

Transparent price competition or two-sided subsidisation in card payments? Is there a need for a more efficient business model for the card industry?

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ABSTRACT

This paper describes the alternative business models for payment instruments and how transparent price competition could increase the efficiency of the payment industry and customers' payment habits. It takes a critical view of the two-sided market approach and the tourist test methodology, which are based on (cross) subsidies and hence the continuance of biased volumes of payment instruments. The paper argues that unbundling service packages, increased price/cost transparency for all instruments,

including cash, and requiring open networks and network governance would increase payment-industry efficiency and development speed considerably, as a result of increased competition. Increased openness and transparency in payments would result in the same type of efficiency improvement as has occurred when other network industries have opened up to increased competition. This seems also to be the road that several competition authorities have taken in a step-wise fashion. In concrete terms, this would mean increased use of debit cards, with cash use limited mainly to small 'coin-size' payments, and consumer card credits based on interest rate competition.

Keywords: multilateral interchange fees, tourist test, card payments, business model

INTRODUCTION

The market and pricing conventions of card payment services are now topical issues. Competition authorities in several countries have used their regulatory powers to increase competition in the card payment industry. Card networks and issuers defend the current business model and high interchange fees as a way of promoting efficient use of cards. Academics

present numerous variations on the theoretical two-sided market model for payments which generally support the use of interchange fees for promoting socially optimal use of cards. Consumers face several payment options, but without clear price tags to guide them to efficient solutions.

This paper aims to shed light on the market and pricing structures of the payments industry. The focus will be on point-of-sale payments using cash and cards. In essence, all payments are transfers of funds, ie the transport of monetary value from payer to payee. The pricing conventions of these services, however, are currently based on non-transparent embedded pricing which results in (cross) subsidies that ignore the normal competition rules and distort the use of payment instruments. Most analyses compare cash and cards in general without distinguishing between debit and credit card services. In this paper, a credit card is viewed as a bundled product consisting of a card payment part, comparable to debit card payment, and an attached credit service comparable to consumer credit. The idea is to examine whether consumers are better off using bundled or unbundled products and to confront the issue of transparent vs non-transparent pricing. Consumers make the final choice of payment instruments, and they also cover all the payment costs in the end; hence, it would be beneficial for them if they could actually see the total costs of their decisions.

The structure of the paper is as follows: an overview of the current non-transparent pricing model is given first, followed by a review of the impact of embedded cross-subsidies and their negative social consequences. Then the weaknesses in the arguments for the two-sided market and tourist test are analysed, which leads into a discussion of how a business model based on open competition and transparent

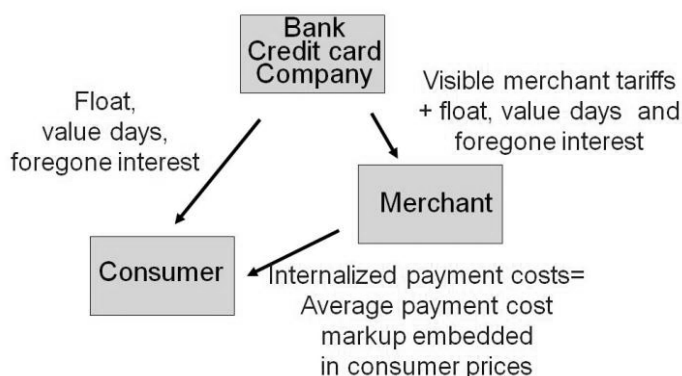
pricing would be designed. Fair merchant surcharging seems to be a development phase on the way to transparent pricing, and so the features of fair surcharging models are reviewed. The paper ends with an analysis of regulatory issues and the benefits of increased transparency and competition, followed by a final summary.

CURRENT NON-TRANSPARENT PRICING AND BUSINESS MODEL

Payments — transfers of funds — generate costs which service providers must cover, as in any other service industry. For historical reasons, however, the charges involved are usually non-transparent, so that consumers do not get clear signals as to the costs of using the instruments. The average consumer has no idea of the costs of a cash service such as an automated teller machine (ATM) or branch withdrawal. Both debit and credit card services generally lack direct visible charges to the consumers. Figure 1 describes the current business model.

Banks charge customers directly but non-transparently via float, value days and foregone interest, ie by paying low or no interest on current/card account balances. In some cases, banks have ‘package’ charges, without separation by instrument according to costs. Most of the bank charges are levied using through-billing via merchants. Credit card companies and banks levy merchant charges, but in the end these are all paid by the consumer. The merchants just add the charges as markups on their prices, as in value added tax charges. Compared with other merchant costs such as electricity, rents, etc., payment charges differ in that the merchants’ payment cost level depends on the individual purchase choices of customers. In the end, consumers always pay for all the costs, transparently or non-transparently, directly or indirectly.

Figure 1
Non-transparent
pricing model of
point-of-sale
payments. Adapted
from Leinonen¹



Owing to the non-transparent pricing, consumers face limited and biased price signals. Customers will therefore base their payment instrument decisions on factors other than cost. This distorts the volumes towards a less efficient mix of payment instruments.

CURRENT CROSS-SUBSIDY IMPACT OF PAYMENTS

When merchants accept several different instruments with different merchant charges and without surcharging visibly, they need to add an average markup to their product costs to cover the payment costs. This average markup depends on the merchant charges and volumes of individual instruments (see Figure 2). Figure 2 shows the payment markups on the base price of goods and services without any payment instrument markups.

The markups in the figure indicate their common relative sizes,² although the sizes vary across markets.³ Cash is efficient for very small payments, debit cards are generally the lowest-cost alternative for payments above coin-size mini payments, and credit cards generally involve higher merchant charges and costs than debit cards or cash.⁴

These differences in merchant charges and the convention of embedded average

markups in customers' total prices for goods and services result in cross-subsidies among customers, depending on their choices of payment instruments. In the case depicted in Figure 2, debit card and cash payers would subsidise credit card payers, ie pay a portion of their credit costs. If the merchant were to apply complete surcharging, he would transparently add the markups in the left-hand part of the picture, depending on customers' choices of instruments, resulting in credit card customers covering their own credit costs in full and cash payers carrying extra costs compared with debit card users. Complete surcharging could also be introduced by using the cash price as the baseline, granting a debit card discount, and applying a credit card add-on based on cash price. Note that fair surcharging (see below) will just redistribute the markups and make them visible without changing the basic price level or merchant profit.

Merchant surcharging is one alternative for making payment costs and charges more visible. Another is to reduce the indirect consumer charging via merchants and increase the direct issuer-charging of consumers for payment and credit services. Such open competition is the norm in other industries and in the banking industry for credit services, except for

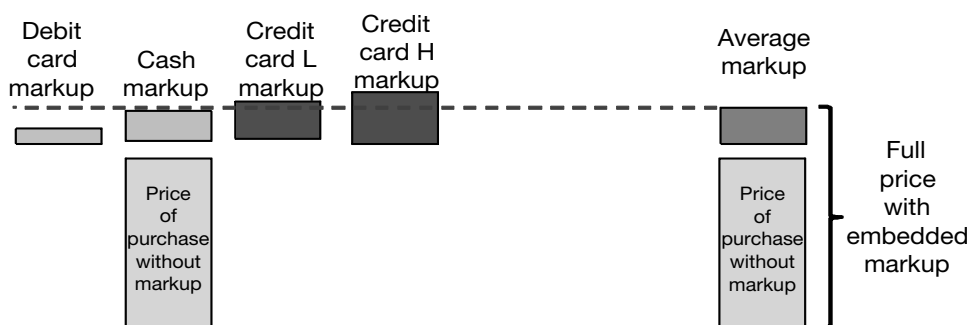


Figure 2
Cross-subsidy
impact of merchant
internalisation

credit card credits. Banks and credit card companies, however, have an interest in non-transparent charging, which is often supported by no-surcharge requirements in merchant contracts, because extracted prices can be higher than those that open competition would generate.⁵

NEGATIVE SOCIAL CONSEQUENCES OF THE CURRENT BUSINESS MODEL

The current business model for payment services, based on hidden and embedded charges, promotes inefficiency because

- (i) price competition is limited; there cannot be price competition without price visibility for payers
- (ii) cost differences between payment alternatives remain unseen by the payers
- (iii) payers lack incentives to economise when they cannot see the cost factors (in contrast, visible prices on disposable plastic bags promote economising and reduce merchants' embedded markups)
- (iv) higher overall costs due to distorted volumes when economies of scale are reduced for the most efficient instruments and volumes of inefficient instruments are higher
- (v) new efficient entrants have difficulties in entering the market without visible

price/cost factors revealing their superiority

- (vi) the development pace in payment services is slow owing to the lack of price/cost incentives.

This non-transparent pricing model was introduced when cash was the dominant and most efficient payment instrument. In those days, customers were often granted cash discounts to promote the most efficient means of payment. Now there are more efficient alternatives, and so visible cost differences would promote efficiency and change. Granting a debit card discount would therefore be in line with the previous cash discount in promoting payment efficiency; however, this is often prohibited by the no-surcharge rules of the credit card acquiring agreements, which forbid discounts and surcharges in comparison with credit cards.

WEAKNESSES REGARDING MIF ARGUMENTS FOR THE TWO-SIDED MARKET THEORY AND TOURIST TEST

There is a rapidly growing academic literature⁶ based on a two-sided market theory using complex mathematical models with the primary aim of supporting the use of a suitable multilateral interchange fee (MIF) to promote payment efficiency. The core

of these theories is that merchants benefit by accepting cards, and an interchange fee can be used to transfer some or all of these benefits via the receiver of card payments to the issuer in order to reduce issuers' net costs of providing card services or to rebate card holders with extra services. The idea is that the interchange fee should balance the incentives on the issuing and receiving side of the market. The 'tourist test' is a new adaptation of this theory which contends that the interchange fee level should be selected so that 'merchants become indifferent in terms of accepting cash or cards'.⁷ In building mathematical models, assumptions and simplifications are necessary to reduce the problem of mathematical solution. But the usefulness of the model is reduced if it generates a distorted, rather than actual, situation. From the practitioner's viewpoint, there are several features of the two-sided payment system model that seem to conflict with reality. A straightforward analysis based on visible pricing would effectively promote the use of the most efficient instrument in each situation, based on the economic incentives of each party in the chain.

Unbalanced comparison of instruments and bundled services

Most of the extant models compare only cash with cards in general or with credit cards in particular, eg by assuming that the interchange fee must cover the costs of the credit provided. The correct comparison would be cash vs debit cards, as these are the basic payment instruments (debit card volumes also dominate credit card volumes in almost all industrialised countries).⁸ The credit card service is a bundled product which includes not only the basic payment feature, but also bundled credit, insurance and other services. Comparing credit card services with 'pure' payment instruments would require unbundling of

extra services. The credit and debit card services are identical as regards their pure payment features. Customer credits can be attached in different ways to cards, eg debit cards with current account overdraft facilities, separate consumer credits transferred to current accounts for cash withdrawals, or debit card payments, 'revolving' credit cards, etc. For all types of credits, the availability and limits are agreed on in advance. Credit cards often also provide different types of insurance services, eg travel or purchase delivery insurance. Unbundling usually increases competition, as it allows consumers to shop around for the lowest-cost basket. The main requirement for efficient bundling from the consumers' viewpoint is that the bundle should be cheaper than buying each service separately. As credit card payment processing is just a copy of debit card processing (mostly the same terminal, same network, etc.), the focus in credit card comparisons should be on the extra services and their pricing levels compared with separately provided alternatives.

Unnecessary increase in issuers' debit card benefits

The two-sided theory takes as a starting point that issuers need MIF revenues to ensure their interest in providing card services. It is usually disregarded, however, that issuers already have, without MIF revenues, an economic interest in terms of cost and increased revenue, in promoting debit card use. In order to support debit card payments, banks must implement card systems and card transaction processing systems, including the production of account statements for card holders. Nowadays, however, identical systems have to be implemented for efficient cash dispensing, as ATM dispensing is more efficient than branch dispensing. Efficient cash withdrawals are made using ATMs, for which cards are needed, which can also

be directly used for debit card purchases in shops. An ATM withdrawal must also be reported on account statements. The investment and maintenance costs of an ATM network, however, are much higher for the banks than their costs of receiving electronic debit card transactions from merchants.⁹ When banks support and promote cash withdrawals at merchants, the need for common card systems resulting in common costs are even more obvious. Banks also obtain revenues by promoting debit card use instead of cash, as the seignorage of the central bank for outstanding cash will, in the case of debit card payments, be transformed into a deposit balance for the issuer, to generate interest–margin revenues. When customers use cards more extensively, the account balances of both consumers and merchants increase. This benefit is roughly half of ATM withdrawal volume divided by the average replenishing interval, times the interest margin on current accounts, for which the long-term average in Finland is about 3 per cent p.a.¹⁰ As the issuing banks generally rely on indirect non-transparent charges without instrument-specific features, the payment revenues are otherwise independent of customers' instrument choices. The two-sided market models do not recognise that the issuing banks benefit from debit cards already without extra MIF-type revenues and do not present any arguments as to why the extra revenues are needed. These would instead dampen the interest of merchants.

Neglecting the merchants' fee transmission into payment markups

The two-sided market models assume that there is a merchant cost benefit in accepting cards, in addition to cash, which motivates merchants to accept cards. It is acknowledged by academics that, with 'perfect' surcharging, the balancing models do not work, as merchants just through-

bill visibly the merchant charges, including MIFs from cardholders, and cardholders then decide on the basis of costs.¹¹ Merchants through-bill, however, in the same way banks' merchant fees in the case of an embedded all-instrument average payment markup in their prices. The markup is merely adjusted by the merchants, based on volumes and charge levels of the instruments used in their own shops. On average, the merchant surcharges 'embeddedly' the same amount as with visible charges. In a market with sufficient competition, merchants cannot maintain extra margins, but must adhere to market pricing (see below the points on merchant surcharge levels). Even if some merchants were to apply wider margins than others, it would be practically impossible to attribute these to their customers' payment instrument mix instead of, for example, efficient management, improved customer support, lower rents on premises or use of low-cost subcontractors. The basic point is that when consumers select more costly instruments, the merchants' markups rise in a competitive market.

Limiting merchants' interest via unnecessary fees (tourist test argument)

As a starting point, the two-sided market theory assumes that card payments are more efficient than cash payments and that card payments need to be promoted. The higher the MIF, however, the higher the merchants' card fees and the less inclined they are to accept cards. If card fees and costs are higher than cash fees and costs, merchants must increase their embedded payment markup and thereby their prices, if they are to accept cards, which would make them less competitive compared with cash-only merchants. If the MIF is adjusted in line with the tourist test proposal to a level where merchants are indifferent between cash and cards, the

merchants' fee/cost level is the same for both instrument types. In reality, this would probably make merchants less interested in accepting card payments, as they would obtain no pricing benefit from their card payment investments in a market with embedded prices. In a competitive environment with embedded payment markups, merchants are interested in reducing their costs in order to be able to deliver services and goods at competitive prices, that is, with smaller markups. For example, they have an interest in investing in modern, more economical freezers, when these are available, but their interest would automatically recede if the government were to add an extra tax increase to the costs of these type of freezers so that they reach the level of the old freezers. An MIF based on the tourist test argument is very close to such an extra freezer tax from the merchant's viewpoint. It will, in the debit card case, lead to irrational tax-type transfers to issuers based on common banking industry decisions. If efficient payment conventions are to be supported by merchants, the merchants will have to experience definite cost reductions which cover the necessary investments and facilitate reduced markups, resulting in more competitive pricing. This is probably one of the main reasons why the use of debit cards is clearly more popular in non-MIF countries than in MIF countries.¹²

Value of additional credit sales

It is argued that merchants could increase their sales by accepting credit cards. This is not a payment-related argument, however; it should be viewed in the context of credit service pricing. Credits can trigger earlier individual purchases. Credits can be extended as consumers ask for credit from different sources, and all of these can be card-based, as with credit cards (ie credit cards based on high merchant fees and MIFs have no monopoly on the card tech-

nology). In the case of common credit cards, consumers cannot negotiate on the interest rate as they can for other types of consumer credits. Merchants are also in a situation such that they can negotiate interest rates with their financial service partners when they extend credit to consumers using different card-based sources via channels other than credit cards. The basic difference is not the availability of credit, but the hidden non-negotiable interest rate level supported by no-surcharge rules and MIFs. Moreover, the consumer credits follow normal business cycle ups and downs, which implies that, on the aggregate level, there will be no additional credit sales except those due to general market growth over time.

The two-sided market theory, in the case of the payment industry, represents a type of the chicken-or-egg situation for start-up technologies: cardholders become interested in cards when merchants accept them, and merchants' interest in acceptance and investments increase when there are more cards in use. When the benefits are clearly visible to end users, the transformation occurs faster. With high penetration of card technology, as is the case in most industrialised countries, the basic issue is about sufficient competition in the market to promote efficiency. The hidden/embedded pricing convention, on which the two-sided market theory relies, is the basic barrier to change and competition-based efficiency, as it hides the benefits from those making the payment alternative selection at point of sale.

NECESSARY FEATURES OF A TRANSPARENT AND COMPETITION-BASED BUSINESS MODEL

The four-box model (see Figure 3) is the basic model for all types of account pay-

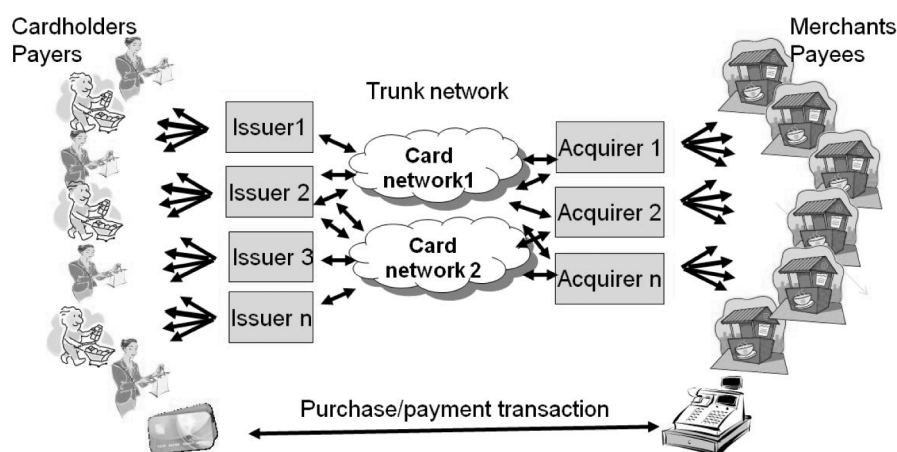


Figure 3
Four-party model
for card payments

ments. (Note that in most cases cash is very close to an account-based payment, as consumers today withdraw cash from bank accounts and merchants deposit the money back into bank accounts, and there is very little cash circulation outside this straightforward loop.) In order to have competition on the issuing side, there must be several issuers serving the payers and card holders. In order to have competition for merchant services, there must be several acquirers.

Common standards

Open competition in a network industry such as card payments requires common standards. The issued cards and their processing rules must be standardised so that they can be accepted by all merchants and read by their terminals. In the same way, the merchant terminal and receivers' transaction standards must be uniform, so that merchants can select other acquirers without encountering technical problems and extra costs. Currently, the payment industry fails in several ways regarding standardisation, with numerous local and proprietary solutions in use. The objective should be the situation achieved in the mobile telephone industry; any SIM card is usable in any mobile phone, and any

mobile phone can contact any telephone company at home or internationally.¹³

Open common trunk network infrastructure

In an open network environment, the service providers of the senders and receivers are connected via a common open trunk network. For example, in e-mail services, the senders and receivers of e-mails usually have different service providers, and these are connected via a common open trunk network. This is, in most cases, also the situation for the other payment services, such as credit transfers and direct debits. For card payments, however, branded 'silos' have emerged with parallel networks, proprietary rules and internal pricing policies. These branded silos facilitate the extraction of network power within card payments, which results in high administration and interchange fees, which are supported by hidden pricing based on no-surcharge rules. Merchants need to have contracts with several networks and acquirers in order to be able to accept their customers' cards. Maintaining several parallel networks based on conflicting rules increases the costs to the economy, but owing to the hidden nature of these costs, the public

does not react to them. The difference becomes clear when a comparison is made with the mobile telephone industry, in which the current payment system design would mean that only telephones with a given 'brand' would be able to communicate with each other, and the receivers of the calls would need to have several phones in order to be able to speak to all their friends using different 'brands'. The telephone industry has been able to establish open access rules within their industry organisation. The card industry would need a common governance organisation for the common card scheme (ie standards and rules) which would specify the operations of the trunk network, which could then contain several interoperable network operators within the common infrastructure (or a monopoly operator controlled by competition authorities in order to reduce the possibility for abuse of dominant market position).

Inter-bank pricing at par

The previous section argued for a system without interchange fees among service providers. This would mean that issuers redeem all their transactions at par from the acquirers. This leads to issuers charging the costs of issuing services to the cardholders, and acquirers charging the acquiring services costs to the merchants. Transparent pricing for different services is a cornerstone of efficient competition.

Unbundling

Currently, card services are usually sold in 'all-or-none' bundles, on both the issuing and the acquiring sides. When merchant tariffs and contents are different for different card types, the merchants should be able to choose what they want. Separating the charges for the different card-holder services would enable card holders to determine whether the prices of credit or other extra services are attractive.

The three-party model in card payments, where the issuer and acquirer comprise a single monopoly-type company within a given brand, is a network specialty in payment services. This structure does not exist in open networks. Currently, such a structure seems to be attractive to banks, and a four-party scheme can be changed to a three-party model where issuers and/or acquirers agree on an agent contract with the three-party network organisation. The economic interest in the three-party model would fade with transparent pricing. In an open competition environment, each issuer and acquirer has an interest in providing efficient services based on its own competitive pricing, visible to end users directly.

FAIR MERCHANT SURCHARGING

Merchant surcharging is one transparency factor, which in itself is a complex matter. The basic stance in the European Payment Services Directive (2007/64/EC) says that merchants should be free to surcharge starting from November 2009, but there is a possibility of national variations.¹⁴ Since Australian merchants were allowed to surcharge and MIF levels were changed, there have been accusations, often by banks and card network operators, that merchants are 'pocketing' fee reductions and surcharging excessively.¹⁵ In order to avoid the situation, it should be in the merchants' and merchant organisations' interest to apply payment surcharges and rebates using a fair and open convention, if possible in a standardised way.

There are four important issues in analysing the 'fairness' of merchant surcharging:

- (i) how clearly customers of the merchant are informed of the surcharging terms

- (ii) what the reference price is for customer surcharges and/or rebates
- (iii) which costs are included in the surcharge/rebate calculations
- (iv) how merchant prices are changed during the changeover period from embedded to transparent surcharges.

The merchants need to make their surcharging terms known to customers well in advance, to avoid any kind of surprise for the buyer. There should be a clear listing of all available payment alternatives and their surcharges, just as the costs of different types of disposable plastic bags in supermarkets or different types of delivery and installation alternatives in household appliance stores are visible. For example, in restaurants and hotels using surcharging, the totals could be printed on the check-out pre-receipts for the different payment instruments. This seems to be common practice in Denmark, for example.

In a fair surcharging scheme, one payment alternative should be included in the quoted price (this is the policy stance of the Finnish Consumer Ombudsman¹⁶). Customers should be able to see different merchants' price quotations easily and without having to discover the add-ons in order to compare prices. The base or reference price would be the one shown on the price tag. For example, cash customers would pay this base price, debit card customers could get rebates, and credit card customers would pay surcharges based on the merchant costs of the credit card.

Merchants have three different types of payment-specific costs: bank charges, float costs and internal processing costs. In most cases, merchants pay acquiring fees for all payment instruments: cash and cards (and cheques were used). For credit card payments, in particular, there can be delays of several days for credit payments to arrive, and merchants need then to finance this float time, which means, for example, that

an average float of 18 days at 6 per cent interest translates to an added cost of 0.3 per cent of credit card turnover. With cash, merchants have extra costs compared with card payments in the form of back-office counting and secure transportation and storage. When merchants follow complete transparency, all direct and clearly separable costs will be included. If merchants want only to make the through-billing of banks and credit card companies transparent, they will surcharge only the merchant fees, with possible inclusion of costs due to delays in crediting. Fairness would imply that the merchants make the calculation rules known to the customers and never surcharge for more than the direct separable costs of the different accepted instruments.

When merchants adopt visible surcharges, the reference prices in shops usually decline, but by how much depends on the volumes of the different instruments, their current embedded surcharges and the selected reference price level. In the case where the cash price is used as the reference price, the change in prices will be rather small and can be either up or down, depending on actual card and cash charges and volumes, because the position of cash is quite dominant, and its cost level is generally between the costs of debit and credit cards. There could also be cases in which merchants start to accept some credit cards, when there is an opportunity for surcharging neutrally among different instruments without having to increase any embedded markup. When surcharging lowers the costs to the merchant, one possibility for the merchants is to reduce the prices of all products. Another alternative is to calculate the overall benefits and concentrate the price benefits on the customers via a smaller number of products, which creates increased visibility.¹⁷ Introducing surcharging would change

customers' payment habits, and the overall payment fees of merchants would decline. When a stable new level had been reached, the reference price would be stabilised, and the rebates and surcharges themselves would distribute the benefits to the consumers. Visible surcharging by merchants would probably have the effect that banks and credit card companies reconsider their pricing policies and reduce their oversized merchant fees.

Without visible prices, there cannot be price competition. Surcharging is one way to make prices visible and thereby enable market forces to affect prices via open competition.

REGULATORY ISSUES RELATED TO A CHANGE OF BUSINESS MODEL

The banks and credit card companies are trapped by the non-competitive legacy business model, because it is beneficial to them. They do not have incentives to change. Transparent pricing and increased open competition will require regulatory support. Open competition is the norm in most other industries, and it is also the case in some areas of banking, eg credit services except for credit card credits. Changing the business model will not ruin the industry, but will merely change business practices in the direction of increased efficiency.

In order to change the business model, the regulators have to tackle the underlying incentive structures and pricing models. The main issues seem to be

- (i) open and transparent pricing which reduces MIFs to zero and forbids no-surcharge rules (this has been done in other network industries, eg when roaming charges equivalent to MIFs were forbidden in mobile telephone operations, Universal Services

Directive (2002/22/EU))

- (ii) unbundling of services (customers should be able to shop separately for different types of services)
- (iii) creating common standards and rules (ie scheme) for card payments on customer and trunk network level
- (iv) creating a common open network infrastructure with interoperable operators.

Regulatory developments are often time consuming, and regulators tend to be cautious when the issue is multi-faceted and the end result is unclear. Political decisions require support by the majority of the public. There seems also to be contradiction in the views of the public regarding transparent payment pricing: increased competition is generally viewed as something positive, whereas transparent payment charges are seen as extra charges. This is because the current hidden and embedded charges are so well disguised. Consumers seem more hesitant about shopping around for banking services than for telecommunication services, which may be partly due to the current problems they face when changing accounts and service providers.

It seems that regulators in most countries have started to take a step by step approach towards increased competition and transparency, which gives the service providers time to adapt. It also reduces the likelihood of large and sudden changes for consumers. As the processing costs of electronic payments are now falling rapidly, service providers will be able to change their pricing policies without greatly increasing their visible charges. Such a stepwise policy, however, will also delay the change in consumers' payment habits and postpone the transformation to more efficient payment instruments and thereby maintain higher overall cost levels for a longer period.

BENEFITS OF INCREASED TRANSPARENCY AND COMPETITION

There are four probable benefits from increased price transparency and competition in the payment industry:

- (i) overall costs will decrease when customers select more efficient means of payment
- (ii) the infrastructure for card payments will become more efficient and standardised
- (iii) service providers will be forced to improve their service provision and become more cost effective
- (iv) service content will improve, as there will be an increased focus on delivering interesting end-user products.

It is difficult to estimate the benefits specifically. There is one estimate for the Finnish market, which is already one of the more open, competitive and efficient payment markets: increased transparency could almost halve the level of merchant fees and save about 0.25 per cent on payment turnover (ie merchant sales).¹⁸ This would derive from increased use of debit cards, reduced use of cash (a third from the current level), unbundling of card credits and lower credit card fees. In Finland, debit card use is already very high; the use of cash amounts to less than 30 per cent of total sales, but the potential savings would probably be much higher in more cash-dependent countries, as debit card use increases significantly. The merchant fees for the main credit cards are also quite low (about 0.9 per cent) in Finland, so countries with higher merchant fees on credit cards would probably experience greater benefits also in this area.

CONCLUSION

The payment industry is in a transition phase, from legacy payment instruments to

modern, more efficient, instruments. This transition is being delayed by an outdated business model based on non-transparent pricing. The industry cannot internally accomplish the change to the legacy model, but will clearly need regulatory support. The regulators have begun to intervene in several countries, but they sometimes face strong criticism from the legacy industry. The arguments for continuing the use of the legacy model are very weak, however, and the sooner the transformation to the competition-based transparent model used by other network industries is accomplished, the sooner the benefits will start to flow.

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- (4) The costs of different payment instruments have been analysed by some

- European central banks, and they have generally found a break-even point under which cash is more efficient than cards owing to lower fixed costs but higher variable costs depending on payment size. It should be noted that these are overall average figures and that cash could dominate cards in some payment situations (eg no terminals available, peer to peer) in the same way as cards may dominate in others (eg web-payments or other electronic only environments). See eg Banco de Portugal (2007) 'Retail Payment Instruments in Portugal: Costs and Benefits', July, Banco de Portugal, Lisbon, pp. 1–121; Bergman, M., Guiborg, G. and Björn, S. (2007) 'The Costs for Paying — Private and Social Costs of Cash and Cards', Sveriges Riksbank Working Paper Series No. 212, pp. 1–37, September; Brits, H. and Winder, C. (2005) 'Payments Are No Free Lunch', *De Nederlandsche Bank, Occasional Studies*, Vol. 3, No. 2, pp. 1–44; Gresvik, O. and Haare, H. (2009) 'Costs in the Norwegian Payment System', Staff Memo No. 4, Norges Bank, Oslo, pp. 1–103; and National Bank of Belgium (2006) 'Cost, Advantages and Drawbacks of the Various Means of Payment', *Economic Review*, 2Q, pp. 1–8.
- (5) A typical 3 per cent merchant fee on credit card purchases, which covers a net 35 day (value days and merchant float taken into account) interest-free credit to the consumer, corresponds to a 30 per cent p.a. effective interest rate, which is clearly higher than that visibly charged for consumer credits. Merchant fees for credit cards also seldom seem to fluctuate with general interest rate movements, while interest rates on other type of consumer credits are commonly tied to general interest rate movements.
- (6) Prominent advocates for the two-sided market theory for payments and the need for a positive interchange fee are W.F. Baxter, D.S. Evans, J.-C. Rochet, J. Tirole, R. Schmalensee and J. Wright. See for example the following publications:
- Baxter, W.F. (1983) 'Bank Interchange of Transactional Paper, Legal Perspective', *Journal of Law and Economics*, Vol. 26, pp. 541–589; Evans, D.S. and Schmalensee, R. (2005) 'The Economics of Interchange Fees and Their Regulation: An Overview', AEI-Brookings Joint Center for Regulatory Studies, Related Publication 05-12, May, pp. 1–44; Rochet, J.-C. and Tirole, J. (2006) 'Externalities and Regulation in Card Payment Systems', *Review of Network Economics*, Vol. 5, No. 1, pp. 1–14; and Wright, J. (2001) 'The Determinants of Optimal Interchange Fees in Payment Systems', *Journal of Industrial Economics*, Vol. 52, No. 1, pp. 1–24.
- (7) See Rochet, J.-C. and Tirole, J. (2007) 'Must-Take Cards and the Tourist Test', DNB Working Paper No 127, De Nederlandsche Bank, January, pp. 1–40; and Schwimann, I. (2009) 'European Union Competition Policy and Payment Systems: A Review of Recent Developments', *Journal of Payments Strategy and Systems*, Vol. 3, pp. 243–252.
- (8) See the Blue Book of ECB and Red Book of BIS for basic card payment statistics and, for graphical comparisons; Leinonen, H (2008) 'Payment Habits and Trends in the Changing E-landscape 2010+', 'Bank of Finland Expository Studies', A:111, pp. 69–108.
- (9) See for example the cost studies mentioned in note 4 above. Basically, the merchants invest in terminal equipment for card payments, while banks invest in cash dispensers for cash use.
- (10) If customers change their payment habits from cash to debit cards, they will no longer withdraw money in advance from their accounts; the money will instead remain in the bank account until they actually use it in a shop. The merchant will also have lower cash volumes, as payments are credited directly to their bank accounts. In the case of float days, bank revenues will increase even more. The current account interest levels can be found in the Finnish banking statistics.

- (11) See Rochet, J.-C. (2003) 'The Theory of Interchange Fees: A Synthesis of Recent Contributions', *Review of Network Economics*, Vol. 2, No. 2, pp. 97–124.
- (12) For example, the average card use per capita in the Nordic non-MIF countries (DK, FI, IC, NO and SE) are more than double (170–350 card payments per year person) the EU-15 average (with about 80 card payments per person, including countries DK, FI and SE). There are certainly other reasons for the difference than banks' pricing policies, but visible customer pricing incentives are clearly important.
- (13) There is an attempt in Europe to create common SEPA card payment and terminal standards. See for example www.sepa.eu and www.europeanpaymentscouncil.com
- (14) The implementation of the Payment Services Directive is not yet finalised in all EU countries, but it seems that several countries will use the possibility for national surcharging rules.
- (15) See for example Worthington, S. (2007) 'The Regulation of Payment Cards in Australia: Recent Changes and their Implications', *Journal of Payment Strategy and Systems*, Vol. 2, No. 2, pp. 205–217; and CRA International (2008) 'Regulatory Intervention in the Payment Card Industry by the Reserve Bank of Australia', April, available at <http://www.rba.gov.au/payments-system/reforms/review-card-reforms/pdf/review-0708-pre-conclusions/cra-28042008-2.pdf>
- (16) Consumer Ombudsman Policy Guidelines, 'Maksaminen ja laskutus' ('Payment and Billing', only available in Finnish).
- (17) For example, IKEA in UK has used this alternative. See Widestrand, M. (2010) 'A Merchant Case Study — the Impact of Fees and Payments', paper presented at the 9th Annual Nordic Card Markets Conference, 20th–21st January, 2010, Stockholm.
- (18) Leinonen, ref. 1, above.