

## **Lars Nyberg: Prices and costs in the Swedish payment market**

Speech by Mr Lars Nyberg, Deputy Governor of the Sveriges Riksbank, to Scandinavian Card Markets, Stockholm, 25 January 2005.

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To begin with, I would like to thank you for the invitation to participate in this conference. In my previous speech at this forum in 2003, I mentioned the pricing of card products and of other payment instruments as an area of special interest for us. I announced then that the Riksbank, in consultation with the banks, had launched a research project related to this issue. The aim was to examine how well the price structure for retail payments reflects the underlying production costs for these services. Today, given the short time at my disposal, I will confine myself to discussing the results of this study.<sup>1</sup>

### **The evolution of card payments in Sweden and in the Nordic countries**

In order to achieve a more efficient payment system the prices for payment services should be based on production costs, including not only costs in the producing unit but also the end users' and the intermediaries' costs. Other things equal, transparent and cost-reflecting prices give users the information they need to choose the payment instruments that cost less to produce. It is usually assumed that society's total payment-related costs are lower the larger the use of electronic payment instruments. If you plot the share of electronic payments for a number of countries against the share of cash to GDP you get a broad measure of the cost efficiency of the different payment systems. The further to the northwest corner of such a diagram, the more automated the payment system is. According to these measures, the Swedish payment market seems to be performing very well, as are the payment markets in the other Nordic countries.

Swedes, however, seem to be using more cash than other Nordic countries. The Swedish M0/GDP ratio lies 1-2 percentage points higher than the other Nordic countries. As cash and card payments are close substitutes - in fact the only alternatives available for transactions at the point of sale<sup>2</sup> - we would expect that the more widespread use of cash in Sweden would be reflected in a lower use of card payments. Payments data support this. Swedes use more cash and make fewer card payments per capita than other Nordic citizens.

Why do we observe these differences in the use of cash and the use of card payments in countries that otherwise have very similar payment systems? What variables influence the users' choice of payment instruments?

Given that users' choice is sensitive to prices, the price that consumers face for the use of different payment instruments is one such important variable. Indeed, there is a growing body of evidence that the choice of payment instrument is influenced by pricing. Norway experienced a rapid automation of the payment market after banks altered their pricing and began to implement transaction fees that better reflected banks' own costs. In Sweden, the introduction of transaction fees for cheques contributed to bank customers' increased use of debit cards. As for cash, Swedish banks do not implement any fees for cash withdrawals while such fees do occur, for example, in other Nordic countries. Thus, differences in pricing can be expected to be an important factor in explaining the differences we observe in the use of cash.

Given this, the Riksbank together with the four major banks initiated a study on the pricing of payment services in Sweden. Together these four banks account for more than 90 per cent of the Swedish retail payment market. Our aim was twofold: we wanted to estimate the costs that banks have in the

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<sup>1</sup> Sveriges Riksbank (2004), "Prices and costs in the Swedish payment system", in Financial Stability Report 2004:2.

<sup>2</sup> Cheques are no longer in use in Sweden.

production of these services, and we wanted to see whether the price mechanism is working well; whether prices provide users with information on what the different payment alternatives cost.

### **Cost and price estimates**

The study was based on both fixed and variable cost and price data from 2002. Normally we would assume that users receive correct cost information when they face transaction fees that correspond to marginal costs in production. Marginal costs are usually difficult to compute, but can be approximated by estimates of variable costs. Data on variable costs and prices would in that case have been sufficient for the purpose of our study. There are, however, economies of scale in the production of payment services. Under these circumstances, it is consistent with efficient pricing to use a two-part tariff structure - transaction fees that cover variable costs and fixed fees that cover fixed costs. Thus we collected data on both fixed and variable fees and costs. However, in the comparison between prices and costs, we focused on the variable part. After having paid a certain annual fee for the provision of a bank account, Internet services, or a payment card, transaction fees are the fees most likely to affect the users' day-to-day choice of payment instrument. We also collected data on transaction volumes for the different payment instruments. We used the banks' transaction volumes as weights to compute costs and prices of a hypothetical average bank.

As regards the relative cost efficiency of the different payment instruments, our cost estimates gave the expected results. Variable costs appear to decline as the degree of payment automation increases. Variable costs for electronic credit transfers are lower than for paper-based credit transfers. Transfers initiated at the bank branch-office are the most expensive to produce. A comparison of the relative cost efficiency of payment instruments used in transactions at the point of sale shows that debit card transactions have the lowest costs for the issuing bank. Not surprisingly, the comparison between different types of cards shows that debit card transactions cost less than those initiated with charge and credit cards. However, the comparison is not entirely fair. We should bear in mind that these cards provide different types of services.

Debit card transactions are also cheaper for the issuing bank than the distribution of cash to the public through the ATM system. The variable costs for cash withdrawals vary, depending on whether or not the ATM terminal and the card are owned by the issuing bank. On average, the variable cost for the bank of a cash withdrawal is 1.30 Swedish kronor, to be compared with the cost of 0.23 Swedish kronor that the issuing bank has for a debit card payment. Cash withdrawals are, however, less expensive than charge and credit card transactions.

As regards the second question we posed, regarding the functioning of the price mechanism, our results show that users receive very little information through the price structure on the costs that banks have in the provision of payment services. The average Swedish bank does implement a two-part tariff, as was our assumption. However, the problem is that for a large number of payment instruments the variable fee is set to zero, although our study indicates that marginal costs are above zero. On the whole, with the exception of debit card transactions (on the acquirer side) and direct debits, variable costs and fees differ significantly. Private customers only face transaction fees when making payment transactions at the bank branch-office or when using cheques (although cheques are hardly ever used). Transaction fees are almost exclusively taken from corporate customers, particularly merchants.

### **Cross subsidies between card payments and cash distribution**

Using the average bank's costs and prices and data on transaction volumes for the different payment instruments, we could estimate the average large bank's profit from the provision of different payment services.

Our estimates show that the average bank makes a positive profit of approximately 155 million Swedish kronor in the provision of payment services. This calls to question the often stated view that a low interest rate is needed to finance a payment operation that is running at a loss. All payment services except for cash distribution generate net revenues for the bank. Credit transfers as a whole give a net revenue of about 160 million Swedish kronor. However, most net revenue is generated by card payments, in particular from acquiring services for charge and credit card transactions. The average bank has an annual surplus of 460 million Swedish kronor in card payments. Interestingly, the bank has an almost equally large annual loss from the distribution of cash to the public, of which two-

thirds come from ATM services. We can conclude from this that there are cross subsidies between these two segments where card payment transactions finance distribution of cash to the public.

## **Conclusions**

Summing up, our results imply that there might be considerable cost savings to be made by the banks through a more transparent and cost-based pricing. This is because such a pricing strategy would lead to changes in the pattern of demand. Consumers would have economic incentives to shift to those instruments that are less costly to produce. According to our cost estimates, they would use debit cards more and credit cards and cash less and they would increase their use of electronic credit transfers and direct debits at the cost of paper-based credit transfers.

A more cost-based price strategy would result in private customers facing transaction fees on paper-based and electronically-initiated credit transfers and in the introduction of transaction fees for cash withdrawals. Fees for acquiring services would have to decrease. The fact that Swedish banks do not take any fees whatsoever for cash withdrawals, while such fees can be observed in the other Nordic countries, may very well be the explanation for our greater use of cash and lesser use of card payments.

Based on the data on variable costs and volumes, the banking sector could lower their variable costs by around 560 million Swedish kronor annually if bank customers replaced charge and credit cards and cash with debit card payments. The shift from paper-based to electronically-initiated credit transfers could result in a further reduction in the banking sector's variable costs of almost 200 million Swedish kronor annually.

One interesting issue to consider is the reason for this pricing strategy. Banks are probably aware of the potential cost-saving effect of implementing more cost-reflecting prices. Banks might, however, be locked into a situation where they would benefit from a joint shift to more cost-based pricing, but no bank wants to be the first to make such a move. Being the first mover can be costly in terms of lost customers and market shares. An alternative explanation can be that banks view payment services as complementary to other business areas that are more profitable, such as saving products, mortgage loans, etc.

Finally, we have to bear in mind that for the time being, we have considered banks' costs only, so we confine our results to potential cost savings within the banking sector. In order to be able to draw conclusions on potential efficiency gains for society as whole, we need to consider all costs associated with payment services; the costs for all the parties involved, ie the retail sector, banks and private consumers. This could be one important area for future research.

Thank you for your attention.