

## Lars Nyberg: The Swedish card payment market - current challenges and future developments

Speech by Mr Lars Nyberg, Deputy Governor of Sveriges Riksbank, at Scandinavian Card Markets, Stockholm, on 3 February 2003.

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To begin with, I would like to thank you for the invitation to participate in this conference. Given the short time at my disposal, I will confine myself to discussing a few of the salient features of the evolution of the card payment market in Sweden, identifying also the forces that appear to have driven this evolution. Judging from the latest innovations in this area, I will touch upon possible future developments. Lastly, in my capacity as central banker, I will talk about some relevant policy issues.

### The evolution of the card payment market in Sweden

Let me start by making a few observations concerning the market development in Sweden.

1. Card payments have grown rapidly, but the use of cards is still far behind that of the other Nordic countries (fig.1). Between 1990 and 1997, the number of card payments per capita in Sweden grew at a steady pace, picking up speed quickly at the end of the decade. Still, when the new millennium started, the number was no more than half of what can be observed in the other Nordic countries. This is somewhat surprising, considering that payments systems and payment patterns are otherwise quite similar in these countries. We have no convincing answer to why Swedish consumers are less willing to use card payments than are their Nordic neighbours. One possible explanation is that card payments are, or are just considered to be, more costly, more complicated or more risky, in Sweden than elsewhere, by consumers or by terminal keepers. I will come back to this issue later.
2. Swedish consumers use debit cards rather than credit cards (fig. 2). Concerning preferences between debit and credit cards, clearly, Swedish card users favour debit cards, both in terms of value and volumes of transaction. In the year 2001, the number of debit card transactions amounted to just above 80 per cent of the total. Charge cards dominate the remaining 20 per cent. Credit cards with revolving credit arrangements do not seem to appeal to Swedes. In this respect, Swedish consumers' preferences are in line with those of consumers in the other Nordic countries and with those of continental Europeans. On the other hand, consumers in Anglo-Saxon countries seem to demand pure credit cards to a larger extent. Cultural factors may account for the different preferences between credit and debit card products. At least in Sweden, consuming out of credit is still considered to be somewhat irresponsible. In the old days of bank regulation, banks were not supposed to give credit for consumption purposes since available credit recourses should be channelled into productive investments.
3. The use of checks is negligible (fig. 3). Cards have increased their share of non-cash payments from less than ten per cent in 1990 to nearly 30 per cent today. The increase is partly reflected in a corresponding decrease in the share of check payments. In fact, checks have virtually disappeared from the Swedish payment market. However, the rapid decrease in the use of checks can not explain the growth of the card payment market. The share of checks has never been large in Sweden, since giro payments have always comprised a large share of non-cash payments.
4. Cash is still the king (fig. 4). Given the rapid increase in the use of cards in Sweden, particularly in the late 1990's, cash should have been expected to fall in importance. This, however, does not seem to have happened. The use of cash, measured as the ratio of the value of currency in circulation (M0) and GDP, fell during the first half of the decade, but have been fairly constant since then, lately even increasing somewhat. In the other Nordic countries the ratio of currency to GDP has been fairly stable, with the exception of Norway, where it has been falling. Furthermore, the level of cash to GDP is considerably lower in the other Nordic countries, perhaps reflecting their more widespread use of cards. In a longer perspective, starting 1950, the use of cash in relation to GDP has been falling considerably also in Sweden, from 10 down to four percentage points (fig.5).

5. Cash cards have not been successful (fig. 6). Chip cards with e-money function may be used in transactions of low value and for acceptance at smaller points of sale. This, however, is the part of the market where cash is most appreciated. The national roll out of the so-called Cash card occurred in Sweden in the latter part of the 1990s. Three of the four largest banks in Sweden, that together comprise the lion share of the card payment market, stand behind a common technology. The introduction has not been a success. Up to now, the growth in the use of the new product has been very modest and recently even negative in terms of number of transactions. However, the development of card based e-money is still in a very embryonic stage of development. Caution ought to be applied in drawing too rapid conclusions on its future evolution.

In conclusion, although the growth of the card payment market during the last decade has been large, there seems still to be considerable potential for expansion, mostly through displacement of cash payments, and most obviously in Sweden (fig. 7). Why are Swedes so suspicious of cards and such lovers of cash? We do not know for certain. I can just assure you that it is not due to successful marketing of cash by the Riksbank, even though we issue the currency and live on the seignorage. Cash has many advantages, no doubt about that. It is expensive to use, however, and in one way or another we all as bank customers pay for the use of it. For reasons of security and efficiency in retail payments, a more widespread use of cards would be desirable.

### **Forces driving the development of the card payment market**

The forces of supply and demand shape the evolution of the card payment market in much the same manner as they influence the evolution of any other market.

Demand is influenced by factors such as acceptance, convenience and relative prices. It has sometimes been argued that demand for payment instruments is not price elastic - that relative prices do not greatly influence users' preferences for different payment instruments.<sup>1</sup> The Nordic experience does not support this view. The rapid expansion of card payments and other electronically initiated instruments in Norway clearly point in a different direction. Norwegian consumers' shift of preferences followed immediately after banks' change of pricing strategy, where (among other changes) a price was put on the use of cash (as a small fee on ATM withdrawals). In Sweden, as previously noted, the use of checks fell sharply when banks started to charge for their use, although the charge was fairly small. Of course, good substitutes must be readily available. But if alternative ways of payment are present, fees seem to matter and matter a lot. So, one may suspect, if and when banks feel ready to charge for the use of cash, this is likely to give a big kick to the card market.

On the supply side, costs are obviously important. Clearly, the technological development of IT and telecommunications has helped in cutting costs. Economies of scale and network effects are other important supply factors. Economies of scale imply that cost per transaction fall when the number of transactions increases. Network effects imply that the number of terminals that accept a particular card greatly affect the utility of the user. The larger the number of payment terminals that a bank can install, the happier will be the users and the larger the share of the card payment market the bank will have.

Economies of scale and network effects both increase the incentives for co-operation between card issuers in establishing common standards and communication between systems. In Sweden and in the other Nordic countries as well, banks have a long tradition of cooperation in using common infrastructure and implementing common standards, perhaps more so than in many other regions. This is likely to have contributed to the rapid expansion of the card payment market in the Nordic countries. There are some country specific differences, though. As should be expected, the number of payments per capita increases with the number of terminals installed (fig 8). At least for Sweden, there seems to be remaining positive network effects that may further expand the market.

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<sup>1</sup> See for example Humphrey, Pulley and Vesala (1996): "Cash, paper, and electronic payments: a cross-country analysis", *Journal of Money, Credit, and Banking*, Nov. This is an econometric study of different factors affecting the choice of payment instruments. The price coefficient had no statistical significance in this study. However the data set was poor. This result was later revised in the Norwegian study: Humphrey, Kim and Vale (1998): *Realizing the gains from electronic payments: costs, pricing and payment choice*, Norges Bank.

## Consideration of risk

Risk considerations are always important in card transactions. Consumers in countries where criminality is low, such as Switzerland and Japan (and Sweden for that matter), tend to favour cash payments to a larger extent than in countries, where the risks of carrying large amounts of cash are higher. Problems in the handling of risk are also likely to be behind the disappointing development of e-commerce. The evolution of a digital market is believed to have been partly hindered by the lack of sufficiently secure payment instruments. For card issuers and banks matters of security are crucially important. There is, as always, a trade off between risk and the cost of avoiding risk by adopting security enhancing technology. When technology becomes less costly, more of it will be used. E-commerce is likely to benefit from that development.

Incentives to reduce risks are important and drive the current technological developments in the market. Costs for fraud are very high. Moreover, these costs are increasing in most countries. Although card frauds are relatively less frequent in Sweden than in many other countries, the need for enhanced security features at the international level will make Swedish card issuers follow the global trend. If we do not, we take the risk of becoming a secure haven, attracting large numbers of card fraudsters. Whether Sweden should have been even quicker to adopt the new technology is a matter for discussion.

Currently we are facing the transition from magnetic stripe cards to chip cards. The migration to the global EMV standard (EMV= Europay, MasterCard & Visa) is on its way. The first pilot will start this spring; the national roll out will follow in the autumn. It is not easy to forecast how long the technology migration will take. All cards have to be replaced with the new EMV compatible chip and payment terminals need to be upgraded. This process may take some time. Market players expect that the change of rules announced by Visa and MasterCard regarding the distribution of credit risks, to be implemented from January 2005, may considerably speed up the migration process (Currently card issuers bear full credit risk, but from that date, credit risk will fall on the party, card issuer or bank not implementing the EMV technology). I trust that the introduction of the EMV cards will be thoroughly covered by the afternoon speakers, so I will leave the subject here.

## Central Bank Involvement

Why should a central bank care about the card market? Is the market not better handled by the private sector without public intervention?

According to the law, the Riksbank is to promote a safe and efficient payment system. Like most central banks, the Riksbank is heavily involved in large value payments, running and providing credit to the RIX-system, where payments can be made in central bank money. Here the central bank role is simple to explain. But why should we be involved in the small value payments handled in the card market? Safety problems, although they may be important, are usually not systemic in nature. And in a well-functioning market, economic efficiency should be attained by the market itself, without public intervention.

In my view, central bank involvement is appropriate only in the cases of market failure, coordination problems of some magnitude or the presence of obstacles outside the market itself. Usually, they relate to efficiency rather than safety.<sup>2</sup> Typically, we would ask questions such as

1. Are there legal and regulatory impediments to market development and innovation?
2. Are market conditions competitive?
3. Are security and operating standards and infrastructure arrangements efficient?
4. Are settlement services, however provided, safe and efficient?

To answer these questions, we follow the market for retail payments and we try to exchange information and cooperate with other relevant public and private bodies. In the card payment market, issues of competition, pricing and security are of particular importance. I shall comment shortly on the first two of these.

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<sup>2</sup> Even though systemic risks are not an issue in the card market, other risks may be highly relevant. Operational risks in particular are important since operational disturbances may give rise to substantial costs for society as a whole.

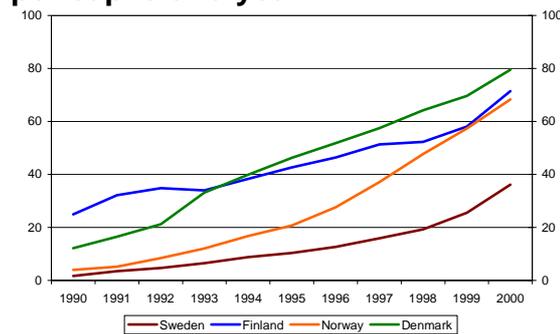
The market for card payments is characterised by the presence of strong network effects in combination with economies of scale. To exploit these effects players that otherwise compete with each other have to cooperate. This cooperation is manifested in common standards and a common infrastructure. It is an important cooperation, which has the potential of providing inexpensive and convenient payments services to the public in a way that would otherwise be impossible.

There is, however, another side of the coin. High market concentration may reduce the competitive pressure and thus the functioning of the market. Market power may be abused. The effect from concentration on incentives to invest in research and development is ambiguous. High concentration may also make it difficult to establish new payment instruments and systems. It is not obvious that the market by itself can strike the right balance between cooperation and competition.

Turning to the pricing of card products, the Riksbank, in dialogue with the banks, has launched a research project related to retail payments. The aim is to investigate how well the price structure for retail payment services reflects the underlying production costs for these services. When prices for retail services, such as the use of cards or cash, are transparent and reflect the cost of production, they give incentives to efficient use of each instrument. Again, if actual costs of cash services were transparent to consumers and if the use of cash was priced according to the cost of providing cash services, the use of cards would probably increase substantially. I am sure that we will move in that direction, even though consumer acceptance of paying for the use of cash will increase only at a slow pace.

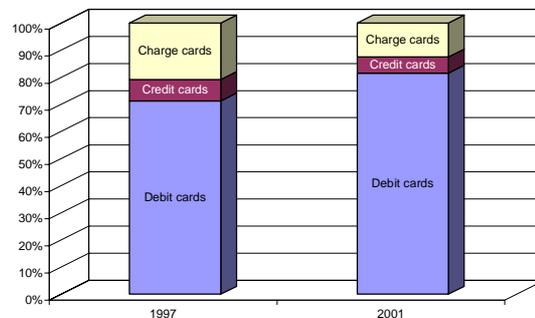
Thank you.

### Number of card payments per capita and year



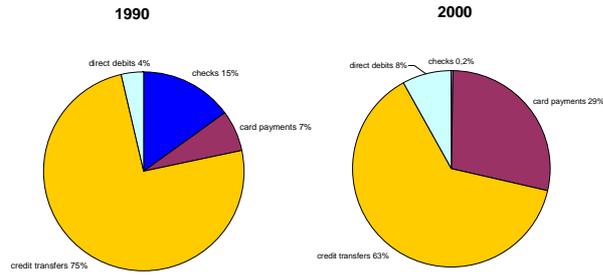
1

### Shares of number of transactions with debit, credit and charge cards



2

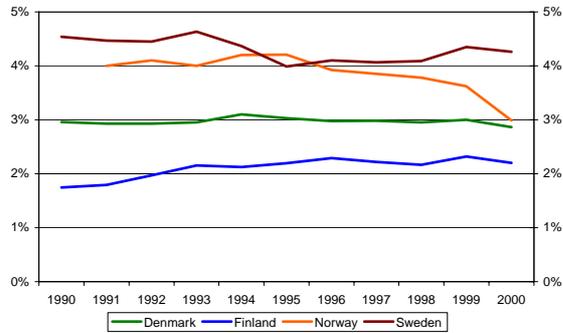
## Shares of payment instruments of total number of non-cash payments



3

## M0/GDP

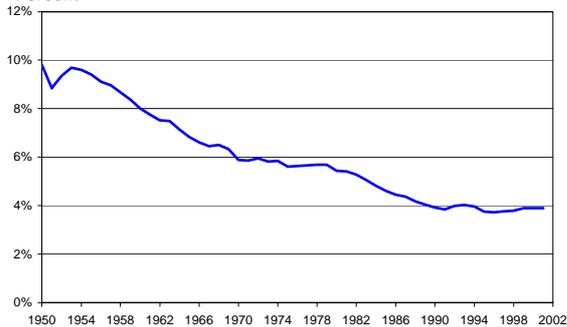
Percent



4

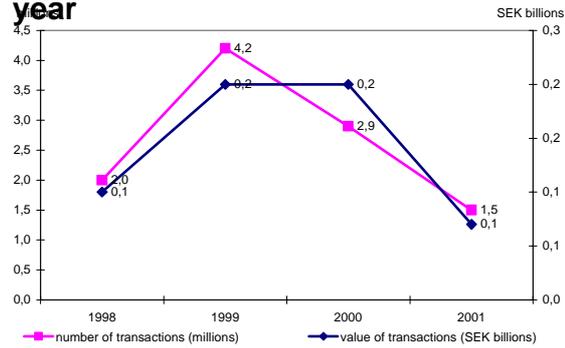
## Long term M0/GDP trend in Sweden

Percent



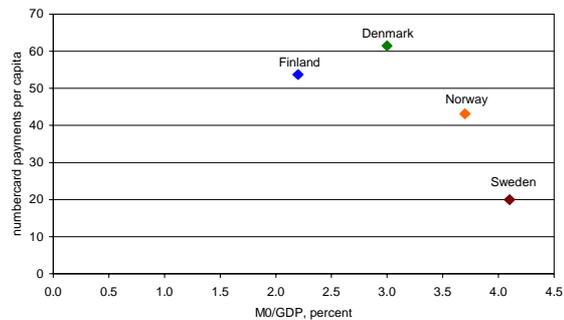
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## Number and value of transactions with Cash card per year



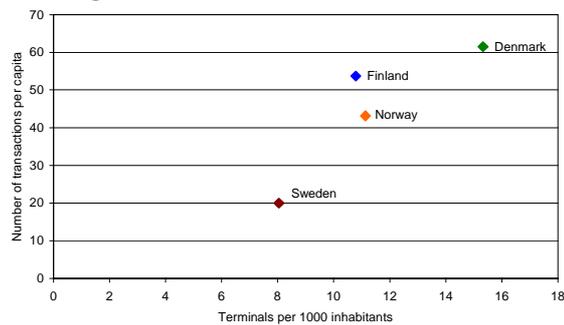
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## Card payments per capita and year and MO/GDP, average 1995-2000



7

## Number of terminals and number of transactions per capita and year, average 1995-2000



8

## Central Bank involvement

1. Legal and regulatory barriers?
2. Competitive market conditions?
3. Efficient infrastructure and standards?
4. Safe and efficient settlement services?