

Innovation, Electronic Commerce and Banking

Talk by the Governor, Mr I. J. Macfarlane, to the ASC Electronic Commerce Conference, Sydney, 5 February 1997.

When Alan Cameron invited me to speak at a conference on electronic commerce I was rather reluctant at first because I am not an expert on the subject. However, when I thought about it a bit more, I realised that the subject was really part of the general story of innovation, and that it had some interesting parallels with financial innovation and electronic banking.

Financial innovation is not new, although it proceeded very slowly until about 20 years ago. The pace is now quite rapid and is bound to get faster. This has worried a lot of people, and not just the old and suspicious – a lot of regulators around the world fear that somehow things may get out of control. I would not count myself among that group; I am fundamentally an optimist on this issue. In my experience, innovation has invariably benefited the users of financial services, although they do not always realise it at the time. I also have confidence that regulators – whether their interests centre on prudential supervision, consumer protection, competition policy, market conduct or the prevention of money laundering – will be sufficiently flexible to continue to do their job effectively, while at the same time allowing the benefits of innovation to flow through to consumers.

Financial Innovation

Let me start by quickly reviewing some of the financial innovations of the past two decades. These innovations have benefited users in two ways. First by increasing competition among providers, and secondly by increasing the range and convenience of financial products. Among the first category I would mention:

- the introduction of cash management trusts in 1980, which opened up the short-term money market to the small investor for the first time. This gave them a better return, and forced conventional deposit takers competing for the same funds to match it;
- at the wholesale level, the development of the euro \$A market in the mid 1980s opened an important new source of funding to Australian corporates. Again, business borrowers' choices were widened, and domestic banks had to respond by reducing margins; and
- more recently, the rapid growth of mortgage originators and the associated securitisation market has brought tangible benefits to both new and existing borrowers. Originators now account for around 10 per cent of new lending for

housing and were mainly responsible for the recent fall in margins on banks' home loans.

Interestingly, none of these examples was the result of a technological breakthrough; they were mainly the result of normal market forces, though technology has helped in their implementation.

The second group of innovations are good examples of the application of technology to improve convenience for customers and reduce costs for suppliers:

- governments, most large companies and an increasing number of smaller organisations now make salary and many other routine payments directly to bank accounts using the direct entry system rather than cash or a cheque. Increasingly, many customers will authorise their banks to pay routine bills for gas, electricity, rates, school fees, etc using the same system;
- having got the money into our accounts electronically, most of us are getting it out again the same way through automatic teller machines (ATMs), which are available 24 hours a day, seven days a week. While there was initial resistance to dealing with machines, and some people still refuse to do so, the evidence seems to be that many people, particularly the young, prefer the machines to bankers. Indeed, the number of bank ATMs exceeded the number of bank branches in Australia for the first time last year;
- even more spectacular has been the growth of EFTPOS transactions, which since their introduction in the early 1990s have grown on average by almost 40 per cent each year and now match the number of ATM withdrawals. On the most recent figures available, which unfortunately only refer to 1994, Australia is the world's third highest user of EFTPOS per head (and a long way ahead of the United States, for example); and
- telephone and PC banking have only recently begun to take hold in a significant way but, together with the complementary services of mobile lenders with their laptops and modems, are already making

access to financial services more convenient.

Electronic Commerce and Electronic Payments

This brings me to electronic commerce itself, but as others have remarked, it is difficult to know exactly where to draw the boundary that separates electronic commerce from conventional commerce. Just like the man who was pleasantly surprised to discover that he had been writing *prose* all his life, I have been pleasantly surprised to realise that the financial markets in which I have participated are in the general area known as electronic commerce. I refer here to the decentralised markets such as the foreign exchange market and the bond market with their screen-based trading systems and their associated electronic settlement and registry systems. I do not wish to say much about those today because they were already 'electronic' a decade ago and I cannot see them posing major new challenges.

Instead I would like to concentrate on the aspect of electronic commerce which has generated the most recent interest – namely, the potential of the Internet to revolutionise the way we shop – how we compare prices, how services are delivered and, at the end of the chain, how we pay for what we have bought.

In many respects, the Internet is a more efficient way of doing what some of us have been doing in a less sophisticated way for many years. For instance, one of my colleagues buys all his shirts from a US mail order catalogue and pays for them by signing a credit card authorisation with each order. I have been buying books from a Connecticut bookshop for a number of years, simply by sending a fax with details of the books and my credit card number. If I did not do this, I might have to wait for up to a year before the book was released in Australia because of our peculiar copyright agreements with British publishers.

From the RBA's point of view, the most

interesting aspect of electronic commerce is the last phase, namely payment. At present, most Internet sales are paid for using a credit card, mostly off-line with confirmation by telephone or fax. Some people are prepared to send details on-line over the Internet, but the experts do not recommend it until new security standards are in place. That will not be too far off, but even then, payments will still be made using an instrument of the 1970s – the credit card. Although the means for transmitting the authorisation will be different on the Internet, the basics will be much the same as when Bankcard was first introduced in Australia in 1974.

But in time that will probably change. The credit card is unlikely to be cost-effective for many of the micro-payments that will be needed to realise the Internet's potential to deliver small, targeted pieces of information, such as a newspaper article, a piece of music, a picture, a map or a page of a guidebook for which vendors will want to charge perhaps only 50 cents or a few dollars.

These sorts of developments will almost certainly require the use of a payments technology specifically designed for the Internet. This technology – often referred to as electronic tokens or cybercash – is only at the embryonic stage at present, but it will probably develop further. In fact, some commentators predict that this will grow in size and eventually become a sort of 'shadow' or 'alternative' payments system, with large implications for existing providers and regulators.

I am sceptical about these wider claims. I have no trouble in seeing a time when a lot of people communicate with their banks through the Internet, but I have more trouble in seeing the large-scale development of cybercash as a payment medium to rival conventional cash or bank deposits. The reasons that I think cybercash will only remain a niche player are:

- the amounts individuals want to hold on tokens and cards will probably be small, both individually and in aggregate. Even though security will no doubt be greatly improved, customers will probably retain nagging doubts about some hacker

emptying their accounts. Balances are also unlikely to earn interest, and it will be easy to keep them low but replenish them from a conventional bank account when necessary; and

- although some holders will be prepared to hold small claims on issuers who are not banks or other supervised financial institutions, there will probably be some reluctance to risk large amounts with companies that do not have a reputation for financial strength. If some new supplier seemed likely to attract a lot of funds, banks and other existing suppliers could retaliate. Technology could easily be imitated, and tokens and cards issued by banks and other supervised institutions would probably have an advantage in the eyes of the public. This has been well recognised by the developers of schemes such as DigiCash and Mondex who, in Australia at least, are providing their systems in conjunction with banks who will be the issuers of tokens and cards.

Nevertheless, things are changing quickly, and it is not inconceivable that a software house or telecommunications company or some other organisation could become an issuer in a major way. In that event, the question would have to be asked whether they were accepting deposits and thus a candidate for a banking licence and supervision?

What are the Commercial and Prudential Implications?

There are obviously huge commercial challenges for corporations, bankers and other financial service suppliers. Many businesses have already recognised that they will have to provide Internet access to their customers, and some firms have already shown that it is possible to have no physical presence in a market, and conduct all their business electronically. But for most, an Internet presence will probably be a complement to their conventional marketing, not a substitute. Just as the number of firms without faxes,

computers, mobile phones and credit and debit card facilities is shrinking quickly, so too will those without Internet access and Web sites.

For banks, the first step will be to provide Internet access to existing accounts. That is already happening. Customers will soon also expect them to provide additional direct payment facilities for items purchased on the Internet. Those same customers will not be satisfied for long with having to use separate arrangements for payments after they have logged off from their Internet session with a supplier. Security has been an impediment to this so far, but it seems likely that this obstacle will soon be overcome.

Firms and their banks will need to respond vigorously to these opportunities. Being left behind will be costly. In the process, there will be much jostling for position and 'ownership' of customers, particularly from software houses and telecommunications companies who will be interposing themselves between customers, businesses and the banks who provide payment facilities.

There will certainly be major competitive challenges for all those directly involved, but what about risk? Will electronic commerce increase the riskiness of the financial system? For those whose responsibilities are to protect consumers, to prevent tax evasion or other forms of money laundering or to avoid invasions of privacy, the move to electronic commerce may present them with huge challenges, to which I know they are responding. I cannot comment with any authority on those areas. The only area where I can make a contribution is on whether it will affect the stability of the financial system, that is will it present prudential challenges?

My judgment is that there is little reason to fear such a development. I have already explained why I think cyberscash, although a useful addition to existing payments instruments, will probably not become a major repository of household or business savings. In essence, there will always be doubts about

its susceptibility to loss, fraud or financial failure, so it will be suitable for day-to-day transactions, but not as a place to hold wealth. It bears a striking resemblance to that other much heralded innovation – the stored-value card. And both these innovations are modern versions of the travellers' cheque (first introduced in 1891). They all serve (or will serve) useful purposes, but from a prudential perspective they pose little challenge. If one of the issuers cannot meet its obligations, there may well be inconvenience and possibly distress for individual customers, but the problem is unlikely to be of systemic proportions. It, therefore, does not warrant central bank prudential oversight, although I am sure those responsible for consumer protection will take a much keener interest.

In short, I do not see a structural break that causes me alarm. But there is evidence of pressures at the margin that the RBA will be watching carefully. Just as there will be winners and losers in electronic commerce and some firms will do much better than others, so it will be in the complementary services provided by banks. Competition for payment business will get tougher and some banks will find their margins squeezed more than others. Their profits will be more fragile and their balance sheets a little weaker. But this is an inevitable consequence of a competitive marketplace, and one that is worth accepting in order to receive the benefits that competition has to offer.

In closing, let me emphasise that we at the Reserve Bank are very encouraged by the developments you are discussing. We welcome technology and innovation in commerce and banking. Technology and innovation have been the life blood of the financial sector over the past few decades. Those injections of new life have not always been smooth or orderly in the past, and we can expect more major changes in the future. But the benefits have clearly outweighed the costs to date and we see no reason why they should not continue to do so in the future.