

Discussion

1. Stephen P. King¹

Professor Rochet's paper provides an excellent overview of the economic state-of-the-art on card systems and interchange fees. I draw five lessons from his paper:

1. The optimal interchange fee internalises the 'choice of payment instrument' externality.

A key issue when considering the socially optimal interchange fee is the externality that the customer creates by their choice of payment instrument. When a customer chooses to purchase a product from a seller who accepts multiple payment instruments, the actual choice of payment instrument is made by the customer. However, the choice of payment instrument made by the customer has implications for the seller. If payment instrument *A* is cheaper from the seller's perspective than payment instrument *B*, then the seller would prefer the customer to choose *A* rather than *B*. In the absence of either a price differential on the final product that depends on the payment instrument (i.e. a surcharge) or an interchange fee, the customer will simply choose a payment instrument according to their own costs and benefits.

The externality that the customer creates by the choice of payment instrument can be internalised either by a surcharge or through the interchange fee. In the absence of surcharging, the interchange fee allows the 'net external benefit' from the choice of a payment instrument to be transferred to the customer. The customer will then face the socially optimal incentive when choosing a payment instrument.

2. The actual interchange fee that will arise in the marketplace in the absence of any direct regulation may be greater than or less than the socially optimal interchange fee even if there are only two payment instruments, cash and a single card.

Issues such as merchant acceptance of a payment instrument and imperfect competition mean that the actual interchange fee that arises in the marketplace is unlikely to be set at the socially optimal level. Because of the two-sided nature of payment systems markets, however, the actual interchange fee may be either above or below the socially optimal fee. In other words, there is no simple prediction that the actual interchange fee will be either too high or too low. Rather, it will depend on the exact nature of the marketplace and the interaction between issuers, acquirers, customers and sellers.

3. Even if there are competing, perfectly competitive card schemes, the actual interchange fee may not be socially optimal. Further, there may be multiple equilibria that can arise in the marketplace.

Simple competition between alternative payment instruments does not solve the interchange fee problem. Again, this reflects the underlying externality that the consumer imposes on the

¹ Commissioner, Australian Competition and Consumer Commission (ACCC). The views expressed here are those of the author alone and should not be attributed to the ACCC.

producer through the choice of payment instrument. If card systems compete but each consumer only has one card, then there is no simple way for the payment externality to be internalised. A seller may prefer the customer to use a different card but if the customer is not carrying that card then the seller's preference is of little relevance. If, however, consumers choose to carry multiple credit cards (called multi-homing) it may be possible to mitigate the payment externality at the point of sale. As such, multi-homing is a key issue when considering competing card schemes.

4. If there are multiple schemes and multiple payment instruments, such as debit, credit and cash, then predictions about interchange fees become extremely difficult.

Multiple payment instruments and multiple schemes with different degrees of competition raise a number of complicating factors. Economic results for these situations are still in their early stages.

5. In general, if there is 'perfect surcharging' then the interchange fee charged for a payment instrument is irrelevant.

If sellers surcharge on the basis of the specific payment instrument used by a customer then the actual interchange fee is irrelevant. The seller simply passes the costs of the payment instrument on to the customer through the surcharge, so that a rise in merchant fees (possibly due to a rise in the interchange fee) is simply reflected in a higher surcharge. The reason for this is simple. If sellers can surcharge then there is essentially a redundant price involved with the use of a payment instrument. Any change in the interchange fee can simply be 'undone' by changes in the mix of the surcharge, the merchant fees, and the customer card fees. Note that this result simply implies that surcharging makes the interchange fee irrelevant. It does not mean that surcharging will result in optimal pricing of payment instruments. There may be a 'problem' of pricing for payment instruments even with perfect surcharging. However, this problem cannot be addressed through regulation of the interchange fee.

These five lessons highlight the underlying message of Professor Rochet's paper: there is considerable economic uncertainty about the exact nature of payment systems, and the level of the interchange fee can vary above or below the socially optimal level depending on a variety of factors.

Despite this theoretical uncertainty, however, in Australia we have direct intervention that restricts the interchange fee that can be charged by four-party credit card systems. In light of Professor Rochet's survey, it is necessary to ask what, if any, policy relating to interchange fees can be justified by the state of economic understanding of payment systems.

Should there be any interchange fee regulation?

A legitimate lesson to take from the economic theory of payment systems is that there should not be any policy intervention relating to interchange fees. Under this view, we simply do not (and cannot) know enough about the underlying nature of competing payment systems to know if there is an economic problem that requires a solution, far less design such a solution.

Professor Rochet has presented this view in another forum:

I have the strange feeling of participating – and we are all participating – in sort of a detective story, but a very unusual kind. The culprits have been found: the banks and the payment card networks. Also, the weapon that was used for the crime is known: the high interchange fees.

Surprisingly, there is a lot of controversy about the nature of the crime itself. Is it that we have too many cards? Is it that we have too many card payments? Or more likely, as I would argue, the real crime may be that banks make too much profit.²

It is far from clear that there was a problem with the interchange fees that had been set for credit card systems in Australia prior to regulatory intervention. These fees had been stable over a long period. The interchange fees did not appear to be systematically manipulated by the card systems or the banks in order to exploit market power. Rather, it appeared that the banks had used a 'set and forget' strategy for the interchange fee, with the fee remaining at 0.95 per cent despite significant changes to both payment systems and the economy in general.

Indeed, the stability of the interchange fee in Australia prior to regulatory intervention raises interesting economic questions. Did the stability reflect that there are multiple equilibria so that the established interchange fee remained an equilibrium fee despite the wide-ranging changes to the broader economy? Is the interchange fee either neutral or close to neutral despite the lack of explicit surcharging? Or was it simply the case that any profitable manipulation of the interchange fee was too uncertain, too transitory or of too small a benefit for the banks to worry about?

It is important to note, however, that even if it is argued that the original regulation of interchange fees was misguided, this does not imply that the existing regulations can simply be removed. History matters and the simple removal of interchange fee regulation will not necessarily return the market to its pre-regulation state.

Should regulation be limited to allowing surcharging so that if there is a problem with interchange fees, the problem will be neutralised?

If there is a problem with credit card interchange fees then this problem will be removed if there is perfect surcharging. Of course, perfect surcharging may not arise in the real world. For a variety of reasons, merchants may limit the extent to which they surcharge according to payment instruments. However, to the degree that there is surcharging, any problem with interchange fees is likely to be reduced, if not eliminated. This suggests that a conservative 'starting point' for any regulation of interchange fees is the simple removal of any limitations on surcharging, such as a no-surcharge rule enforced by the payments system.

The Reserve Bank of Australia did consider such a minimalist approach:

In thinking about appropriate regulatory responses to these distorted price signals, the RBA considered simply requiring that the no-surcharge rule be removed, thus allowing merchants to charge customers using a credit card a higher price. ... We saw considerable merit in this approach, and have in fact required that the no-surcharge rule be removed from merchant contracts. However, our view has been that removing this rule was not enough, by itself, to establish more appropriate price signals to cardholders.³

2 Rochet, J-C (2005), 'The interchange fee mysteries. Commentary on Evans and Schmalensee', paper presented at the conference 'Interchange fees in credit and debit card industries: What role for public authorities?', Federal Reserve Bank of Kansas City, Santa Fe, New Mexico, 4-6 May, p. 139.

3 Lowe, P (2005), 'Payments system reform: the Australian experience', paper presented at the conference on 'Interchange fees in credit and debit card industries: What role for public authorities?', Federal Reserve Bank of Kansas City, Santa Fe, New Mexico, 4-6 May, p. 271.

Is cost-based regulation of interchange fees valid?

If, despite the ambiguity in the economics literature, it was believed that direct regulation of the interchange fee was required, should this regulation be cost based? The general answer from the economics literature appears to be negative. The key to regulating an interchange fee is to internalise the ‘choice of payment instrument’ externality. This involves consideration of costs in the sense that the externality involves considering the costs of payment instruments to merchants and acquirers. But this is different from the usual cost-based regulation which tries to set a price to reflect the underlying cost of the party supplying the product associated with the price. In a two-sided payment system it is not clear what cost-based regulation, in the usual sense, actually means.

Finally, given that there is interchange fee regulation in Australia, it is useful to inquire about the effects of this regulation and how these effects fit into the economic literature.

Professor Rochet notes that merchant service fees have decreased in line with the regulated decrease in interchange fees. However, there appears to be incomplete pass-through of the decreased interchange fees in terms of reduced benefits to card holders. Importantly, while there may have been changes at the level of the individual cardholder or merchant, Professor Rochet notes that there has not been any observable decrease in prices due to interchange fee regulation. Richard Hayes tested whether the introduction of interchange fee regulation affected either the number of credit cards or the value of credit card transactions and found that there was no effect in either case.⁴ In brief, there appears to be little if any aggregate-level impact from the regulation of interchange fees.

This ‘lack of effect’ is consistent with the view that either allowing surcharging means that the interchange fee is largely irrelevant or, given the history of interchange fee stability in Australia, the interchange fee was a poor choice of regulatory variable. Regulation reduced the interchange fee by almost 50 per cent and yet there appears to have been little if any real effect. The challenge for the RBA is to now decide what to do next.

2. Julian Wright⁵

I wish to thank the Reserve Bank of Australia and the Melbourne Business School for the opportunity to attend and speak at this conference.

Clearly Professor Rochet’s presentation goes far beyond just explaining the key insights from the existing academic literature on competing payment schemes. Rather, what Professor Rochet has provided us, in addition to a very nice review of the existing literature, is a very significant step forward towards building a more complete theory of interchange fees and payment system competition. For my discussion, I will mostly focus on some implications of his presentation this morning.

⁴ Hayes, R (2007), ‘An econometric analysis of the impact of the RBA’s credit card reforms: preliminary results’, Melbourne Business School, available as an appendix to Gans, J (2007) ‘Evaluating the impact of the payment system reforms: Submission to the Reserve Bank of Australia’s Payments System Board’s 2007-08 Review of Payment System Reforms’, January.

⁵ Associate Professor of Economics, National University of Singapore.

Let me start, however, by first defending the important contribution formal economic modelling can provide to the policy debate over interchange fees and payment system competition. An important aspect of any formal modelling approach, such as the approach Professor Rochet himself uses, is that it is explicit about its assumptions and draws its implications logically from these assumptions. A major benefit of doing so is to avoid inconsistent arguments.⁶ I want to highlight one such inconsistent argument (or fallacy) here since understanding it is important to understanding the implications of Professor Rochet's presentation. It is also an important principle to keep in mind in any policy debate about interchange fees.

Consider an imaginary card – let me call it the 'Wright card' for want of a better name. The Wright card does not provide any payment service. In fact, it does not provide any function whatsoever, other than one. When it is swiped at point of sale it charges one dollar to the merchant and rebates 50 cents into the cardholder's account. The question then is would any merchant accept the Wright card? If you listen to some of the discussion surrounding interchange fees, you might be led into believing that merchants would accept such cards. They would somehow be 'forced' into doing so. My point is such views are contradicted by standard economic theory. Merchants (even competitive merchants) will not accept such cards, which make themselves and their customers worse off to the tune of 50 cents per transaction, without any compensating real transactional benefits.⁷ To get merchants to accept such cards, cardholders and/or merchants must receive sufficient real transactional benefits to make doing so profitable. This is simple economics, but statements committing the fallacy of the Wright card show it is a fallacy worth highlighting here. I will return to this fallacy in a moment.

Let me now summarise the existing literature regarding interchange fees. Professor Rochet has already done this in detail so I will try to be brief. Here I want to focus on the reasons why privately set interchange fees may be too high from a welfare perspective.⁸ Without any competition between payment systems, interchange fees can be too high for two main reasons.

The first reason is due to asymmetry in pass-throughs. As explained by Professor Rochet, if pass-through is less on the issuing side than on the acquiring side, then banks may increase interchange fees to shift revenues to the issuing side, where they are competed away less. As a result interchange fees may be set too high, in order to raise the total price (card fee plus merchant fee) and so bank revenue, although this, by itself, will imply less card transactions as a result (in fact, too few from a welfare perspective).

The second reason is that cardholders' surplus may be overemphasised. The latter effect is not well understood, even in the literature, but essentially it arises because card networks put too much weight on their cardholders' surplus from using cards. They consider cardholder surplus once when attracting cardholders, and again, when attracting merchants, since competing merchants will themselves internalise their customers' benefits from using cards when deciding

6 *Other benefits include being able to evaluate privately and socially optimal interchange fees, uncover potential market failures, and potentially measure welfare effects of changing card rules or interchange fees.*

7 *Note it is possible to concoct a more complicated scenario in which the Wright card is accepted, such as one in which it is used as a way to price discriminate across agents as might be the case with a pure rewards type card that is accepted by selected merchants, but such a scenario is not relevant to understanding the widespread acceptance of general purpose cards.*

8 *Of course, there may be other reasons, in particular the need for issuers to recover large fixed costs through card margins, which may lead to biases in the other direction, as Professor Rochet has noted.*

whether to accept cards. In a sense, cardholder benefits are counted twice by card networks. This effect leads a card network (say one maximising its profit or number of transactions) to set higher interchange fees than would be socially optimal.

How then does intersystem competition change these biases? Competition between two identical payment schemes would eliminate the first bias, since any scheme that tried to raise its total price (card fee plus merchant fee) by raising interchange fees will lose business to another scheme that does not. However, competition between two identical payment schemes may or may not eliminate the second bias, depending on the specific way intersystem competition works. If at one extreme, all consumers hold multiple cards⁹ then the bias will be completely removed. On the other hand, if at the other extreme, consumers only hold one card, then intersystem competition will not help at all (and in fact, could lead to even higher interchange fees).

However, as Professor Rochet has pointed out, this existing theory really only applies to transactions in which cards are used purely for payment rather than for their credit functionality. It fits the situation in which a consumer has a debit card and cash in their wallet, and may pay using either instrument. In either case they will still buy the good. In other words, the consumer makes a choice between similar payment instruments and of which store to buy in. But in such cases, the real transactional benefits associated with the use of one instrument over another, say a debit card over cash, are likely to be fairly minimal. This suggests the existing theory applies to a case where the real transactional benefits to cardholders are likely to be rather small. If so, then applying the fallacy of the Wright card, we get that merchants will not accept such cards unless the real transactional benefit they receive from doing so exceeds the total fee they and their cardholders face per transaction. This also implies the bias identified above, in which cardholder benefits are double counted, will be trivial. Merchants will only accept efficient payments, and the interchange fee will be set at the approximately efficient level. Thus, one may conclude the existing theory is probably quite a good theory for such transactions (e.g. low value transactions in the case everyone carries enough cash and a debit card with sufficient funds to complete such transactions). It also suggests for such situations there should be little, if any, concern about market failure.

Now consider a second type of transaction, one in which the purchase of the good (for whatever reason) depends on the availability of a credit card (or more generally, credit). In this case, cardholder (and merchant) benefits are no longer trivial. Thus, the bias identified in the literature, of double counting the cardholders' benefit may become significant. And this, in turn, raises the possibility that credit card interchange fees could be too high. Although the details of this have not been worked out in detail yet, based on these observations it seems to me this also raises the possibility that the socially optimal interchange fee (while lower than the privately optimal one) could also still be 'high'. This reflects the high merchant benefits of accepting cards in these circumstances, which cardholders may not otherwise internalise. Put differently, if the interchange fee is set too low (say at zero) so that consumers were sometimes not willing to use cards for such transactions, then competing merchants will find other ways to make credit attractive to their customers so as to attract them to purchase. Quite plausibly, the additional

⁹ *Whether cardholders mainly use or prefer to use one particular card does not matter here. It is whether they hold both cards that matters. This will determine whether a merchant can (and will indeed want to) steer consumers to their preferred card. This point follows from the Wright fallacy mentioned earlier.*

costs to society of merchants relying on other (presumably more expensive) forms of credit will ultimately be greater for society than relying on the current general purpose credit card system.

Professor Rochet notes such a socially optimal interchange fee could still involve some over-usage of credit cards. People will sometimes use credit cards for payment transactions where a credit card is not needed (reflecting the rewards offered to cardholders due to 'high' interchange fees). To the extent credit cards involve higher resource costs to society than other instruments, this will be inefficient. However, some excessive use of credit cards may be unavoidable given merchants cannot easily observe if credit is needed or not by their customers.¹⁰ This seems no different from the fact merchants that offer interest-free instalment plans to their customers, will sometimes (perhaps often) end up offering these plans to consumers who actually do not need them.

I wish to conclude by noting this new theory has the potential to explain many observed features of the real world that previously have defied a theoretical explanation. If credit is more likely to be needed by customers for large purchases, then the socially optimal interchange fee should be *ad valorem* (thereby better targeting the transfer to cardholders for the types of transactions where credit is needed) and merchants may want to reject credit cards for small transactions (where people are more likely to be able to purchase anyway using other means). The theory also explains why interchange fees are typically lower for debit cards than for credit cards. Finally, large retailers that are able to gain a competitive advantage over smaller rivals from being able to offer their own store-credit to customers, may have an interest in opposing the widespread use of general purpose credit cards. No doubt, many other interesting implications remain to be teased out of such a setting.

3. General Discussion

Discussion of Professor Rochet's paper centred on the theoretical justification for interchange fees and their optimal level.

One issue was the simultaneity problem in payment markets – where a card scheme may face difficulty persuading consumers to hold and use its cards if merchants do not already accept them and *vice versa* – and whether this justifies the use of interchange fees. It was suggested that interchange fees may break an *initial* impasse, ensuring that the system can price to both sides of the market so as to encourage participation. However, there was disagreement over the need for interchange fees – either at their initial level or even at all – once a system has matured.

A second theme concerned Professor Rochet's approach to the optimal level of interchange fees. There was debate over the benefit that merchants receive from the credit functionality of credit cards. It was suggested that, since merchants are better placed to measure this benefit, they should determine any interchange fee that might apply. A further suggestion was that inefficiencies associated with interchange fees, if they exist, could be overcome by requiring

¹⁰ Professor Rochet notes a lower bound on the socially optimal interchange fee is that it is set at the cost of issuing. Under the assumption this will lead to a zero price for credit cards (as with cash and debit cards), this will remove the excessive use of credit cards for non-credit transactions. Any higher interchange fee will lead to a trade-off between promoting efficient use of credit cards for credit-type transactions and some excessive use of credit cards for non-credit transactions. It is thus possible that a higher interchange fee is socially optimal.

merchants to surcharge. Such an approach would enhance information available to consumers about the interchange fees payable on each payment instrument. Professor Rochet agreed that such a proposal could work, at least in theory, but that to be optimal the surcharge must reflect the merchant service fee *less* the merchant's benefit from use of a particular payment instrument.

A third area of discussion related to the potential for interchange fees to promote the socially optimal use of credit by providing credit-constrained consumers with price signals to encourage the use of credit. Those supporting this position argued that merchants miss out on the benefits of higher sales when credit is undersupplied. Others felt that the wider availability of credit need not increase aggregate sales and that interchange fees promote the overuse of credit cards. In Professor Rochet's analysis, the interchange fee that encourages optimal use of credit by credit-constrained cardholders may simultaneously encourage overuse of credit cards by cardholders not requiring credit. If it is optimal for consumers to use credit only when they need it, it was proposed that credit cards be replaced by debit cards with a line of credit attached. In this way the inefficiency induced by non-credit-constrained consumers overusing their credit cards might be avoided.

Further discussion focused on whether Professor Rochet's analysis of interchange fees might change if there were significant investment costs in payment systems. Professor Rochet noted that investment in a payment system might be sub-optimal if fixed costs were ignored when setting interchange fees. However, participants noted that the impact of interchange fees on investment could depend on the side of the market – acquiring or issuing – on which fixed costs were incurred. For example, if significant investment was required on the issuing side, interchange fees set too low could result in sub-optimal investment by issuers. On the other hand, interchange fees set too high could result in sub-optimal investment by acquirers.