Comments on the Interim Report on Payment Cards and Payment Systems produced by the European Commission on April 12, 2006.

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GENERAL IMPRESSION

This report constitutes a very valuable contribution to the study of payment card systems in EU-25. It improves our understanding of the functioning of these systems. As far as I know, it is the first study that provides a detailed empirical analysis of all EU-25 countries, with a particular attention to the impact of Interchange Fees (IFs in the sequel) on Merchant Service Charges (MSCs in the sequel) and Cardholder Fees (CFs in the sequel). The report also contains a very clear summary of academic research on IFs, both theoretical and empirical. For all these reasons, this report has the potential to become a very useful benchmark for guiding public policy on payments systems. This is particularly important, regarding the SEPA initiative and more generally the current tendency of many national Competition Authorities and Regulators to investigate payment systems all over the world.

However, the empirical analysis provided in this report is still unsatisfactory. Due to in part to data limitations, and in part to methodological problems, the overall significance of the estimations is still insufficient to provide clear guidance for public policy.

Moreover, the policy conclusions to be derived from the report should be in line with the lessons drawn from the data and from economic analysis. Unfortunately, the report contains here and there strangely formulated (or even inaccurate) statements that are contradictory with these lessons. The general impression of quality of the report is seriously impaired by these statements, which are typically inconsistent with the general message of the report.

My comments are organized in three parts:

- Econometric Study,
- Policy lessons,
- Specific comments.

My discussion is focused on interchange fee issues and does not touch upon integration, governance and membership issues.

ECONOMETRIC STUDY

1- Even though the data set is large (147 acquirers and 296 issuers) it only covers a short period (2000-2004). This is problematic, given the huge heterogeneity in the payment systems of the different countries of EU-25. It would be important to collect more data and redo the separate fixed effects estimations (table 12, p. 11) by country in the hope that the significance improves. The preliminary results given on Table 12 show in particular that the regression coefficients vary enormously from one country to the other (although very few are significant). I do not want to comment too much on empirical methods since I am not an econometrician but I have serious doubts about the reliability of the simple regression results obtained by pooling together the data of the different countries (e.g., Table 9, p. 8, Annex 5).

2- The results given on Table 13 (p. 11, Annex 5) are very interesting, although they suffer from the same scarcity of data, and thus, lack of significance. For Germany however, the coefficient on the acquiring cost is significant and has a similar magnitude than the coefficient on the IF. This is consistent with theoretical models (see Rochet 2006), that typically assume that the MSC is a function of the "net" cost of the acquirer, i.e. the sum of the acquiring cost and the IF.

3- The same is true for cardholder fees, although their estimation suffers from serious methodological problems (see below specific comment n° 5). What would be needed is to estimate the impact of a potential regulation of interchange fees, on **marginal** cardholder fees, which determine card usage decisions by consumers. The main methodological problem is that (up to now) cardholder marginal fees are zero for most networks, or even negative for those networks who offer bonuses or rewards to cardholders. Without data on these bonuses and rewards, the whole exercise is hopeless.

4- More generally, the assessment of passthrough coefficients (see Rochet 2006) of issuers and acquirers on marginal cardholder fees and MSCs would be extremely useful. These coefficients can be obtained by regressions of marginal cardholder fees and MSCs on interchange fees. However these coefficients are likely to differ a lot from one country to the other (see comment n° 1). Thus the correct estimation method would be to perform separate regressions for each couple (country, network). However, this would require many more data, especially since IFs are not necessarily adjusted every year.

POLICY LESSONS

In this section I recall the basic economic analysis of the impact of interchange fees on social welfare and total user surplus. I also show how an econometric study like the one presented in the Report could be useful for guiding policy decisions.

1- Optimal pricing of card payments in a perfectly competitive industry

When a cardholder decides to settle a transaction by card instead of using an alternative payment mean (such as cash or a check), this decision generates a cost, not only for the cardholder's bank (the issuer) but also for the merchant's bank (the acquirer). It also modifies the transaction cost of the merchant[1]. We are in presence of a usage externality:[2] the decision by the cardholder to use his card impacts the costs of economic agents other than the card issuer.

In order to provide the cardholder with the correct price signal, and thus generate efficient usage of payment cards, the marginal cost of the issuing bank has to be adjusted for this usage externality. This is the role of the IF. As shown by Baxter (1983), the optimal IF in the benchmark case of perfect competition between issuers is

$$a^* = b_S - c_A, \tag{1}$$

where :

- b_S is the incremental transaction cost that the merchant would incur if the transaction was settled by the alternative payment mean (cash or check, depending on the transaction).

- c_A is the acquirer's marginal cost.

Baxter's IF is the benchmark for optimal card usage in the hypothetical world of perfectly competitive issuers. Depending on the characteristics of the merchant and the acquirer, it can be positive or negative, i.e. flow from the acquirer to the issuer (as in the majority of payment card systems) or from the issuer to the acquirer (as in the Australian EFTPOS system). Payment systems can also function with a zero IF, like the 4 European systems listed p. 26 of the Report. Indeed, when the optimal IF given in formula (1) is close to zero, the implementation costs that the network would have to incur for negotiating a non-zero IF and implementing the associated interbank payments could exceed the benefits generated by the internalization of usage externalities. Farrell (2006) and Rochet and Tirole

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[1] See for example Garcia-Swartz et al. (2004) for a comparison of the transaction costs of different payment instruments for three categories of U.S. retailers.

[2] See Rochet (2003) for a discussion of the usage externality, in contrast with the more standard network externality.

(2006b) have noted that when acquirers are also competitive, the optimal IF $a*$ implies a MSC p_S equal to the cost savings b_S generated to the merchant by a card payment:

$$p_S = c_A + a* = b_S. \qquad (2)$$

The merchant is then strictly indifferent as to the choice of the payment instrument by the consumer. In the hypothetical world of perfectly competitive issuers and acquirers, the optimal pricing of card payments should be allocated between the two users (the cardholder and the merchant) in such a way that the cardholder (who makes the choice between payment instruments) bears the entire net social cost of his decision. Formula (2) shows in particular that the MSC should then depend on the characteristics of the merchant (as is often the case in practice) and not only on the acquirer's cost.

2- Perfect surcharging by merchants

Interbank transfers would not needed to generate optimal cardholders' decisions if perfect surcharging by competitive merchants was feasible. In this case the merchant, facing a net cost of $c_A - b_S$ for each card payment, would perfectly pass this cost through to cardholders. This situation would also make the merchant indifferent as to the choice of the payment instrument, and would be equivalent to the optimum of card usage obtained with Baxter's interchange fee $a*$. However, as correctly pointed out by the Report, merchants are very often reluctant to surcharge, especially so in competitive sectors. Besides, Wright (2004) has shown that merchants with market power are enclined to surcharge too much, generating distortions in the choice of payment instruments.

3- Is there a basis for regulating IFs?

Even with a perfectly competitive banking sector, the interchange fees selected by competing card networks are likely to differ from the socially optimal IF $a*$. As shown by Rochet and Tirole (2002, 2005) and Wright (2004) the privately optimal IFs can be too high (when cardholders single-home, i.e. have a unique card) or too low (when cardholders multi-home, i.e. have several cards). In the first case, each card is a "must-take card" for the merchants (using the terminology of Vickers 2005) who are forced to accept high MSCs, in the fear of losing customers. In the second case, merchants are in the driving seat, since they can "steer" their customers towards the card with the smallest MSC. This shows the absence of a systematic bias between the privately optimal IFs and the social optimum $a*$.

More seriously, banks do not behave in a perfectly competitive way. As shown by the econometric study of the Report, neither issuers nor acquirers do perfectly pass through changes in IFs into cardholder fees and MSCs. This means that the socially optimal IF is no

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more a^*, the competitive benchmark of Baxter, but has to account for the market power of banks. Rochet and Tirole (2006) show that, under certain assumptions, the IF that maximizes social welfare becomes

$$a^{**} = a^* + m_I, \qquad (3)$$

where m_I is the margin of issuers, i.e. the difference between the marginal cardholder fee and the issuers' marginal cost. The intuition behind formula (3) is simple: in order to preserve a correct price signal for the economic agent who chooses the payment mode (i.e. the consumer) the impact of issuers' market power has to neutralized and the issuers' margin m_I has to be borne by the acquiring bank, and then ultimately by the merchant.

Also, when banks have market power Social Welfare SW differs from Total User Surplus TUS, defined as cardholder surplus plus merchants' profit:

$$TUS = SW - \text{Banks' profit.} \qquad (4)$$

Competition Authorities sometimes take Total User Surplus (as opposed to Social Welfare) as their objective function. The interchange fee a^{TUS} that maximizes Total User Surplus can be determined by adapting a formula in Rochet and Tirole (2006):

$$a^{TUS} = a^* - m_A - \frac{\beta_A + \beta_I}{\eta}, \qquad (5)$$

where m_A denotes the acquirers' margin (MSC minus marginal acquiring cost), β_A is the passthrough coefficient of acquirers (marginal change in MSC after a change in IF) β_I is the passthrough coefficient of issuers (marginal change in CF after a change in IF) and η is the semi elasticity of payment volume to a change in IF. Although η is difficult to estimate, m_A, β_A and β_I can be recovered from an econometric study similar to the one described in the Report, which already provides rough estimations. These estimations seem to indicate that $\beta_A > 0$, $\beta_I < 0$ and $\beta_A + \beta_I > 0$, suggesting that $a^{TUS} < a^*$.

4-The Impact of Regulating Interchange Fees

Even if IFs selected by payment networks are typically distinct from socially optimal ones, there is no simple rule that a regulator could follow to improve Social Welfare or Total User Surplus. First it is not clear whether privately determined IFs should be increased or decreased. This is because there is no systematic bias between privately optimal and socially optimal IFs. As explained in Rochet (2006) the net impact on social welfare of a mandated reduction in IFs can be positive or negative depending on several factors, such as the margins and passthrough coefficients of issuers and acquirers and the elasticity of demand for card payments. Second, the simple benchmarks that have been put forward by some regulators are

misguided by "equity" considerations, instead of appropriate efficiency considerations. For example it has been suggested to mandate a zero IF. This would correspond to a situation where each party (cardholder and merchant) pays his "own" cost. This is meaningless from an economic viewpoint, since there is a single payment service, provided jointly by two providers (the issuer and the cardholder) to two users (the cardholder and the merchant). It would be a coincidence if the socially optimal IF would just be equal to zero.

Similarly a "cost based" cap on interchange fee $a \leq c_I$ (where the IF is capped by the issuer's cost) corresponds to a situation where (assuming perfectly competitive issuers) the price paid by the cardholder is constrained to be non negative. The objective is to prevent rewards or bonuses that are often provided to cardholders to give them incentives to use their cards, and often criticized by merchants' associations. There is no economic foundation for such a rule. Many two-sided markets use a similar business model and give rewards to one category of users for encouraging their participation.

SPECIFIC COMMENTS

1°) p. 12, last sentence:

None of the empirical evidence cited above can lead to the implication that "the use of electronic payments can be further stimulated by reducing MSCs (and directly charging cardholders)". Recall that once a merchant have decided to accept a payment card, it is the cardholder who decides which payment instrument to use. Thus charging cardholders more can only lead, in the short run, to a **decrease** in the use of electronic payments.[3] In the long run, the analysis is more complex: increasing yearly cardholder fees and reducing MSCs will probably result in a decrease in the number of cards and an increase in the number of affiliated merchants, the total impact on volume being uncertain.

2°) p. 18, footnote 35:

The role of IFs is radically different for ATM withdrawals than for payment activities, since in particular there is a single user of the withdrawal service, instead of two for the payment service.

3°) p. 32, fourth paragraph:

The presentation of IFs as a "tax on each payment" is biased, as it only considers the merchant side. On the merchant side, an increase in IF indeed generates an increase in acquiring cost, a decrease in the profitability of acquirers, and ultimately an increase in MSCs. But, as shown by the econometric study in the Report, an increase in IFs also generates a decrease in the net cost of issuing, an increase in the profitability of issuers and ultimately a decrease in cardholder fees.

4°) p. 50, last paragraph:

The fact that the MSC differential between small and large merchants is not fully explained by a differential in issuers'costs does not necessarily imply a distortion. Indeed, Baxter's benchmark shows that if banks were perfectly competitive, the optimal price structure would imply that each merchant pays exactly the incremental cost that the would incur for an alternative payment instrument. Price discrimination is therefore socially optimal in this context.

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[3] Of course if the cardholder fees change differently for different cards, the proportion of usage of these different cards will also change.

5°) Cardholder fees (p. 52-61):

The measurement of cardholder fees is a difficult task, and the approach taken in the report is, in my opinion, not satisfactory. The focus should be on marginal cardholder fees, that are the primary determinants of card usage in the short run. There are two problems with this: in most cases marginal fees are zero for cardholders (this may change if IFs are regulated downwards) and moreover card networks sometimes offer bonuses or rewards to the cardholders, effectively corresponding to **negative** marginal fees. A correct assessment of marginal cardholder fees would necessitate and evaluation of these rewards, which is probably difficult.

The assessment of fixed cardholder fees is less important, since they only have a long term impact on the number of cards issued, and probably more importantly on the **type** of card used (in particular credit vs debit). It is likely that a very large fraction of households consider that they need at least one payment card, even if fixed fees are relatively high.

6°) p. 70, beginning of last paragraph:

The fact that issuing would still be profitable with a zero IF does not in any way "invalidate" the result that "a **positive** (emphasis added) IF is needed because price market mechanisms fail to internalise the existing externalities". This statement is misleading for two reasons:

- the presence of usage externalities (which explains why an IF is needed) does not in any way imply that the IF should be positive, i.e. flow from the acquirer to the issuer,

- the fact that issuers can recover their costs with a zero IF does not imply that zero is the optimal IF (the same remark applies to the last two paragraphs of p. 141).

7°) p. 87, Section 3:

The first sentence is totally misleading, for two reasons:

- nowhere in the economic literature is the "claim" that "the structure of two-sided markets leads to an outcome where acquiring is competitive and issuing is not". This assumption was made (for example by Rochet and Tirole, 2002), in order to fit the US situation. This is totally independent of the two-sidedness of the payment card industry,

- As shown by the profitability figures given in Section VII of the Report, issuing is more profitable than acquiring, even though it is less concentrated. This shows well that an industry (namely acquiring) can

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simultaneously be concentrated and relative competitive. The concentration index is not the sole determinant of an industry's profitability.

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