X. APPENDIX ON RELEVANT MARKETS AND CONSUMPTION DISTORTIONS

211. In its competitive analysis of a recent bank merger, the Australian Competition and Consumer Commission found that credit cards are in a relevant market distinct from cheques and debit cards.[202] At first glance, it might appear that policy makers should not be concerned about distortions in the prices of credit and charge cards relative to other payment mechanisms if those payment mechanisms are in distinct relevant markets. Policy makers should, however, be concerned for two reasons. First, there may be distortions among credit and charge cards. Second, the price differentials used in the definition of relevant markets are much smaller than the price differentials that may arise as the result of merchant surcharging and card rebates and rewards. This second point merits further explanation.

212. Relevant markets are defined along two dimensions: the products included and the geographic scope. The focus here is on product definition. A fundamental principle by which economists define the product scope of a market is to include two goods or services in the same relevant market if consumers view them as sufficiently close substitutes and not to include them in the same relevant market if consumers do not view them as sufficiently close substitutes. As part of its analysis and definition of relevant markets, the Australian Competition and Consumer Commission looks at consumer substitution among products.[203]

213. There are, of course, many different degrees of substitution and competition among products. To some extent, milkshakes compete with automobiles for consumers' dollars, but one should not conclude that milkshakes and automobiles are in the same product market. A standard approach to identifying the set of products in a market is to ask what would be the smallest set of products such that a firm that had a hypothetical monopoly as the supplier of those products would maximize its profits by raising price above the competitive level by a significant amount for a sustained period of time. In practice, "significant" is often taken to mean a price change in the range of five to ten percent.

214. A significant increase in price above the competitive level will raise a hypothetical monopolist's profits unless unit sales volume falls sufficiently to offset the higher price received for units sold. Thus, economists determine that a set of products constitute a relevant market if a small but significant price increase would lead to too little substitution to goods outside of that market to make the price increase unprofitable for a hypothetical monopolist. Thus, a finding that credit cards constitute a relevant product market distinct from cheques and debit cards indicates that the Australian Competition and Consumer Commission found relatively low levels of consumer substitution among these payment mechanisms.

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202 Australian Competition and Consumer Commission, "ACCC Not to Oppose Commonwealth Bank/Colonial Merger," Press Release, June 8, 2001, at 4.

203 Australian Competition and Consumer Commission, *Merger Guidelines*, June, 1999, at 31-42.

215. However, low levels of substitution in response to a five or ten percent price increase are fully consistent with much higher levels of substitution in response to price changes of 50 or 100 percent or more, which are in the range of price changes associated with the effects of interchange fees and/or various loyalty programs.

216. To understand the magnitudes of the relevant price changes, it is important to distinguish between a percentage increase in the price of the *goods purchased* and an equivalent percentage increase in the price of *credit or charge card services*. The following example brings out the intuitive basis for needing to make this distinction. Suppose a researcher is trying to estimate consumer price sensitivity for a particular stockbroker's services. The researcher questions a number of people who are planning to purchase $1,000 worth of stock. The broker charges a $30 fee for this transaction, and the researcher wants to determine how investors would respond if the price of the broker's services were increased by five percent. The proper procedure for eliciting this information would be to ask consumers if they would still buy the stock using this broker if *this broker's fee* were increased by five percent to $31.50 for the transaction. It would make no sense to ask what would happen if the price of the *stock* were increased by five percent (*i.e.,* by $50). The consumer pays only $30 as the baseline cost of the brokerage services, and a price increase of $50 would correspond to a 167 percent increase in the price of brokerage services, not five percent. It would not be surprising if a $50 price increase induced every investor to switch to another brokerage firm. But it would be incorrect to conclude from this fact that a "5 percent" price increase leads to a 100 percent fall in the demand for the firm's brokerage services.

217. One must be careful not to make the same mistake in looking at credit and charge card usage. Consider a consumer who holds a credit card and maintains an amount outstanding on it. Now suppose that she must decide whether to use that credit card instead of another payment mechanism for a particular transaction. Because the consumer in this example maintains an outstanding balance, she has to pay interest immediately from the time the purchase is made until she pays down her balance at the close of the next billing cycle, which typically will be less than one month later. [204] The average annual interest rate charged by the four major banks is 16 percent.[205] Hence, the cardholder's cost of the less-than-one-month loan from using a credit card instead of cash is approximately 1.33 percent.

218. Now examine the effect of interchange fees, which affect the per-transactions prices that consumers pay. The average interchange fee in Australia is 0.95 percent of the dollar value of a

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[204] A consumer with a revolving balance typically does not enjoy a grace period on her purchases and begins incurring finance charges immediately. If one were to consider a consumer without a revolving balance, the consumer's cost of using the card to make purchases would be even lower.

[205] This is the average interest rate for accounts with an interest-free period. The average interest rate for all banks with a loyalty scheme is also 16 percent. The average interest rate for all banks without a loyalty scheme is 15.2 percent. Data provided by Reserve Bank of Australia.

transaction.[206] In the absence of interchange fees, consumers might be charged this amount—because issuers would face higher effective costs of card use—and so the total cost of a consumer's usage of a card would be 2.28 percent. The use of interchange fees rather than consumer card-use fees thus causes a 41 percent change in the price of the card services. Interchange fees thus may induce consumer substitution among payment mechanisms even when these mechanisms are not in the same relevant market.[207]

219. Some analyses also cite credit card loyalty programs as causing distortions in consumers' choices among payment mechanisms. As with the above example, this is consistent with the view that credit and charge cards and other payment mechanisms are in different relevant markets. The average value of a loyalty program is typically around one percent of the transaction value.[208] Instituting a typical rebate program raises the rebate from zero to one percent of the value of the transaction. Hence, given the 1.33 percent cardholder transaction cost calculated above, this corresponds to more than a 75-percent change in the price of the card services.[209] It would not be surprising to see significant shifts in consumers' uses of payment mechanisms away from debit cards, for example, and toward credit cards in response to such large price declines. This is not the same, however, as a test for whether credit cards and debit cards or other payment mechanisms belong in the same relevant product market. Thus one may be concerned about distortions among payment mechanisms even though the payment mechanisms are in separate relevant product markets.

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206 *Joint Study* at 43.

207 The use of interchange fees instead of consumer card-use transaction fees results, on average, in a price decline for a credit card transaction from 2.28 percent (1.33 percent + 0.95 percent) to 1.33 percent. This is a 42 percent decline in the price of the credit card transaction to the consumer.

208 Data provided by Reserve Bank of Australia.

209 Adding a rebate program results, on average, in a price decline for a credit card transaction from 1.33 percent to .33 percent. This is a 75 percent decline in the price of the credit card transaction to the consumer.

Figure A: An Industry Schematic