The analysis in the previous section explained why retailers in the absence of RPM may underinvest in demand enhancing activities and why, when that occurs, RPM benefits manufacturers and consumers at the margin (total output expands). However, there may be distributional effects—some consumers may be better off and some worse off. While consumers at the margin value the extra services, inframarginal consumers—consumers that would have purchased without the services—will be harmed. They do not benefit from the services and the price they pay will be greater.[8] For aggregate consumer welfare to decline the aggregate harm to inframarginal consumers must exceed the aggregate benefits to marginal consumers. For overall welfare to fall the net losses to consumers must exceed the gains to firms.

11. Whether aggregate consumer welfare rises depends on a comparison of the average valuation of the services across all consumers with the valuation of the consumers at the margin. If the average valuation exceeds the margin, aggregate consumer welfare will rise, but if the marginal consumer valuation exceeds the average valuation, aggregate consumer welfare will fall.[9]

[8] This seems to be Professor Winter's suggestion in his section on "Adverse Effects II", discussed below as the cost externalization hypothesis.

[9] See R. Winter, (1993), "Vertical Control and Price Versus Nonprice Competition," *Quarterly Journal of Economics* 108: pp. 61-76; R. A. Winter, (2009), "Presidential Address: Antitrust Restrictions on Single-Firm Strategies.," *Canadian Journal of Economics* 42: pp. 207-1239; K. Elzinga and D. Mills, (2010), "The Economics of Resale Price Maintenance," W. D. Collins, eds., *Issues in Competition Law and Policy*, III, ABA: 1841-1858; B. Klein, (2009), "Competitive Resale Price Maintenance," *Antitrust Law Journal* 76: pp. 431-482; and R. Blair and D. Kaserman, (2009), *Antitrust Economics,* 2nd ed., Oxford University Press.

12. The distribution effects of RPM, however, are unlikely to make its adoption a matter for competition policy. First these distribution effects are endemic to competition: most marketing practices are likely to have similar distribution effects, since they will be of value only to some consumers, not all. Second, it is not the role of competition policy to regulate all aspects of firm conduct to maximize consumer welfare. The role of competition policy is to sanction and eliminate behaviour that creates, maintains, or enhances market power when the exercise of that market power is inefficient.

13. Third, Professor Winter himself has commented on the impossibility of implementing a policy to review RPM based on its effect on aggregate consumer welfare:[10]

> The empirical test required to distinguish efficient from non-efficient uses of RPM would be a comparison of marginal versus infra-marginal preferences. Are we *ever* going to see evidence like that in any case? Not a chance. It is a challenge to identify the behaviour of marginal consumers, let alone the preferences of infra-marginal consumers relative to marginal customers. The upshot of our discussion is that when a single manufacturer uses RPM, in the absence of a cartel, total surplus may or may not go up, and there is no practical, implementable test that can distinguish the efficient from the inefficient uses of RPM.

14. Fourth, the presence of interbrand competition between manufacturers reduces the likelihood that RPM would reduce consumer welfare. One competitive response would be a manufacturer who targets inframarginal consumers with low prices, thereby eliminating the extent of cross subsidization.[11] As Professor Winter has conjectured, the “practical judgement of most analysts” is “that interbrand competition can be relied upon to provide a better mix of service and prices than antitrust intervention.”[12] Indeed, the objective of RPM—when it is pro-competitive—is to limit intrabrand price competition in order to increase interbrand service competition. It is interbrand competition that restrains the market power of a manufacturer and ultimately determines the welfare of

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[10] R. A. Winter, (2009), "Presidential Address: Antitrust Restrictions on Single-Firm Strategies.," *Canadian Journal of Economics* 42: pp. 207-1239 at 1218. Footnote omitted.
[11] K. Elzinga and D. Mills, (2010), "The Economics of Resale Price Maintenance," W. D. Collins, eds., *Issues in Competition Law and Policy*, III, ABA: 1841-1858 at 1849.
[12] R. Winter, (1993), "Vertical Control and Price Versus Nonprice Competition," *Quarterly Journal of Economics* 108: pp. 61-76 at 72.

consumers. Consumers therefore are likely to benefit from RPM when there is interbrand competition.[13,14]

15. As Professor Winter has concluded, the enforcement policy that follows from the modern analysis of RPM is hands off, except in circumstances where it is being used to facilitate the coordinated exercise of market power—a cartel:[15]

> I take as an assumption that the burden of proof in intervening in the market should fall on the side of the intervention. In other words, we do not regulate a business practice because regulation *may* increase welfare. In terms of arriving at a precise policy recommendation, this may sound like a complete cop-out. But it is no different than the policy we have with respect to regulating a monopolist's choice of price and non-price dimensions of products *outside* of the context of vertical restraints. We do not, for example, restrict the prices luxury watch manufacturers charge to $5,000 per watch with the hope that welfare will increase. Nor should we intervene when a manufacturer is using vertical restraints to implement the tradeoff between price and service. In short, the policy supported by this analysis is a rule of reason: that RPM be allowed unless there is evidence that it is being used by a small group of firms to facilitate cartel pricing.

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[13] See K. Elzinga and D. Mills, (2010), "The Economics of Resale Price Maintenance," W. D. Collins, eds., *Issues in Competition Law and Policy*, III, ABA: 1841-1858 at 1849; and .B. Klein, (2009), "Competitive Resale Price Maintenance," *Antitrust Law Journal* 76: pp. 431-482 at 465.

[14] Note, however, that with RPM and extra services it is possible that retail prices might actually fall so that RPM benefits all consumers. This might be the case if using RPM to promote services is less costly than the next best alternative or if the consumers at the service margin are also more price sensitive. In both cases the wholesale price would decline, putting downward pressure on the retail price chosen to be maintained. See B. Klein, (2009), "Competitive Resale Price Maintenance," *Antitrust Law Journal* 76: pp. 431-482

[15] R. A. Winter, (2009), "Presidential Address: Antitrust Restrictions on Single-Firm Strategies.," *Canadian Journal of Economics* 42: pp. 207-1239 at 1218.