

**« Competition policy issues in the financial services sector: Regulation of the interchange fees in credit card systems »**

**Frederic Jenny**  
**Professor of economics, ESSEC**

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## **Payment platforms as two-sided markets**

**These are markets in which a platform is trying to attract two or more “sides” of a market who want to transact or interact with each other.**

**For example a video game platform such as PlayStation, Nintendo or the X-Box must attract both game developers who want to sell games to gamers and gamers who want to buy consoles for which games have been written.**

**Similarly the vendor of an operating system like Palm or Windows wants to attract application developers and users.**

**Portals, newspapers and TV stations want to attract advertisers and “Eyeballs”.**

**Credit card platforms want to attract merchants and cardholders.**

**There is a chicken and egg problem: they must get both sides on board while not losing money.**

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## Indirect Network Externalities

Presence of indirect network externalities between two distinct groups of users (the number of merchants willing to trade on the platform depends on the number of consumers having the payment card and vice-versa). As a result, demands from consumers and merchants are heavily inter-dependent.

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## Two sided markets

**“a) A market is two-sided if the platform can affect the volume of transactions by charging more to one side of the market and reducing the price paid by the other side by an equal amount; in other words, the price structure matters, and platforms must design it so as to bring both sides on board.**

**b) A necessary (but insufficient) condition for a market to be two-sided is that the Coase theorem does not apply to the transaction between the two sides. That is, the relationship between end-users must be fraught with residual externalities.**

**c) Factors conducive to two-sidedness include transaction costs among end-users; transaction-insensitive end-user costs (including fixed fees charged by the platform, whether motivated by platform agency problems, unobservable end-user transactions, platform fixed cost recovery, or end-user surplus extraction) and platform regulation of interactions between end-users”.**

1) Jean-Charles Rochet, Jean Tirole, Defining Two-Sided Markets, January 15, 2004

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## Two sided markets

d) Because pricing to one side is designed with an eye on externalities on the other side, standard pricing principles often do not apply. In particular, platform competition does not necessarily lead to an efficient pricing structure.

e) Platforms must perform the balancing act between the two sides along various policy dimensions and not only with respect to the price structure. They therefore often regulate the terms of the transactions between end-users, screen members in non-price related ways and monitor intra-side competition. **In all instances, they sacrifice profit by constraining one side to boost attractiveness for and recoup losses on the other side.**

1) Jean-Charles Rochet, Jean Tirole, Defining Two-Sided Markets, January 15, 2004

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## Pricing in two-sided markets

Attracting a buyer will have two consequences: the system will have a cost (the cost of servicing the buyer) and it will have a revenue (the revenue from the transactions initiated by the buyer). Thus the cost to the payment platform of an additional buyer will be lower than the cost of servicing the buyer.

If a buyer provides a lot of value for a seller, then one can charge high prices to the seller; and that means that in exchange one will want to charge low prices to the buyer, in order to attract buyers who will create value for the seller.

As a result, **“the volume of transactions and the profit of a platform depend not only on the total price charged to the parties to the transaction, but also on its decomposition.”** (Rochet and Tirole)

The decomposition (or allocation between merchant and buyer) is implemented, in the associations, by an interchange fee in combination with “price coherence”.

**“Fair” cost allocation does not enter into this calculation.**

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## Profit maximization by a monopolist in a two-sided market

To set the aggregate price, the monopolist maximizes:

$$\Pi = (p^c + p^m - c)D^m(p^m)D^c(p^c)$$

$$p^c + p^m - c = \frac{p^c}{\epsilon^c} = \frac{p^m}{\epsilon^m} \quad \text{If} \quad p = p^c + p^m \quad \text{then} \quad \frac{p - c}{p} = \frac{1}{\epsilon} \quad \text{and} \quad \frac{p^c}{p^m} = \frac{\epsilon^c}{\epsilon^m}$$

This last condition does not violate the Lerner formula which gives:

$$\frac{p^c - (c - p^m)}{p^c} = \frac{1}{\epsilon^c} \quad \frac{p^m - (c - p^c)}{p^m} = \frac{1}{\epsilon^m}$$

The structure of prices in the two sub-markets must be such that prices applied to the two market sides are both directly proportional to the price elasticity of the corresponding demand.

Any factor, which is conducive to a higher price on one side, simultaneously reduces the marginal opportunity cost, and therefore the price, on the other sub-market. Typically, prices on the two sides move to opposite directions.<sup>7</sup>

## Interchange fees

Card associations do not set merchant fees and cardholders fees directly. Member banks (“issuers”) deal directly with cardholders and with merchants (“acquirers”).

Card association sets an « interchange fee » which is a fee paid by the merchants’ bank to the cardholders’ bank (the issuer) whenever the cardholder uses his card. Acquirers will respond to an increase in the interchange fee by increasing their merchant fees.

On the issuers side, the interchange fee is a rebate obtained for providing their services to cardholders (a payment that they receive). An increase in the interchange fee will mean an increase in the rebate issuers’ receive for every card transaction they process.

Issuers will therefore respond to an increase in the interchange fee by increasing their rebates to cardholders and/or decreasing their card fees, so as to encourage more card transactions.

An increase in a card association’s interchange fee will therefore increase the acquirers’ merchant fees and decrease the issuers’ card fees.

The interchange fee is the key instrument the card association can use to achieve a particular structure of cardholder and merchant prices.

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## Welfare implications of monopolistic equilibrium in two sided markets

1) Aggregate price. The monopolist on the two sided market will set aggregate price at a higher level than if competition prevailed.

2) The existence of market power does not imply that the structure of relative prices is socially inefficient. Indeed, if the total price  $pc + pm$  is kept constant, the only way to increase profits is by selecting a price structure that maximizes the total volume of transactions  $Dm(pm)Dc(pc)$ . Therefore, the monopolist aims at maximizing market volume: this condition is in line with welfare maximization.

The lack of a conflict between market power and social welfare, as far as the price structure is concerned, may not generally hold when some market imperfections, and externalities, are taken into account (Rochet and Tirole, 2004).

Roberto Roson Two-Sided Markets, July 28, 2004

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## Multihoming and singlehoming

Multihoming is a situation in which some agents, in one or both sides of a two-sided market, adopt more than one platform, so that interactions may occur through a series of alternative channels. A shop manager multihomes when several credit cards are accepted for payment. A consumer multihomes when she owns several credit cards, among which to choose.

When consumers hold several payment instruments, platforms cannot charge merchants with excessive commissions, otherwise the merchants would not choose to be affiliated with the platform. Merchants need not be affiliated with several platforms, because they know that consumers can substitute one payment instrument for another. Best example is Visa which overtook American Express by charging lower merchants fees.

When merchants need to multihome, platforms will compete in trying to attract the largest base of consumers. They will charge very low fees for consumers and higher fees to merchants.

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## Platform competition

- « 1) Each platform can compete in one or the other side. For example, a card payment system can reduce the commission fees charged to the merchants, or to the consumers.
- 2) Competition reduce prices, in both sub-markets, thereby increasing consumer welfare (Chakravorti and Roson, 2004). This is because indirect network externalities are positive: if a buyer fee is lowered, the buyer welfare will increase, but also the seller utility will increase, as more buyers will be active on the market. Because of pecuniary externalities between competing platform, a competitive equilibrium will be characterized by lower aggregate prices.
- 3) A single platform may bring about higher market prices, but would also allow for a wider customer base on both market sides, with ambiguous effects on the agents' utility. If potentially alternative platforms provide differentiated services, a trade-off between economies of scale and differentiation emerges, which is typical of monopolistic competition models.
- 4) Competition brings about lower prices, but do not necessarily improves the balance in the price structure. In other words, at constant profit levels for platforms, it would be possible to get higher (aggregate) consumer surplus. Indeed, the level and structure of prices in a competitive equilibrium depend on the relative intensity of competition on the two market sides ».

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Roberto Roson, Two-Sided Markets, July 28, 2004

## Government interventions in credit card markets

Governments have increasingly been moving towards some type of intervention, whether limited or broad. Such action could include a focus on:

### Fee regulation

**Surcharges/discounts:** ensuring that consumer prices can or do reflect cost differences

**Cost-based regulation:** limiting fees to some form of cost recovery

**Relative cost-based regulation:** ensuring that consumers are offered incentives that will lead them to use lower-cost forms of payment when appropriate

**Ramsey pricing:** ensuring that prices reflect relative levels of demand between different classes of customers

### Non-fee terms

**Honour-all-cards:** Preventing cards of one payment type from being bundled with cards of another type

**No surcharge, no discount**

**No steering:** Enabling retailers to steer their customers to their preferred modes of payment

**Eliminating blending:** Ensuring that retailers face distinct fees for different payment card systems

### Governance

**Increased ability of non-banks to play a role in issuing or acquiring**

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## Government challenges to interchange fees

Interchange fees are being challenged or investigated in many countries and jurisdictions, including:

- Australia,
- Colombia,
- European Union,
- Mexico,
- New Zealand,
- Poland,
- Portugal,
- Norway,
- Sweden,
- Brazil,
- Hungary
- Spain
- United Kingdom
- United States (including at the state level, in Kentucky and Washington State.)

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## Different interchange fees in different countries

Defenders of interchange argue that interchange fees are essential for ensuring that appropriate incentives are in place to ensure that both consumers and merchants will adopt and use the system. Yet, there are a number of countries where interchange fees do not exist and debit systems have prospered.

**In Finland, the Netherlands, Denmark, New Zealand, interchange fees do not exist for debit cards.**

**In Denmark interchange fees for domestic card payments are prohibited by law.**

**Historically, in the U.S., interchange fees for debit were also set to 0, though this changed after Visa acquired one of the largest debit payment platforms.**

Some argue that the change away from 0 interchange fees for debit in the U.S. arose from Visa's behaviour after it acquired the debit platform.<sup>[1]</sup>

<sup>[1]</sup> See Constantine (2005) and *in Re Visa Check* litigation.

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## Wide diversity of interchange fees

According to the Cruickshank Review:

In the UK the average **credit card interchange fee** is just **over 1.1 per cent** of the average transaction value of £ 48.”

-MasterCards enhanced electronic rate is **0.95 percent**

Visa’ electronic authorisation rate is **0.70 percent.**”

Within the category of **debit**, there can be substantial differences in interchange fees.

-Switch debit has an average interchange fee of 3.8 pence while a Visa debit has an interchange fee of 9.2 pence.

-In the **U.S.**, a “\$40 signature debit transaction generates an interchange fee of about 60 cents, or **1.5 percent**, while a comparable PIN debit transaction generates an interchange fee of about 18 cents, or **0.5%**”  
(ATM and Debit News 2002, as reported in Hunt, 2003.)

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## Important differences between two sided markets and other markets

- 1) In two sided markets, even if they are mature markets, the efficient the fee structure (consumer fee and merchant fee) does not necessarily reflect the relative costs.
- 2) In two sided markets, a high price-cost margin ( for example for merchant fees) does not necessarily indicates market power. To establish market power one would have to show that the sum of fees to merchants and to consumers can be profitably raised permanently above the costs of providing the service to both merchants and consumers.
- 3) In two sided markets , a price below marginal cost ( for example a consumer fee equal to zero) does not necessarily indicates predation or cross subzidisation
- 4) In two sided markets an increase in competition will not necessarily results in a more efficient structure of prices.
- 5) In two sided markets regulating prices set by a platform is not competitively neutral

Julian Wright, One-sided Logic in Two-sided Markets, Review of Network Economics Vol.3, Issue 1 – March 2004

## The Nabanco / Visa case in the US (1984)

The National Bancard Corporation (NaBanco) alleged that the interchange fee constituted a per se violation of section 1 of the Sherman Act and that the interchange fee was illegal by rule of reason analysis, because **it placed banks that acquired merchant accounts at a disadvantage to those that both acquired and issued.** For transactions involving an integrated bank, the interchange fee would be neutral, and so, when acquiring, the integrated merchant-acquirer could offer lower merchant fees than non-integrated banks.

Visa argued that collective setting of prices should be evaluated on **rule of reason**, based on the **efficiencies** that might be created from such a collective decision.

Visa asserted that the purpose of the interchange fee was to encourage members to provide the Visa service to a competitively maximum extent on both the ‘cardholder’ and ‘merchant’ sides of the business.” It was argued that the alternative to having some interchange fee (even zero) would be a chaotic system involving literally thousands of bilateral negotiations among issuing and acquiring banks, putting the viability of the system in question.

The **U.S. Court of Appeals for the Eleventh Circuit held that the interchange fee should be evaluated under rule of reason and that the district court “plausibly and logically could conclude that the [interchange fee] on balance is pro-competitive because it was necessary to achieve stability and thus ensure the one element vital to the survival of the Visa system—universality of acceptance.”**

## United States v. Visa, 163 F. Supp. 2d 322 (S.D.N.Y. 2001)

In *U.S. v. Visa U.S.A. et al.*, the DOJ’s economic expert asked the question of whether a hypothetical merger of all credit and charge card issuers could profitably raise prices to cardholders, looking only at profits on the issuer/cardholder side.

He thus failed to consider two important factors.

First, any decrease in cardholder volume would necessarily and directly lead to a decrease in merchant volume. And if merchant volume decreases, then any profits on the merchant side also decrease. The DOJ’s economist did not consider the effects on profits on the merchant side.

And second, a decrease in the cardholder base makes the system less attractive for merchants, thus potentially leading to a decrease in merchant demand for the system. (Which could then lead to a decrease in cardholder demand, and so on.) These changes, not accounted for by the government’s analysis, would affect profits on both the issuing and acquiring sides. By focusing only on the cardholder side, the analysis put forward by the government’s economist neglected at least half of the story.

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1) David S. Evans, *The Antitrust Economics of Two-sided Markets*, JOINT CENTER FOR REGULATORY STUDIES, September 2002

## **The EU/ Visa decision (2002): the cost based approach to interchange fees**

On 24 July 2002 the European Commission granted an exemption under Article 81(3) of the EC Treaty to the Visa modified cross border multilateral interchange fee (MIF).<sup>[1]</sup>

“Under the modified scheme, Visa will use three categories of issuers’ costs involved in supplying Visa payment services as an objective criterion against which to assess the Visa intra-regional MIFs currently paid by acquirers to issuers on POS transactions.

These three categories are: (1) the cost of processing transactions, (2) the cost of the free funding period for cardholders and (3) the cost of providing the ‘payment guarantee’.” Visa stated that it would provide regular, audited cost studies to estimate the level of these costs, and that the MIFs would not exceed costs apart from “exceptional circumstances.”

Some observers generally in favour of the European Commission’s approach have questioned whether the cost of the free funding period for cardholders should be included within the set of permitted costs, given that some other forms of payment, such as cash, cannot provide such an option.

[1] OJ L 318, 22.11.2002, p. 17-36.

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## **Cost based interchange fee regulation in Australia (2003)**

The Payment Systems (Regulation) Act of 1998 gave the Reserve Bank of Australia (RBA) formal powers to regulate payment systems.

In 2001, the RBA designated the credit card systems as payment systems.

In 2002, the RBA stated that “Co-operative behaviour between competitors which involves the collective setting of prices is rarely permitted in market economies. Prima facie, such behaviour is anti-competitive and, where it is allowed, it typically requires some form of dispensation by competition authorities on the basis that there are offsetting benefits to the public.”

In 2003, Visa and MasterCard were required to follow a standard for the calculation of interchange fees that was cost-based and led to a reduction in the fee from approximately 0.95% to 0.55%. The permissible costs were the costs of processing card transactions, fraud and fraud prevention, authorisation costs and costs associated with funding the interest free period. The last of these was the one cost that was not directly merchant related or efficiency related. The lower interchange fees started on November 1, 2003. The merchant service fees have fallen by about 0.45 percentage points since that time.

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## Evans on the Australian fee regulation

The RBA proposed a regulatory scheme for interchange fees that was based on an allocation of cost to the issuer and acquirer sides; the scheme did not consider demand. The RBA did not establish that interchange fees were too high. It relied on the existence of theoretical models that showed that they *could* be too high. But the same models also showed that privately set interchange fees could be at the socially optimal level or lower. It makes no sense to seek to lower interchange fees when we do not know if they are too high. All we know, and this should come as no surprise in any two-sided market, is that one side (the merchants in this case) would prefer to pay less. The RBA's proposed regulatory scheme has no basis in the economics of two-sided markets. The socially optimal price structure depends on a complex contribution of costs and demand. There is no basis for focusing only on costs, nor is there a basis for assigning costs to one side or the other. There is no economic basis for believing that the RBA method for determining the interchange fee would increase or decrease the overall welfare of the consumers in the two sides of the market.

1) David S. Evans, The Antitrust Economics of Two-sided Markets JOINT CENTER FOR REGULATORY STUDIES, September 2002

## The MasterCard case in the UK: cost based but different assessment of cost than the EU commission (2005)

On 1 March, 2000 MasterCard notified an agreement that set fallback multilateral interchange fees and would apply to transactions made using UK issued cards.

On 6 September 2005 the Office of Fair Trading's decision stated that the: "agreement has restricted competition in two ways. First, it gave rise to a collective agreement on the level of the multilateral interchange fee (essentially, a collective agreement on price). Secondly, it resulted in the unjustified recovery of certain costs ('extraneous costs') incurred by MasterCard UK Forum members and other MasterCard licensees through the multilateral interchange fee." (OFT 2005 op. cit., p. 6)

The extraneous costs identified in the decision included "the costs of providing an interest-free period and some of the costs of a payment guarantee against default" (OFT 2005 op. cit., p 197. The decision of the OFT was appealed by MasterCard UK Members Forum Limited.

## Is there a market failure: are retailers dependent on consumers' choices of payment method?

An individual retailer cannot easily refuse to accept the cards of major schemes, because doing so would lead many consumers to shop at competing retailers, losing otherwise profitable business. As John Vickers has said, “**there is an element of must-take.**” (Vickers 2005, p. 234.)

The British Retailers Council (BRC) has stated that “...no retailer (and, so far as the BRC is aware, no major merchant in any sector) has chosen to accept cards issued under one of the major credit or debit schemes and not the other.”<sup>[1]</sup> The BRC “has told the OFT that the withdrawal by merchants from payment card schemes is not a credible option because, in some ways, the major card schemes have become ‘essential facilities’.”

<sup>[1]</sup> Office of Fair Trading Decision No. CA98/05/05 Investigation of the multilateral interchange fees provided for in the UK domestic rules of Mastercard UK Members Forum Limited (formerly known as MasterCard/EuroPay UK Limited) 6 September 2005, Case CP/0090/00/S, p. 78.

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## Is there a market failure: are retailers dependent on consumers' choices of payment method?

Rochet 2006

“The market failure relies essentially on the must-take argument.

Retailers are forced to accept cards and this is a way found by banks to extract surplus from the merchants

Well, we don't agree totally with this argument; this may be true, but this may be wrong.

What we show is that in particular **if enough customers own several cards the argument of the must-take card is not true, because retailers can reject one of those cards and therefore networks will be limited in the charges they can impose on merchants**”

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## Policy option on interchange fees

1) Cost based fee regulation may lead to an insufficient development of payment platforms and inefficiencies

2) An alternative, that could be more consistent with the alleged two-sided nature of the market, would be a form of regulation based both on cost and demand, comparable to Ramsey pricing, in which payments are made as a function of the appropriately defined price-sensitivity of players.

However, such regulation would require a depth of knowledge that is typically lacking at the government level about various payment card options and rival payment options, such as checks and cash.

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## Policy option: no action

A number of commentators suggest that no action may be the most judicious course at the moment.

Tirole and Rochet suggest that prior to taking action there should be (i) a theoretical identification of a significant market failure that is empirically validated and (ii) a clear identification of the least distortionary way to fix the market failure with confidence that it will not create a worse outcome than the existing situation.<sup>[1]</sup>

They suggest that neither of these two conditions has been satisfied because high levels of debate remain and high levels of uncertainty exist about effects of potential policy approaches. As a result, they would suggest that no action is the most judicious course of action.

<sup>[1]</sup> “An Economic Analysis of the Determination of Interchange Fees in Payment Card Systems, Review of Network Economics,” June 2003.

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## **Conclusion**

- 1) Do economists get it right ?
- 2) Should competition authorities be concerned with interchange fees ?
- 3) Do competition authorities get it right ?
- 4) Would sectoral regulators do a better job ?
- 5) Why are retailers complaining ?

**Danger: Extreme Caution Required**

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**Thank You**

[frederic.jenny@club-internet.fr](mailto:frederic.jenny@club-internet.fr)

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