3 MONEY TRANSMISSION

INTRODUCTION

3.1 Money transmission is a vital part of everyday life. Money flows continually between individuals, businesses and government; paying for goods and services for example, or in the form of taxes and wages. The mechanisms by which such transfers are made are known as payment systems. Given the fundamental importance of payment systems to economic life, any inefficiencies in these systems will have a significant impact on economic welfare.

3.2 Banks are key players in the UK payment systems. They provide clearing services to businesses and individuals across the range of current accounts; issue credit and debit cards to customers and enable retailers to receive the payments made; and provide instant access to cash through the ATM network to millions of consumers holding ATM and credit cards. Banks also run the main payment schemes through which these services are delivered. This is a complex area with its own terminology and concepts. Some scene-setting is required. This section describes the main payment networks in the UK and looks at the difficulties in making international comparisons.

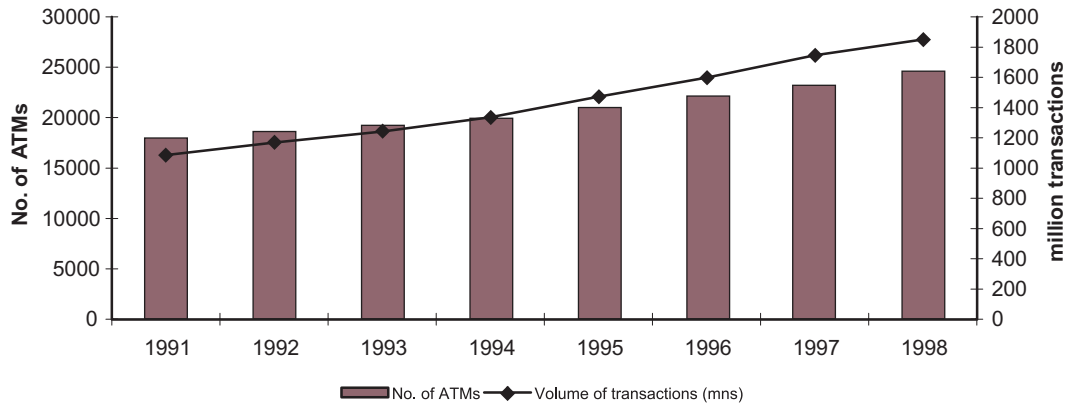
The main payment networks

Cash

3.3 Of all the different payment methods available to UK businesses and customers, the most widely used is cash. The Association for Payment Clearing Services (APACS) estimates that in 1998, over 14 billion transactions with a value of £1 and above were carried out in cash. The main source of cash acquisition in the UK are ATMs, with £98 billion withdrawn from ATMs in 1998. The number of ATMs and the volume of cash acquisition transactions carried out at ATMs have increased steadily over the past, as shown in Chart 3.1 below.

3.4 In 1986 the Link Interchange Network Ltd (LINK) was formed as a company jointly owned by banks and building societies, with the aim of sharing the costs of building and operating an ATM network. Since then, LINK has grown and enveloped several similar organisations and now counts as members all the major UK banks and building societies. Today the LINK network provides the means by which 35 million consumers with an ATM card gain access to over 26,000 ATMs owned by 34 financial institutions. LINK processes more than 80 million ATM transactions each month.

Chart 3.1. Number of ATMs and volume of transactions, 1991 - 98

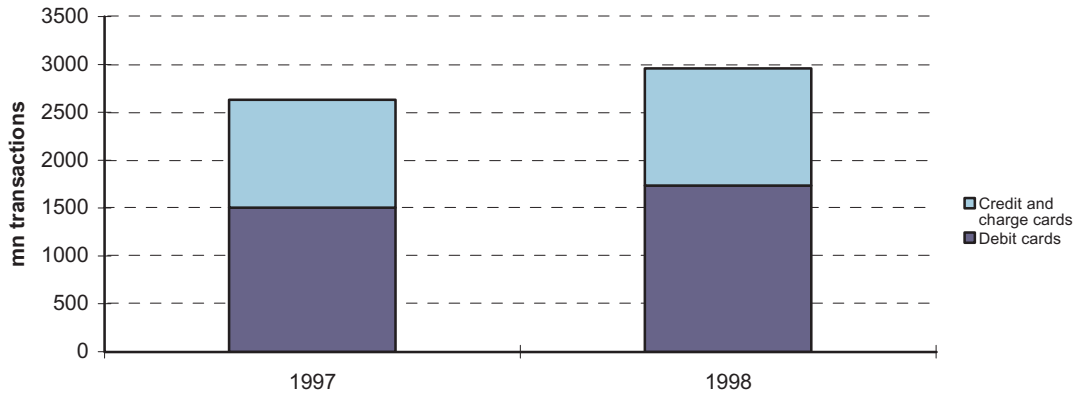


Source: APACS ATM Survey 1999

Plastic card schemes

3.5 Plastic card schemes offer an important alternative to cash for making retail payments. In 1998, there were nearly 3 billion plastic card transactions carried out at UK merchants. There are three main types of payment card: credit, debit and charge cards. Chart 3.2 shows the number of transactions carried out with the different types of card.

Chart 3.2. Card transactions at UK merchants, 1997 - 98



Source: APACS Yearbook of Payment Statistcs 1999

3.6 Credit card holders can use their card to buy goods and services and to withdraw cash up to a pre-arranged limit. They receive a monthly statement, and can either pay off the balance in full or in part. Credit cards were introduced to the UK in 1966 when Barclaycard began operation as a licensee of the Bank of America's credit card, which later became Visa International. The other main credit card brand is Mastercard, which began life in the UK in 1971 as the Access card scheme run by the Joint Credit Card Company (JCCC). Mastercard is now run in the UK by Europay.

3.7 Charge cards work in the same way as credit cards except the balance must be paid in full at the end of the month. Visa and MasterCard offer charge cards, as do American Express and Diners Club. Store cards are similar to credit cards in that customers do not need to pay the balance in full on receipt of a statement, though their use is restricted to the issuing group of retailers.

3.8 Debit cards are by definition linked to a particular bank or building society account. Goods and services are paid for by automatically debiting the cardholder's account. Debit card facilities are often bundled together with ATM withdrawal and cheque guarantee facilities on a single plastic card. There are two debit card schemes in the UK: Switch and Visa Debit.

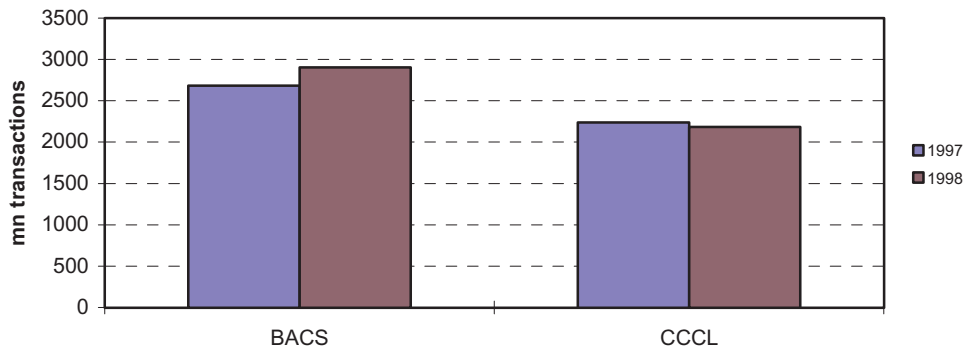
APACS clearings

3.9 Cash and plastic cards are not the only forms of money transmission. Banks and building societies also exchange payments on behalf of their customers without using cash through the clearing schemes run by APACS. APACS was set up in 1985 as a non-statutory association of the major banks and building societies. APACS currently has 28 members and operates three clearing companies under its umbrella: BACS, CHAPS and CCCL. Settlement for all three companies takes place across accounts held at the Bank of England.

3.10 BACS Limited (BACS) is an automated clearing house responsible for bulk clearing of electronic payments between bank accounts; processing direct credits, direct debits and standing orders. On a peak day it handles around 41 million electronic payments. It has 15 direct members, some of whom offer sponsorship arrangements to around 35,000 other institutions, which allow non-banks to send transactions directly to BACS for clearing.

3.11 The Cheque and Credit Clearing Company Limited (CCCL) deals with paper based payments, overseeing the bulk clearing of cheques and paper credits in Great Britain. It processes between eight and nine million cheques and credits each day. The clearing has 12 direct members, some of whom act as agents to provide several hundred other institutions with cheque issuing facilities. Chart 3.3 shows the volume of transactions which passed through BACS and CCCL in 1997 and 1998.

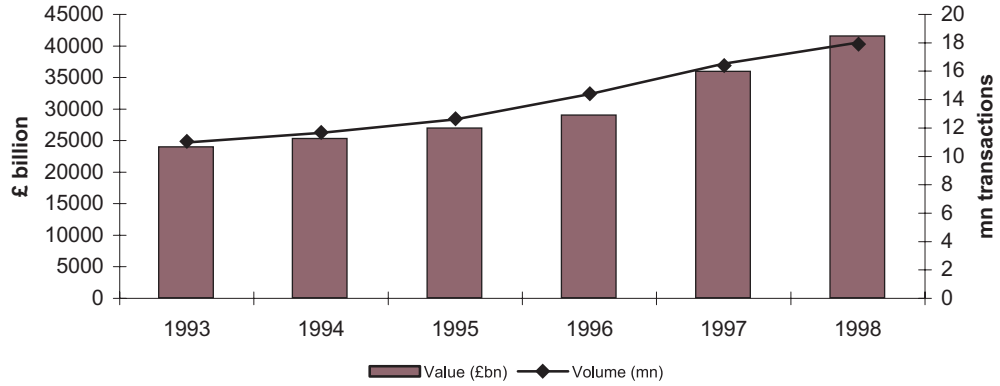
Chart 3.3. Clearings volumes, 1997 - 98



Source: APACS Yearbook of Payment Statistics 1999

3.12 The CHAPS Clearing Company (CHAPS) provides electronic same day transfer of high value payments. Chart 3.4 shows the total annual volumes and value of transactions processed in CHAPS in the six years from 1993 to 1998. In 1998, the average transaction processed in CHAPS had a value of £2.3 million, compared to £552 for BACS and £636 for CCCL. The cost to personal customers and SMEs of using CHAPS is considerably higher than for the other payment systems discussed here. Not surprisingly, individual consumers rarely use CHAPS and then only for one off high value payments such as buying a house. CHAPS is a real time gross settlement system (RTGS): this means that payments are individually settled in real time, rather than being settled periodically in bulk. CHAPS operates two clearings for payments in Sterling and Euro. CHAPS Euro has only been in operation since the start of 1999.

Chart 3.4. CHAPS volumes and average values, 1997 - 98



Source: APACS Yearbook of Payment Statistics, 1999

Other methods of payment

3.13 There are also some smaller niche players providing money transmission services to UK customers. These include PayPoint, which offers an electronic method of paying utility bills, and money transfer companies like Western Union. As these players account for a very small proportion of money transmission in the UK they are not considered further in this report.

Consumer payment behaviour

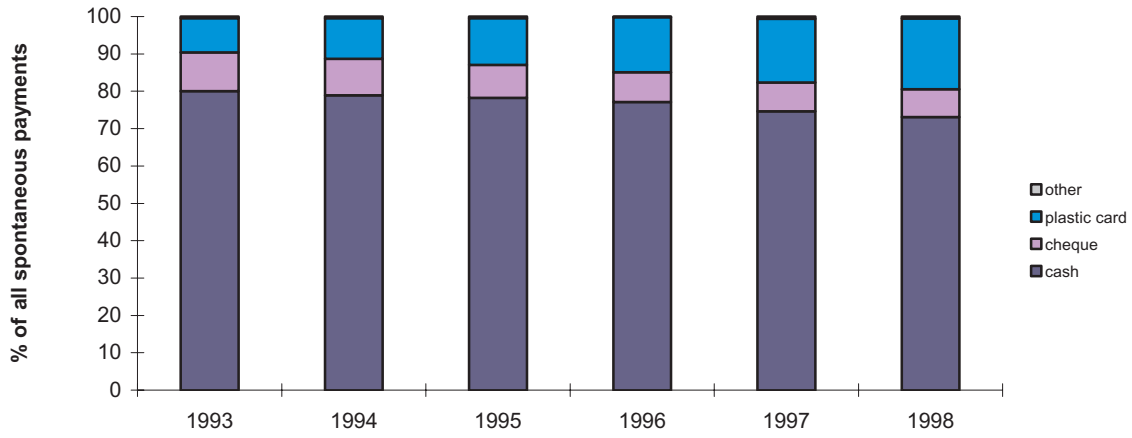
3.14 In 1998, consumers made over 4 billion regular payments (defined as a pre-arranged commitment to pay for goods and services) and over 15 billion spontaneous payments over £1.

Spontaneous consumer payments

3.15 As Chart 3.5 shows, most spontaneous payments are still made by cash, although the trend has been away from cash and cheques towards greater use of plastic cards.

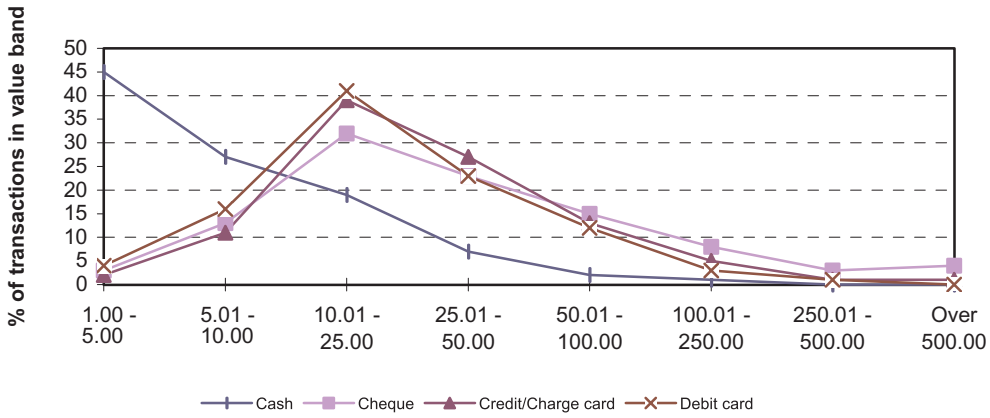
3.16 In value terms, however, cash is much less important. Over 90 per cent of cash transactions have a value of less than £25. This is shown in Chart 3.6 below. Altogether, cash accounts for 40 per cent of spontaneous payments by value, compared with nearly 75 per cent by volume.

Chart 3.5. Volume of spontaneous payments by method, 1993 - 98



Source: APACS Consumer Payments Survey Digest of Statistics 1999

Chart 3.6. Volume of payment method use by value band

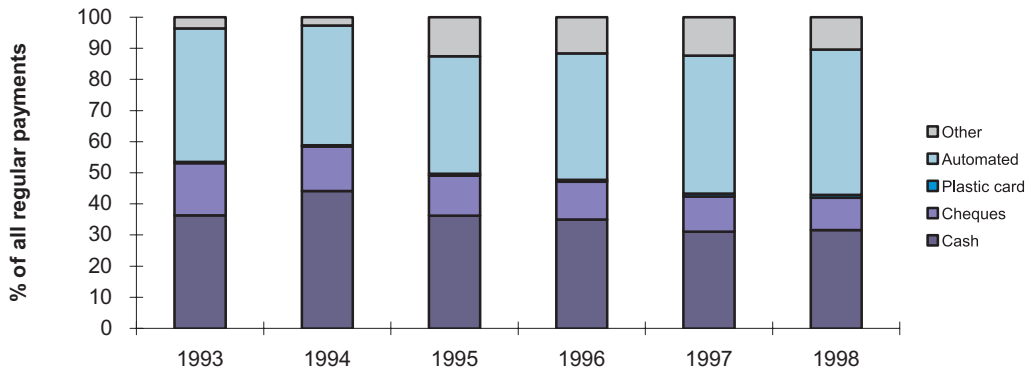


Source: APACS Consumer Survey Digest of Statistics 1999

Regular consumer payments

3.17 For regular transactions, consumers rely more heavily on electronic transfer methods. Just under half of regular payments are automated using BACS, as shown in Chart 3.7 below. The growth in BACS volumes has come mainly at the expense of cheques: their share of regular payments made by consumers declined from 17 per cent in 1993 to 10 per cent in 1998.

Chart 3.7. Volume of regular payments by method, 1993 - 98

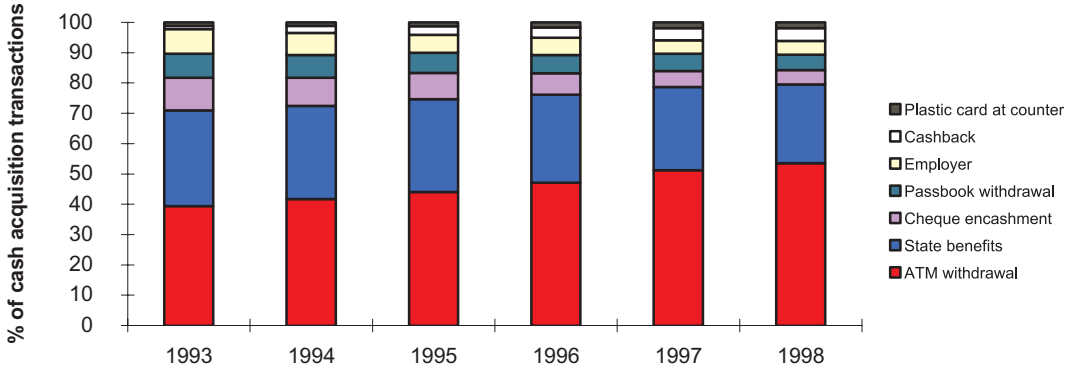


Source: APACS Consumer Payments Survey Digest of Statistics 1999

Cash acquisition

3.18 Cash is still an important method of making both regular and spontaneous payments. As Chart 3.8 below shows, consumers now acquire more than half their cash by ATM withdrawal. The significance of ATMs as a source of cash has grown as cash withdrawals over the counter at bank branches have decreased. The proposed automation of state benefit payments (which currently account for 26 per cent of cash acquired) is likely to further increase the demand for ATMs.

Chart 3.8. Cash acquisition, 1993 - 98

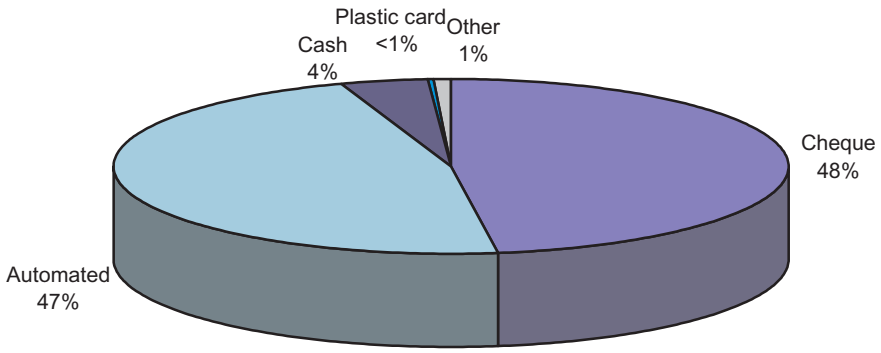


Source: APACS Consumer Payments Survey Digest of Statistics 1999

Business payments

3.19 UK businesses differ markedly from consumers in their demand profile for money transmission services. As Chart 3.9 shows, businesses still make almost half their payments by cheque. Automated payments (including CHAPS payments, direct debits and standing orders) account for a similarly high proportion of business payments. Unlike consumers, businesses rarely pay by cash.

Chart 3.9. Breakdown of business payments by volume, 1997



Source: APACS Business Payments Market Report 1998

3.20 So, while the trend in UK money transmission is towards electronic clearing and plastic cards, paper based payment methods using cash and cheques will continue to play a role for the foreseeable future.

UK payment system in context

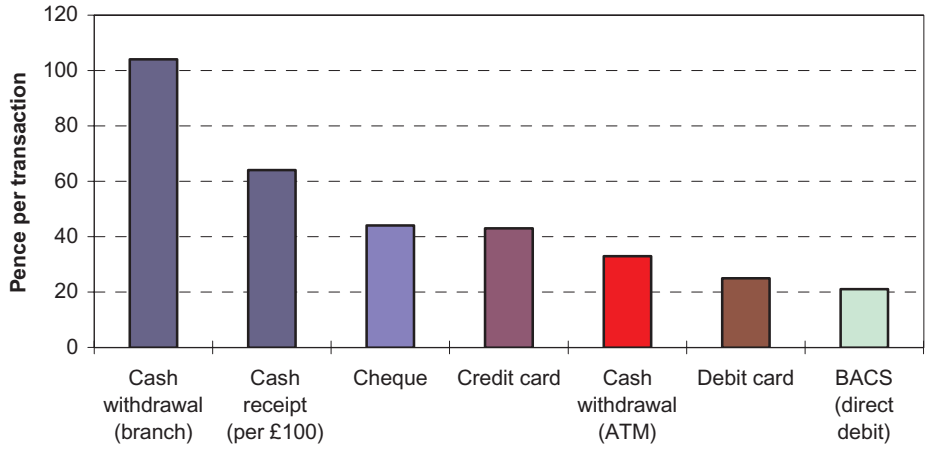
3.21 Each transaction carries a cost, whatever the chosen payment method. Providing a payments infrastructure incurs the fixed costs of premises and equipment such as ATMs, bank branches, BACS and CHAPS data processors, cheque sorting facilities and so on. Individual transactions also carry associated variable costs. APACS estimated that in 1994, the total cost to the payments industry of providing money transmission services to its customers was almost £4.5 billion.

3.22 Chart 3.10 below shows how unit costs differ for the various payment methods. CHAPS (not shown on the chart and rarely used by individual consumers) is the highest cost form of payment, with an average unit cost in 1994 of £8.20. For day to day transactions, cash handled at branches and cheques are the highest cost payment methods, and automated payments the least costly.

3.23 The costs shown in Chart 3.10 are those borne by the payments industry (that is, bank and building societies). The two end parties to a transaction incur additional costs of their own. These include the cost to government and businesses of employing staff to accept and process payments; the cost to retailers of acquiring and maintaining facilities to accept payments, such as plastic card terminals and cash handling arrangements; and the cost to consumers of making a cash withdrawal, including time and travel costs.

3.24 All these additional costs should be added to the quoted £4.5 billion cost of the UK payment system to arrive at the true figure. Inefficiencies in the payment system impose real costs not just on the payments industry itself but on all economic agents. It is therefore vital to the UK economy that the money transmission system is as competitive, innovative and efficient as possible.

Chart 3.10. Unit cost of payment method



Source: APACS The Cost of Money Transmission 1996

The international context

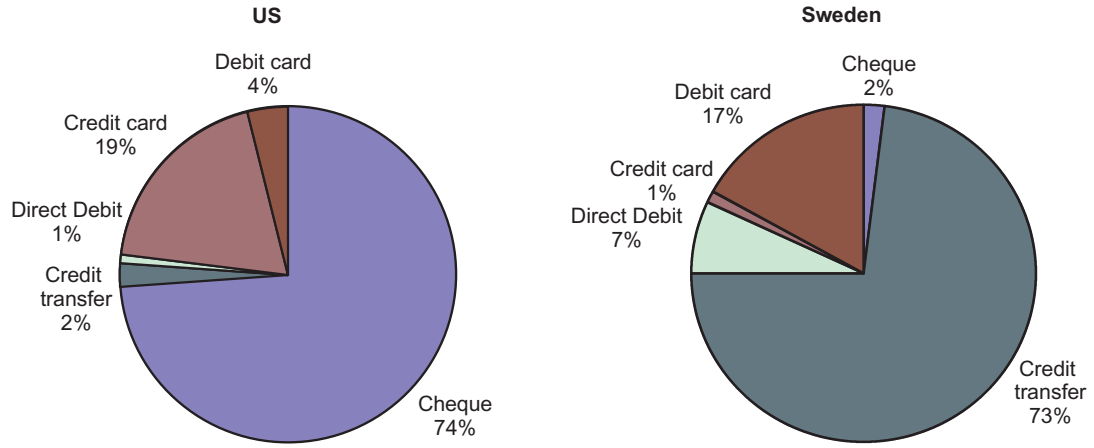
3.25 The overall cost of any country's payments system will depend to a large extent on the mix of payments methods used by its consumers, businesses and government. Judged internationally, the UK is among the world's least cash dependent countries. A recent report by the Committee on Payment and Settlement Systems found that Japan had the highest currency to GDP ratio among all the major countries surveyed, at 12 per cent[1]. The UK ratio was in the lowest group, at around 3 per cent. This implies that the UK has a lower than average amount of notes and coins in the economy, suggesting that non cash forms of payment account for a relatively high proportion of payments made by businesses and consumers.

3.26 The mix of non cash payment methods also varies greatly between countries. The scale runs from those countries like the United States which are very paper based, relying heavily on cheques, to countries like Sweden which make extensive use of electronic forms of money transmission. Chart 3.11 shows examples of these two extremes. France tends towards the US model, with 46 per cent of non cash transactions carried out by cheque. A number of other European countries conform more to the Swedish model, including Switzerland, Belgium and to a lesser extent Germany and The Netherlands.

3.27 The UK has a far more evenly balanced payment pattern than either of these two extremes. This is shown in Chart 3.12. In 1997, for example, 31 per cent of transactions were carried out by cheque and 38 per cent by electronic transfer. Instead of comparing UK experience directly with any one country or group of countries, the Review has therefore looked for examples of international best practice from which the UK might learn.

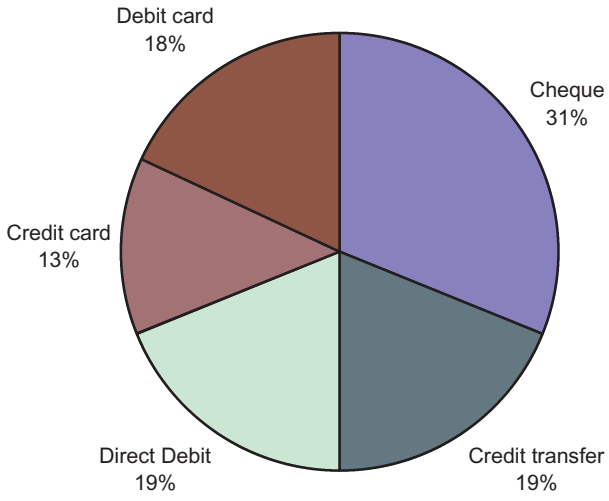
[1] Committee on Payment and Settlement Systems, Bank for International Settlements *Retail payments in selected countries: a comparative study* Sept 1999

Chart 3.11. International payments mix, 1997



Source: Committee on Payments and Settlement Systems, BIS

Chart 3.12. The payment mix in the UK, 1997



Source: Committee on Payments and Settlement Systems, BIS

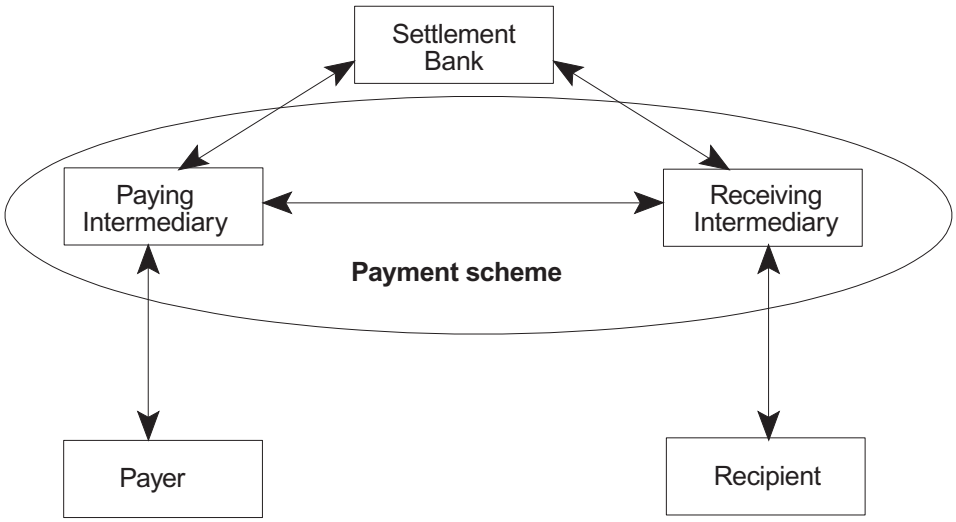
THE ECONOMICS OF PAYMENT SYSTEMS

Participants in a payment system

3.28 A payment involves transferring money from one party to another. The key participants are shown in Chart 3.13. The party making payment is the **payer** and the party who receives the payment is the **recipient**. Recipient and payer are the **end users** of the payment system and it is their demand to transfer money that gives rise to the payment. This payment can be made via one or more intermediaries with whom the end users have

contractual relationships (referred to as **paying** and **receiving intermediaries**). As payment systems are currently set up, these intermediaries are nearly always banks. Banks and building societies are natural intermediaries in payment systems, given that money is generally held in bank and building society deposits. However, other types of firm may also be capable of acting as payment intermediaries in some contexts.

Chart 3.13. Participants in a payment system



Source: Banking Review

Settlement

3.29 The process by which value is transferred between parties is known as **settlement**. Settlement between payment intermediaries and their customers takes place in one of two ways. Either intermediaries debit or credit accounts held with them by the customer, or a cash payment is made between the intermediary and the customer. Settlement between intermediaries takes place through a **settlement bank**, with whom both paying and receiving intermediaries hold an account. The settlement bank is often a central bank, but again need not be so. The key to selecting a settlement bank is that its credit should be acceptable to all intermediaries up to the size of exposures needed for the payment system concerned to work effectively. Where the value of transactions is very large, as it is for example with CHAPS, the central bank is best placed to be the settlement bank. For lower value payments, there is more variety in approach. For example, HSBC is the settlement bank for Europay and all members hold an account there. BACS, by contrast, uses the Bank of England for settlement.

Payment schemes

3.30 **Payment schemes** establish the framework in which payments are made. They set up rules on how payments are to be made; and they develop and operate shared **infrastructure** such as telecommunications networks and brands.

3.31 A payment scheme may be a separate legal entity owning substantial assets, or it may be little more than a series of contracts between payment intermediaries. The degree to which assets are held centrally depends partly on the design of the communications network used to transmit information about payments. The communications network underlying some schemes (eg at present CHAPS Sterling) are based on connections between pairs of intermediaries. This type of payment system has little central infrastructure. New users can be added either through a contract with an existing intermediary or by expanding the network to create further pairs of connections. Other payment schemes such as BACS and the LINK ATM network contain more substantial central communications infrastructure. New users can connect to this central infrastructure, rather than to existing intermediaries.

3.32 It is necessary to distinguish between those schemes which are self sufficient (ie do not require further payments to be made through other payment schemes to complete a transaction) and those which are not. For a scheme to be self sufficient, settlement must be made using assets that are accepted as money. Money comes in two main forms: notes and coins issued by the government and balances held in accounts at the Bank of England ('token money'); and value held in bank deposits ('IOU money').

3.33 Not all payments schemes are self sufficient in this sense. For example, a payment by credit card results in an extension of credit to the customer by the credit card issuer and a transfer of money from the credit card issuer to the retailer. Settlement between customer and credit card issuer takes place only when the customer pays his or her credit card bill. To do this, the customer must make a payment using cash (token money) or draw on funds held in a bank account (IOU money). The transfer of value to the retailer takes place in two stages. First, the retailer's intermediary makes a payment to the retailer using a payment method which has final settlement (for example BACS). Second, the net positions of all the intermediaries across all payments are worked out, and instructions are sent to change their respective balances at the settlement bank.

Special cases

3.34 It is common for the same firm to act as both paying and receiving intermediary. This type of payment is often called an **on us** transaction. It occurs, for example, when a bank customer writes a cheque to another customer of the same bank. In this case, settlement is complete without recourse to a central bank because banks' IOU money dealings with each other remain the same. Most payments using American Express and Diners Club cards involve only one intermediary, although in these schemes, further payments using token or IOU money (eg by cheque or by BACS) are necessary before settlement is complete.

3.35 The recipient and the payer can also be the same person or company. This happens when a customer transfers money from one account to another or when a customer takes cash out of an ATM.

3.36 Some end-users can make or receive payments without using an intermediary. For example, value can be transferred from Barclays Bank to HSBC through the CHAPS payment system without involving another firm. End users who do not have to use an intermediary to make or receive payments are said to have **direct access** to the scheme.

3.37 The Visa, Mastercard and Switch plastic card schemes have a common 'four party' structures. The two end users of these schemes are the cardholder (who buys goods using the card) and the retailer (who accepts the payments). The cardholder's intermediary is known as a card issuer, and the retailer's intermediary is known as a merchant aquirer. (See Annex D3 for a more detailed description of how these schemes work.)

The benefits of payment intermediaries and payment schemes

3.38 Many transactions take place between people who interact with each other only once, or infrequently. They will have neither reason to trust each other nor agreed procedures for transferring money between themselves. Without intermediaries, paying for transactions would be slow, costly and inefficient, as payers and recipients would have to reinvent the wheel each time they carried out a transaction.

3.39 The only alternative outcome is that customers and firms would fall back on token money (that is, cash) to make payments. While paying by cash is extremely useful for low-value payments, it has a number of disadvantages. Cash is bulky and requires continual re-stocking. It is vulnerable to theft and loss and money held as cash cannot earn interest for its owner, unlike 'IOU money' held in bank accounts.

3.40 Payment schemes overcome this basic contracting problem by setting up a common contractual framework within which non-cash payments take place. Individual payers or recipients need a contractual relationship with only one intermediary (such as a current account supplier or credit card issuer). They can then make and receive payments from all the other users in the scheme. Through standardisation, intermediaries can also establish efficient, automated processes for handling large volumes of payments at low cost. Standardisation covers both the legal framework and responsibility, and the mechanics of making a payment. All cheques issued in the UK have the same basic design, for example, which means that the information they contain can be read by automatic reader-sorters rather than manually.

3.41 As Chart 3.13 above shows, payments often involve more than one intermediary. In theory, each intermediary could run its own 'on us' scheme for its own customers. The customers of a particular intermediary would then be able to make transactions with other customers of that same intermediary but not more widely. Some payment schemes do in fact operate in this way. But customers gain large benefits from payment schemes with multiple intermediaries. A holder of a Visa or Mastercard credit card, for example, can buy goods and services from thousands of retailers worldwide, through just one contract with their card issuer. Similarly, the holder of an ATM card of a supplier connected to the LINK scheme can withdraw cash from any ATM connected to the scheme and not just those of his or her own supplier.

Network effects

3.42 Payment schemes demonstrate the benefits that each user gains from the addition of further users. These are called network effects[2]. Owning a fax machine brings little benefit if no one else owns one, for instance. In just the same way, debit card holders gain value as more retail outlets join their particular scheme, as do retailers in relation to

[2] Two surveys of the importance of network externalities in payment systems are James McAndrews 'Network Issues and Payment Systems', *Federal Reserve Bank of Philadelphia Business Review*, Nov/Dec 1997, and Gabriela Guibourg 'Efficiency in the payment system - a network perspective', *Sveriges Riksbank Working Paper*, 1998

growing numbers of customers holding cards belonging to the scheme. Network effects can also work indirectly. For example, utility companies that issue large numbers of customer bills will arrange their billing processes to accommodate different payment methods. This can involve a substantial fixed investment. As more customers use a particular method, such as direct debit, companies will make economies of scale in their processing costs.

3.43 Network effects also have profound implications for competition, efficiency and innovation in markets where they arise. Establishing critical mass is the first hurdle, as the benefits to customers and businesses of a network arise only gradually with increasing use. It is possible to envisage a world in which electronic cash is widely held and used, for example, but much harder to see how to get there.

3.44 Once a network is well established, it can be extremely difficult to create a new network in direct competition. The established network holds two key advantages. First, customers faced with a choice will usually prefer to use the larger network, other things being equal. Second, many end users will already own or use equipment connected to the existing network. Customers carry particular cards in their wallets, for example, and firms have invested in systems that enable them to accept particular forms of payment. To compete, a new network supplier must either replicate this equipment or gain access to this existing installed base of infrastructure.

3.45 So competition between networks - in this case payment schemes - will not by itself drive efficiency and innovation, as usually happens in normal markets. Where network effects are strong, the number of competing networks is likely to be small and the entry barriers facing new networks will be high. Inefficiency can persist in network industries without stimulating new entry. In practice, common ownership of UK payment schemes by the banks weakens competition between schemes even more.

3.46 Furthermore, control of dominant networks conveys market power for those firms who enjoy it. Firms who control a dominant network may be able to exploit this control by making it difficult for new suppliers to enter their market or by raising the price of goods or services supplied through that network to end users.

3.47 The challenge for policy makers is to obtain the benefits of network effects while simultaneously benefiting from innovation and low prices delivered by competitive markets.

THE NEED FOR CHANGE

Areas of good performance

3.48 The UK payment system performs well on a number of criteria. It operates to a high level of security, processing large volumes and values of payments. Some aspects are world class. In the BACS direct debit system, for instance, large non bank users input their instructions directly, so that it runs particularly smoothly. Access criteria to the high value payment systems are outward-looking and open to international competition in the best London tradition.

3.49 The UK payment system has also shown itself able to adapt to new circumstances and to implement change. The past five years have witnessed a number of innovations in

high value payment systems, for example. Real time gross settlement for CHAPS Sterling began in April 1996, followed by CHAPS Euro in 1999, a new RTGS clearing for Euro transactions.

3.50 Over the same period, BACS Ltd has also extensively upgraded the payments infrastructure it operates. 1996 saw the introduction in England and Wales of Inter Bank Data Exchange (IBDE) for cheque payments details, and the development of an underlying high-speed network (HSTrans) for exchanging payments data. The IBDE service in Scotland came into operation two years later. The underlying network now also transfers information to and from BACS. Electronic inputs are an increasing feature. Payment originators have been able to input direct debit instructions automatically since 1996, and all BACS submissions are now made via telecommunications links. A new Extended Formats service introduced in 1999 allows banks to input additional information beyond basic payment details.

3.51 Payment card systems have also seen a number of developments. The most significant was the adoption of a common standard for chips in debit, credit and cash cards. This followed an agreement by APACS in July 1998 to take on a national role in this area. Known as 'EMV', the standard was agreed between the leading card schemes Europay, Mastercard and Visa and is expected to become the world standard for chip cards. Another key development was the introduction of fully authorised debit cards: Visa's Electron in 1997 and Switch's Solo in 1998. In 1999, the vast majority of ATMs in the UK were connected for the first time through the LINK network.

3.52 Although there is much to praise in the UK's payment system, it also falls short of its potential in a number of areas.

Poor and outdated governance

The basic mutual governance model

3.53 The main UK payment schemes are essentially membership associations controlled by consortia of banks. All the main schemes follow the same basic model of corporate governance. This model is known as mutual governance because of the common ownership of the schemes by their members.

3.54 The payment scheme is a not for profit organisation owned and controlled by the banks and building societies that use it. Full direct participation in, and ownership of, a particular scheme is restricted to banks or other regulated deposit taking institutions. Shareholdings often reflect the use a bank or building society makes of the scheme. The payment scheme owns and/or controls some central infrastructure such as a clearing house or a telecommunications network. Individual banks (or agents acting on their behalf) own other parts of the payments infrastructure such as ATMs or cheque clearing centres. The payment scheme itself decides who can join and sets performance standards for participants. Owners have access to more and better information about the scheme than non owners. Direct contact between the payment scheme and its end users is discouraged, if not prohibited.

Governance of APACS

3.55 APACS is a key institution in the UK payment system. This was established following the Child report of December 1984 as an umbrella organisation to oversee the

payment industry as a whole and the development of the three proposed clearing companies, BACS, CHAPS and CCCL[3]. The Child report also established the roles of the different bodies. APACS has primary responsibility for overseeing the development of the clearings, resolving disputes, providing effective machinery for consultation and acting as a representative body for the whole industry. The individual clearing companies are responsible for their own efficient operation, development and financing. They also assess applications for membership and liaise with interested parties. One of the ways in which APACS fulfils its duties as a representative body is by hosting 'interest groups' at which members discuss particular areas of common interest such as card payments.

3.56 Full settlement membership of the individual clearing companies is open to an institution that meets a number of explicit and objective criteria: first that it is an appropriately regulated financial institution. Shares in BACS are allocated according to the volume of transactions made by a member on its own behalf and for its customers. For CCCL and CHAPS, each member has a single share regardless of volume, though either would be able to apply volume related shares. The Bank of England is a full member as of right of all APACS clearings. This reflects the Bank's role as the system's settlement bank and its public interest role. The key public interest concern derives from the Bank's role in ensuring financial stability.

3.57 Until 1997, membership of APACS comprised the settlement members of the individual clearings. This was changed to allow larger, non clearing credit card issuers to join the Card Payments Group. APACS also has associate members who use the clearings but are not full settlement members. APACS and the clearings it oversees operate through a consensual system of decision-making. Formal votes are used only in 'exceptional circumstances'.

3.58 End users are not represented on the boards of either APACS or individual clearings. APACS provides various forums to discuss end user demands. For example, it holds a bill payers workshop for large users of BACS. But end users are not directly involved in decisions about how the payments system should be adapted to meet their demands.

Advantages of mutual governance model

3.59 This mutual governance model has some attractions. First, payment schemes have a natural tendency towards concentration which carries the danger that schemes could exploit their market power. Mutual ownership and the schemes' operation as not for profit companies guard against this form of exploitation. Because the owners of APACS and its clearings are also its customers, they have a direct interest in the schemes' efficiency. They will typically also have the knowledge and ability to do something about it. The mutual governance model tends to perform well when the banks' interests coincide with each other and with the public interest: for example, controlling central administrative costs and fraud.

3.60 Advocates of current arrangements also argue that mutual ownership helps to strike a balance between cooperation and competition. The schemes aim to act only in areas where cooperation between suppliers is necessary and desirable, leaving maximum scope for competition between banks. They argue that greater input from - or interaction with - end users could disturb this balance between cooperation and competition.

[3] Members of the Bankers Clearing House *Payment Clearing Systems: Review of Organisation, Membership and Control* December 1984

Problems with mutual governance model

3.61 The mutual governance model also contains some inherent drawbacks, however. The main problem is that schemes are run in the interests of the banks that own them. This produces inefficient outcomes when the interests of the controlling banks diverge from the public interest. And payment systems have other stakeholders whose interests are not directly represented in decisions about their development. These include personal consumers, business customers, government and potential new entrants.

3.62 If payment schemes were themselves subject to vigorous competition, these factors would not matter. The best governance arrangements would survive and those which did not work would not. The weakness of competition between payment schemes means that inefficiencies may persist. And the mutual governance model itself exacerbates the problem by performing badly in the following areas:

- anticompetitive restrictions on access;
- anticompetitive and inefficient wholesale pricing;
- lack of innovation in the use made of existing payments infrastructure;
- poor transparency;
- slow and inflexible service to end users;
- poor adaptation to e-commerce.

3.63 In other industries as diverse as milk, electricity and stock exchanges, the mutual governance model for shared utilities is in decline. This reflects problems similar to those in the payments system. Box 3.1 gives one example of an institution that is moving away from this form of governance.

Box 3.1. The London Stock Exchange: an institution moving away from mutual governance

The London Stock Exchange (LSE) was established as a mutual organisation owned and controlled by its users. Its history illustrates some of the strengths and weaknesses of the mutual governance approach.

Up to 1986, the rules of the LSE contained a number of very significant restraints on competition. These included the setting of minimum commissions and restrictions on the ownership of member firms. Following intervention by competition authorities, these rules were reformed and a new trading infrastructure introduced on 27 October 1986 - the day commonly known as 'Big Bang'. The same year the LSE became a private limited company, although it retained its mutual ownership structure. In 1991, the LSE replaced its governing council with a board of directors drawn from both the LSE's executive and from its user base.

The rules of the LSE continued to raise competition concerns, and the OFT produced a number of reports criticising various aspects of the LSE's regulations[4]. The LSE achieved a significant change in its infrastructure in 1997 with the introduction of electronic trading.

On 30 July 1999, the LSE announced that 'the time has now come for a different ownership structure' and proposed a move to allow the LSE's shares to be transferable, ending the traditional link between use and ownership of the LSE. Driving this development was the need to move more rapidly in the face of technological change, and competition from new trading platforms. In announcing the change the LSE's chief executive said *'For London to stay ahead in today's technology-driven marketplace demands greater speed and flexibility than ever before. To compete on equal terms in today's market, our decision-making processes must be geared to rapid response both to customer demand and changing economic conditions. The new structure will achieve this.'* One consequence of the change to the LSE's governance was the transfer to the Financial Services Authority (FSA) of its regulatory role as the sole UK listing authority.

[4] For example, Director General of Fair Trading *The rules of the London Stock Exchange relating to market makers* 1995

Lack of effective competition between schemes

3.64 There is substantial overlap in the control of all major payment schemes in the UK, as Table 3.1 below shows. Barclays is represented on the boards of all schemes and NatWest, Lloyds and HSBC are also well represented. Together, the big four banks exercise even more control than the table suggests, as shareholdings in individual schemes are often calculated according to the volume of transactions made through the schemes. For example, the four largest UK banks between them own 73.8 per cent of shares in BACS and 84.1 per cent of shares in Mastercard/Europay UK Ltd[5] ("MEPUK").

Table 3.1. Representation of leading UK banks on boards of major UK payment schemes

	Barclays	Nat West	HSBC	Lloyds TSB	RBS	Others*
APACS	✔	✔	✔	✔	✔	23
BACS	✔	✔	✔	✔	✔	9
CHAPS Sterling	✔	✔	✔	✔	✔	9
CCCL	✔	✔	✔	✔	✔	7
Switch	✔	✔	✔	✔	✔	4
Visa UK	✔	✔	✔	✔	✔	9
Visa EU	✔	✔		✔	✔	13
Visa International	✔				✔	20
MEPUK	✔	✔	✔	✔	✔	6
Europay	✔	✔	✔			27
Link	✔	✔	✔	✔	✔	28

Source:Banking Review, payment schemes *Excludes scheme representatives

3.65 Competitive rivalry between schemes cannot be expected to be intense when representatives of the same small group of companies sit on the boards of all main schemes. The US Department of Justice (DoJ) is especially concerned with this issue in relation to the Visa and Mastercard credit card schemes[6]. The DoJ has argued that dual ownership weakens competition in two ways. First, common ownership has slowed the development in the US of new technologies such as smart cards and secure electronic transactions over the Internet. Second, common ownership adversely affects brand development, as the two schemes are reluctant to promote themselves aggressively at the expense of the other.

3.66 Similarly, in the UK existing schemes are positioned so that they do not compete closely with each other. For example, despite obvious similarities in the capabilities of an ATM and a debit card network, they tend to supply different systems and services. The Review also noted that schemes display little entrepreneurial behaviour. Domestic APACS clearings do not actively recruit new members, for instance. This contrasts strongly with CHAPS Euro, which faces stiff competition from other European payment schemes and is much more active in recruiting new members.

Anticompetitive restrictions on access

3.67 In all payment schemes considered here, full access to the scheme and its infrastructure is granted only to full members. Non members or associate members must access the scheme through a full member. In effect, membership restrictions also restrict access, putting non members at commercial disadvantage. Not only must they depend for

[5] BACS annual report 1998, Europay.

[6] US Department of Justice. *Complaint. United States v. Visa, Visa International, and Mastercard International, Civil action 98-7076,* October 7, 1998

access on a competitor, but they must pay for the gateway service and can expect to receive poorer information about the scheme.

3.68 There are some legitimate reasons for regulating access to payment schemes. In high value systems such as CHAPS, high credit and liquidity risks can result from the extremely large daily values that flow through them. These risks are constrained by the use of RTGS, but are not eliminated. Full participants must be sufficiently creditworthy or have access to sufficient liquid funds to ensure that the ensuing risks are managed properly. Annex D1 describes the nature of risks in high value payment systems, and the actions taken to control these risks. It concludes that there is very limited scope for opening up these systems to non banks. Credit and liquidity risks are also present to a much lesser extent in low value payment systems. In both types of system, operational risks may arise from inadequate fraud control, for example, or poor data-handling. Restricting access is one way of seeking to control these risks. Another approach is to counter particular risks, for example taking collateral to insure against credit risk, and regulating operational risks directly through service level agreements.

3.69 Beyond these legitimate reasons for controlling access to payment schemes, mutually owned schemes have incentives to restrict direct access even further to a small number of firms. In essence, existing players enjoy the right to approve new entrants. Full access to a payment scheme is a source of competitive advantage and sharing the privilege with new players weakens this advantage. In APACS schemes with a consensual management style, membership may also be restricted by the desire to keep the to manageable levels.

Impact of access requirements on efficiency and competition

3.70 Whatever the reasons, unnecessary access requirements to payment schemes can create both static and dynamic inefficiencies. Restrictions create entry barriers and preserve concentrated market structures, especially in the supply of personal current accounts (see Chapter 4), SME current accounts (see Chapter 5) and merchant acquiring. Restricting access can also create unnecessary layers of intermediation, forcing businesses to pay for sponsorship when they could otherwise deal directly with the scheme and its members. Highly solvent large corporate users of BACS, like utility and insurance companies, must at present be sponsored by a BACS member.

3.71 The dynamic effects are more serious still. Restricting access stifles innovation and efficiency and stops companies from different backgrounds trying out their new ideas in the market place. New entrants to any market are often more innovative than incumbents because they do not need to protect existing businesses from low cost or innovative alternatives. If ATM networks had been more open to new operators, for example, it is probable that customers would now enjoy a much wider range of services than those connected with cash withdrawal and bank matters.

Access requirements for key UK payment schemes

3.72 Table 3.2 shows the most important access requirements for the key UK payment schemes. A number of features are common to more than one scheme.

- with very limited exceptions, all schemes insist that full members should be regulated deposit takers or credit institutions. The exact restriction varies with each scheme. Where a scheme has both acquirers and issuers, the requirement applies to both activities;

- credit and debit card schemes demand that acquirers should also issue cards in the countries where they acquire;

- new entrants must pay an entrance fee to cover connection costs and in some cases to reward initial members for developing the scheme;

- new members must be approved by existing members.

Restriction of full access to banks

3.73 The above restrictions mean in effect that only banks and building societies, plus a small class of other regulated firms in some cases, are able to have full membership of these schemes. This may be justified for high value schemes as only a small number of firms apart from banks and regulated deposit takers could deal adequately with the risks and costs involved.

3.74 Restricting full membership in low value payment schemes is much more significant. Here, the justification is much weaker and the economic impact much greater. The credit and operational risks involved are not necessarily any greater than in other areas of commerce. And requiring members to be regulated deposit takers does not by itself reduce the risks involved.

3.75 Table 3.3 illustrates the scale of credit exposures involved in low value payment systems. It estimates the average daily credit exposure posed to other members of credit, debit and ATM schemes by a card issuer with a 5 per cent share of total transactions in that category. This credit exposure is calculated as the average daily value of transactions multiplied by an assumed average delay between transaction and settlement. The table also shows a peak exposure based on three times the average daily value of transactions.

Table 3.2. Criteria for full membership of main payment schemes in UK

	Requirements on issuers	Requirements on acquirers	Entry fee	Approval by existing members?
BACS	1. A credit institution in EU or EEA member state or G10 country (or another country with an 'appropriate supervisory regime'). 2. Granted settlement account facilities by Bank of England 3. Meet minimum volume criterion of 5m items per annum 4. Willing and able to pay entry fee and other costs (eg APACS running costs) 5. Able to meet technical requirements, willing to accept rules etc.		Yes, to cover costs of admitting new member (eg training, testing etc).	Yes. Application through APACS - have to satisfy APACS membership committee and receive BACS board approval.
CCCL	As BACS, except minimum volume criteria is 0.5% of clearing transaction.		Yes. Calculated by reference to costs incurred by other members.	Yes. Application through APACS - have to satisfy APACS membership committee and receive CCCL board approval
CHAPS	As BACS except minimum volume criteria is 0.5% of clearing transactions		Yes. Calculated by reference to costs incurred by other members.	Yes. Application through APACS - have to satisfy APACS membership committee and receive CHAPS board approval.
Visa - credit & debit	Firms organised under commercial banking laws of their own country and licensed to accept demand deposits and organisations they own or control. Exceptions can be made (eg to enter new markets or comply with laws)	Same as issuers; plus in EU must issue cards in order to acquire Exception made for countries with no principal members - can have acquiring only members	Yes. Initial service fee of a minimum of US $100k and a maximum of US $500k	Yes. New applicants must be approved by EU board of directors, (which consists of representatives of some members).
Switch	Regulated financial institutions who offer current accounts in UK	As issuers; plus Must either issue Switch cards or, since 1990, debit cards under another scheme which can be acquired by Switch issuers	Yes. Entry fee of c. £1.5m also covers first two years' membership.	Yes. Members Board gives permission to start membership process and to admit new members. Switch approves business plan.
Europay (Mastercard)	Authorised and regulated credit institutions* established in Europe. Entities they control and own for 90%	As issuers; plus Must also issue cards in countries where they acquire Exception for 'international customers'	Yes. Licence fees from . 10,000 Euro	Yes. Must be approved by Europay board of directors, after agreeing 3 year business plan with Europay
LINK	Must issue debit cards, (but no obligation to own ATMs) Financial institution regulated by an appropriate body Settlement account at Bank of England		Yes. Determined on case-by-case basis.	Yes. Must produce 5 year business plan and be approved by Members Board.

Source:Banking Review, payment schemes

* Europay defines credit institution as an entity that fulfils the following two conditions: (i) its business is to receive deposits or other repayable funds from the public and/or grant credits for its own account; and (ii) it is duly authorised and regulated as a credit institution by the competent authority in a country in Europe.

** From 1 January 1, firms who do not issue cards will be allowed to belong to LINK.

Table 3.3. Credit exposure of card schemes to a medium sized issuer

Based on 1998 transactions values

	Credit cards	Debit cards	ATM
Total annual transactions (£m)	68,551	53,720	96,362
Total daily transactions (£m)	188	147	264
5% of daily transactions (£m)	9	7	13
5% of 'peak' transactions	27	21	39
Length of clearing cycle (days)	2	2	1
Average exposure (£m)	19	15	13
Peak exposure (£m)	58	42	39

Source:Banking Review, APACS

3.76 This simple calculation suggests that the average exposure of other banks to a medium sized issuer of credit, debit or ATM cards would be less than £20 million in each case, with a peak exposure of between £30 million and £60 million. While this is not a trivial amount, it falls within the credit exposures that arise in other lines of business. A large electricity generator's credit exposure to a regional electricity company could reach this level, for example. Businesses in these other markets manage this type of credit exposure without refusing to deal with anybody other than regulated financial institutions.

3.77 Exposure to a participant who specialises in receiving rather than making payments would be smaller still. A card scheme's credit exposure to a merchant acquirer (the intermediary who pays the retailer) would be limited to the disputed transactions with which the merchant acquirer is involved - or only a fraction (less than one per cent) of that acquirer's total transactions. There is little or no credit exposure of card issuers to an operator of an ATM.

3.78 Low-value payment schemes can give rise to operational risks as well, for example that the payment details a member provides to others are either wrong or not timely. Payment schemes have a legitimate interest in controlling these risks. But operational risk and mutual dependence exist in many other areas of the economy without the need for regulation. Within low value payment systems, non banks - for example third party processors - play an absolutely vital role without being directly regulated. In practice, payment schemes regulate operational risk directly, through their rulebooks and service level agreements. Requiring members to be regulated deposit-takers is neither necessary nor effective at preventing operational risk.

3.79 A further argument put forward for restricting membership is that only banks and other regulated deposit-takers can or should have settlement accounts at central banks. It might be argued that this simply moves the question back one stage - ie why banks alone should be allowed such a privilege. In any case, and more importantly, full membership of payment schemes gives suppliers many benefits beyond those that follow from having a settlement account at the central bank. For example, full members enjoy better information and more control over the prices charged to end users, and they can influence the governance of the schemes. If only banks are allowed to have settlement accounts at the central bank, it would be less much restrictive to require members to arrange for settlement, without requiring them to be a bank. It should also be noted that central bank accounts are not required currently for members of Switch, Visa or Mastercard/Europay.

Why is this restriction tolerated?

3.80 Despite its anticompetitive impact, this restriction has persisted in the UK and in many other countries without serious challenge from competition authorities or from other parts of government concerned with efficiency and competition. Indeed, restrictions on access to the payment system have, in some cases, been promoted by central banks. For example, a report by the Committee of EU Central Bank Governors stated that direct access to interbank funds transfer systems should be restricted to 'central banks and credit institutions as defined under the Second Banking Coordination Directive' with a few exceptions (such as post offices and some other public bodies)[7]. This approach was followed for the EU settlement system, TARGET, and all linked systems. More recently, a guideline adopted by the ECB Governing Council in November 1998 restricted membership to credit institutions, with a few exceptions.

3.81 At its heart, this benevolent attitude towards banks rests on two arguments. The first is that any firm not subject to bank regulation must pose a greater risk than one that is. This argument has an 'Alice in Wonderland' logic. As was shown in Chapter 2, banks are inherently more fragile than other firms and their failure can damage the economy more seriously than that of other companies. This is why they are regulated. As non-banks do not pose the same risks, they are not subject to the same regulation. In other words, banks are regulated because they are more risky than other firms. They are not necessarily less risky because they are regulated.

3.82 The second argument says that allowing non-banks to compete with banks creates an uneven playing field. This supposes that unregulated firms would have an unfair competitive advantage if they were allowed to compete with firms subject to regulatory scrutiny. At face value, this seems reasonable. But regulation should be proportionate to the risks posed by a particular firm or activity and higher risk activities merit more stringent regulation. For example, an environmentally unfriendly production technology should be regulated (or taxed) more heavily than one which does not have the same adverse effects. The risks posed by banks are different from those posed by non banks carrying out the same activities. A level playing field for competition would recognise this difference, not require all firms who compete with banks to be subject to the same special regulation.

3.83 As well as restricting membership unjustifiably to banks, individual payment schemes further restrict which banks they accept as full members. Particularly restrictive are the rules governing merchant acquiring and the minimum volume requirement facing new members of APACS clearings.

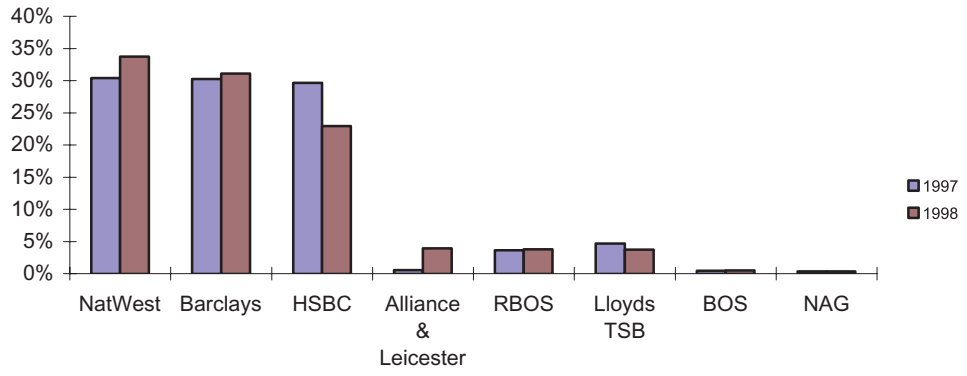
Restriction on merchant acquirers

3.84 As the interface between card issuers and retailers, merchant acquirers play an important role in the main credit and debit card schemes. Restrictions on membership have created a highly concentrated market. As Chart 3.14 below shows, there are eight merchant acquirers (excluding American Express, which acquires itself) with the top three (NatWest, Barclays and HSBC) together acquiring over 85 per cent of credit and debit card

[7] Committee of EU Central Bank Governors *Minimum Common Features for Domestic Payment Systems* November 1993

transactions in the UK. At a local or regional level, the market is even more concentrated, as the Scottish merchant acquirers confine their operations largely to Scottish retailers.

Chart 3.14. Merchant acquiring market shares by volume, 1997 - 98



Source: Banking Review

3.85 Barriers to entry reinforce this market concentration. Although some barriers arise naturally from the nature of the business, the card schemes' membership criteria are also responsible. These deny entry to institutions which are not licensed deposit takers and even to licensed deposit takers which do not have a substantial share of the UK personal banking market. Following Alliance & Leicester's entry into the market in October 1996, there are no more potential entrants under current card scheme rules.

3.86 Again, this lack of competition has both static and dynamic effects. Currently the prices charged to small and large retailers vary widely. The merchant acquirers were unable to provide sufficient cost data to examine any underlying cost differences. But in a concentrated market with no potential competition, this variation in prices is likely to reflect market power and not just real cost differences. While large retailers can use their bargaining power to secure low prices for merchant acquiring services, smaller retailers are less able to drive such a hard bargain.

3.87 The market lacks the dynamic factors which would increase competition and constrain price discrimination. It also produces little incentive to innovate, for example to meet the demands of e-commerce. Annex D2 discusses the merchant acquiring market in greater detail.

Restriction on membership of APACS clearings

3.88 As well as insisting that a member is a credit institution subject to an 'appropriate supervisory regime', the APACS clearings specify four further entry conditions. Two are of particular interest. These are that full members should handle at least 5 million items per year for BACS or 0.5 per cent of all transactions for CCCL and CHAPS; and that members should pay other costs, including APACS costs.

3.89 APACS argued that the volume criterion was more important for cheque clearing than for electronic systems, as 'in an environment of direct exchange of cheques between settlement members, a very large membership would bring significant practical

problems as well as the need to re-configure reader/sorter machines which process the cheques'. This is a matter of historic development rather than economic principle. As APACS told the Review: 'Originally the schemes were structured to accommodate [a] finite number of direct members, well in excess of the [then] anticipated demand for full membership'. Other countries have developed alternative models better suited to a large direct membership. These include Canada and Holland, where all cheques are sent to regional sorting centres.

3.90 Under the cost requirement, full members must pay an entry fee and contribute to APACS' running costs . Although the total value of these costs is relatively low, the cost per transaction varies considerably according to transaction volumes. For small members handling low value clearings, the cost of APACS membership could be 0.5 pence per transaction, compared with hundredths of a penny paid by the larger banks.

3.91 APACS clearings allow smaller banks and building societies to have indirect access, for example as 'associate members' sponsored by full members. But full membership brings three main advantages. First, full members have a direct input into the rules and development of the scheme. Second, full members get better information about costs, rules and forthcoming developments than associate members or indeed end users. This gives them a competitive advantage, not least when negotiating access terms with non members. Third, full members enjoy direct control over the costs of providing payment services and over the kind of service provided. Associate members, by contrast, must depend on a competitor for access to the payment system. And if the supply of indirect access is imperfectly competitive, they will pay higher charges that reflect the market power of full members.

3.92 The Review collected evidence about the extent of competition to supply indirect access to APACS clearings. These data are highly confidential and cannot be reproduced here. Overall, the evidence is mixed. There is a general view, shared by suppliers and customers, that price competition for some business is very intense. This is partly driven by the economies of scale achieved by settlement members with high transaction volumes. Intelligent behaviour by more sophisticated customers also exerts pressure on prices.

3.93 On the other hand, the market is highly concentrated in the hands of the big four clearers and the two largest Scottish banks. The very wide range of prices charged - a factor of ten in some cases - suggests that smaller and less well informed customers may be paying over the odds for access. And certain aspects of the service are not open to negotiation. These factors suggest that competition is less than perfect.

Conclusion on access restrictions

3.94 The Review concludes that the membership criteria of the main UK payment schemes distort competition by restricting full access to banks and other deposit taking institutions. This restriction cannot be justified by the risks involved and leads to reduced competition and innovation. Further restrictions imposed by individual schemes make the problem worse.

Anticompetitive and inefficient wholesale pricing

3.95 Payment schemes often play an important role in determining the wholesale prices within the payment system and therefore the final prices paid by businesses and consumers. There are two types of wholesale price which may be determined collectively by the payment scheme. The first type is paid by members to the scheme operator to cover running costs and specific member services. The second type is paid between individual members to cover the cost of services supplied from one member to another. These are usually called interchange fees.

3.96 Wholesale payments from members to operators are a relatively minor source of inefficiency. This is for two reasons. First, central scheme costs are small in relation to the total costs of making a payment[8]. Second, member run schemes have good incentives to control the level of central costs. At the same time, they have an incentive to load these costs onto smaller players or new entrants. Table 3.4 shows the allocation of APACS' central costs between its members. While the total value of these costs is relatively low - the last annual call was for just under two and a half million pounds - it shows a massive variation in the cost per transaction charged according to the size of the member.

Table 3.4. Contribution to APACS administration costs, 1998

	Percentage of transactions*	Percentage contribution*	Contribution per 1000 transactions (£)
Largest 4	73.8%	64.7%	£0.21
Next 4	16.2%	13.8%	£0.21
Next 5	9.9%	10.9%	£0.26
Next 5	0.03%	10.6%	£74.53

Source: APACS/Banking Review

* Excluding members without transactions in relevant clearings

Interchange fees

3.97 Interchange payments between members of payment schemes are a much more significant issue. These involve substantial sums. For example, around three quarters of a billion pounds per year are paid in this way to UK debit and credit card issuers. The interests of bank run schemes do not coincide with the public interest. There are two distortions. First, the schemes have strong incentives to inflate interchange fees above costs. Second, schemes have incentives to use interchange fees to restrict new entry.

3.98 The problem of the level of interchange fees is most severe in the Visa and Mastercard credit card schemes and the Visa Debit scheme. It may also be a problem, though less severe, in the LINK ATM scheme and the Switch debit card scheme. The analysis shown here covers both credit and debit cards. A more detailed analysis is provided at Annex D3.

Market power of leading credit and debit card schemes

3.99 Between them, the Visa, Mastercard and Switch schemes account for over 60 per cent of non cash spontaneous payments in the UK. This proportion has been growing throughout the 1990s. The only alternative with a sizable share of this market, the cheque,

[8] APACS *The costs of money transmission* 1996

is in permanent decline. Storecards and cards issued under other charge card brands, such as American Express and Diners Club, account for only a very small proportion of transactions. And as set out earlier earlier, new payment schemes face considerable difficulties launching in competition to existing schemes.

3.100 The banks who control the UK activities of Visa, Mastercard and Switch can be expected collectively to have market power over both customers and retailers. Individual schemes are also likely to have market power in their own right. For example, Visa alone accounts for just under 60 per cent of credit card payments, over 45 per cent of debit card payments, and about 35 per cent of non cash spontaneous payments.

3.101 These transaction shares may underestimate the market power a scheme exerts over retailers in particular. Once a payment scheme has reached critical mass, it becomes progressively difficult for retailers to refuse to accept that scheme's cards, for fear of losing business to their competitors. Accepting all major card schemes is virtually a necessity for large sectors of UK retailing, even when the cards offer consumers very similar products (such as Visa Debit and Switch). Each payment scheme has the possibility of exploiting this position.

How interchange fees are determined

3.102 In the Visa, Mastercard and Switch schemes, the merchant acquirer (who gives the retailer access to the scheme) pays an interchange fee to the card issuer. Each scheme determines a tariff of 'interim' or default rates to be paid if the card issuer and merchant acquirer cannot agree a price. Cost studies are carried out to determine the rate to be charged. The details of these studies are kept secret from non members and were not disclosed to the Review. The final decision about rates is taken by members. These default rates are extremely influential in determining the actual rates charged between members. The Review estimates that over 90 per cent of interchange payments by UK merchant acquirers for Visa, Mastercard or Switch transactions are charged at the default rates set by the scheme.

3.103 Interchange fees can be seen as the price paid by retailers to issuers for the provision of various payment services. The main services issuers supply to retailers are: guaranteeing that the retailer will be paid; funding an 'interest free' period to some credit card customers; and processing the incoming transactions. Setting default interchange fees in effect sets the price for these services. Table 3.5 compares the terms under which these services are supplied with those that might prevail in both a competitive and a regulated market.

3.104 Table 3.5 reveals a large number of differences between paying for services through an interchange mechanism and in a competitive market. Setting interchange fees is generally closer to a regulatory than a competitive model. But differences exist even here. First and most importantly, the interchange price is set collectively by suppliers rather than by an independent government body and self regulation is not renowned for being tough on participant firms. Second, the customers of the service (in this case retailers) have fewer rights than with formal economic regulation. Price setting is not transparent and there is no right of appeal over disagreements.

Table 3.5. Comparison of interchange fees with competition and regulation

	Interchange	Competitive market	Economic regulator
Who sets prices?	Suppliers set level collectively after cost survey	Individual suppliers in competition	Regulator sets price cap after cost survey
Economic basis for price?	Retrospective industry average costs	Individual suppliers' marginal costs	RPI - X
Who delivers service?	Choice made by card user and by scheme rules	Customers choose preferred supplier on basis of offer.	n/a
Low cost suppliers gain market share?	No	Yes	n/a
Cost reductions passed on to customers?	With a time lag, if at all.	Yes	Yes, if anticipated by regulator. With lag if not.
Price setting transparent to customers?	No	No	Yes
Customer redress if unhappy with price?	Refuse to accept scheme's cards or levy a surcharge (if permitted).	Go to another supplier	Appeal to regulator or judicial review.
Cross subsidies?	Yes. Some suppliers are paid for services they don't offer. Some customers pay for services they don't consume.	No. Competitive process drives out cross subsidies	Perhaps. Depends on efficiency of regulation.

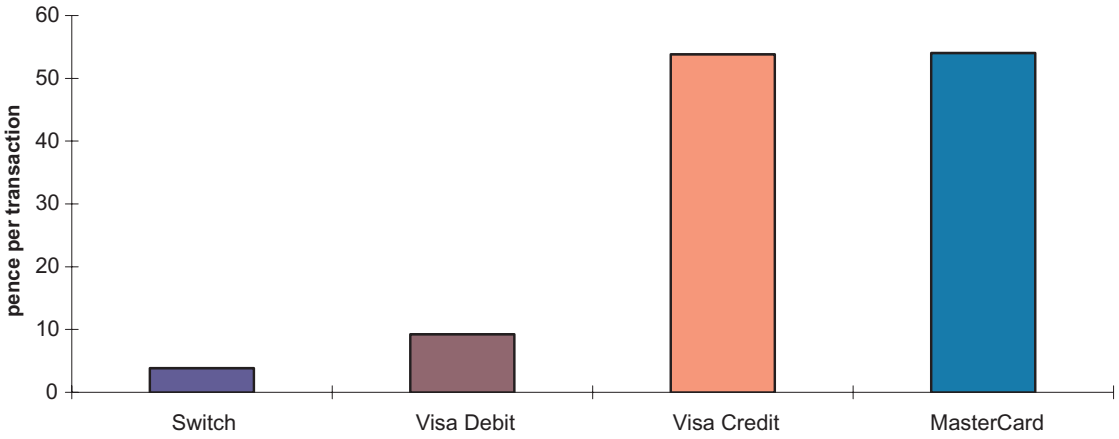
3.105 In terms of economic efficiency, funding services through interchange payments compares unfavourably with both competitive and regulated supply. Given a choice, suppliers in most industries would prefer to be paid in this way. It cannot simply be taken on trust that setting prices like this will lead to socially desirable outcomes. The Review therefore collected information on the actual levels of interchange fees paid in the UK.

Interchange fees in practice

3.106 Chart 3.15 shows the average interchange fees paid by UK merchant acquirers. As can be seen, the interchange fees for credit and debit card schemes are very different. There is also a significant difference between the rates paid to the two debit card schemes, Switch and Visa Debit.

3.107 One of the main reasons underlying the difference in costs between credit and debit cards is that the calculation for credit and charge card customers, for at least one scheme, includes the cost of funding an interest free credit period. However, it is not clear that it is legitimate to recover this cost in this way. The supply of credit to holders of credit cards - including the first 50 or so days - is not a payment service supplied to retailers. Rather, it is a credit service supplied by credit card issuers to credit card holders. The length and conditions attached to any interest free period are solely determined by the terms of the agreement between the card issuer and the cardholder.

Chart 3.15. Average interchange fees



Source: Banking Review

3.108 Recovering the costs of the interest free period through interchange fees creates a pattern of cross subsidies between participants within a particular card scheme. Customers who do not pay off their bills in full each month (including many with long term debts on their cards) do not benefit from any interest free period. These transactions still attract the same interchange fee. Similarly, some card issuers do not have an interest free period at all, but instead offer better terms on other aspect of their products. These issuers are paid by retailers for a service they do not supply.

3.109 Recovering the costs of offering an interest free period through interchange fees also distorts customers' choices between using a credit card and alternative means of making a retail payment. A customer who makes a debit card or cheque payment and goes overdrawn for a short period does not expect the retailer to pay the costs of this overdraft . The current account supplier is free to offer a temporary interest free overdraft period, as part of the overall terms and conditions offered in competition with other suppliers. Similarly, the cost of an interest free period on a credit agreement offered by a retailer is a matter for the credit supplier, not a third party.

3.110 A stronger case can be made for recovering in interchange fees at least some of the costs incurred when issuers guarantee payments against fraud or customer default. How this is done in practice nonetheless gives rise to serious concerns.

3.111 First, the sums recovered are extremely high compared to the actual losses borne by card issuers. Even taking a conservative estimate of the proportion of interchange payments allocated to cover this cost, the Review estimates that UK issuers recover some £300 million to provide this guarantee for UK transactions. This compares with an upper estimate of UK credit and debit card fraud losses borne by card issuers of just under £75 million. It seems likely, therefore, that the payment guarantee component of interchange fees includes a number of other costs loosely associated with fraud and its elimination.

3.112 Second, the extent to which retailers are in practice guaranteed payment varies substantially between retailers. For example, where transactions are not carried out face to face (for example, in payments over the internet or by mail order), it is very difficult for the retailer to comply with the necessary conditions. Any such losses associated with a

disputed or fraudulent transaction are usually borne by the retailer or merchant acquirer rather than the card issuer. Again, these retailers could reasonably argue they are paying for a service they do not receive.

3.113 More generally, comparing the different interchange rates set by particular schemes suggests that factors other than cost are involved in setting default rates. ***The Review was not granted consent by Visa and Europay to publish this information.*** The costs of providing a payment guarantee cannot explain these differences. Fraud losses for crossborder payments are much more frequent than losses for payments within a country. So cost based interchange fees for UK transactions should be substantially lower than for crossborder payments.

3.114 The Review's analysis of interchange arrangements for the three major card scheme operators leads to concerns that interchange fees for credit cards and the Visa debit card scheme are substantially higher than can be justified by legitimate cost recovery. In all cases, the process by which these fees are set is extremely opaque to end users and susceptible to abuse.

Consequences of excessively high interchange fees

3.115 Inflated interchange fees create a number of detriments. First, they raise the cost to retailers of card payments. This reduces the acceptance of particular payment methods. If interchange rates were lower, credit and debit cards would be likely to be accepted in a wider range of retail outlets (such as smaller retailers) or in more non retail contexts (such as paying bills). Higher interchange fees raise retail prices generally, as retailers pass on their inflated costs to their customers. This in turn leads to a reduction in output and economic welfare.

3.116 Second, allowing issuers to recover costs through interchange payments weakens the incentive to cut costs through greater efficiency. Inflated interchange fees can help protect inefficient suppliers from the full force of competition.

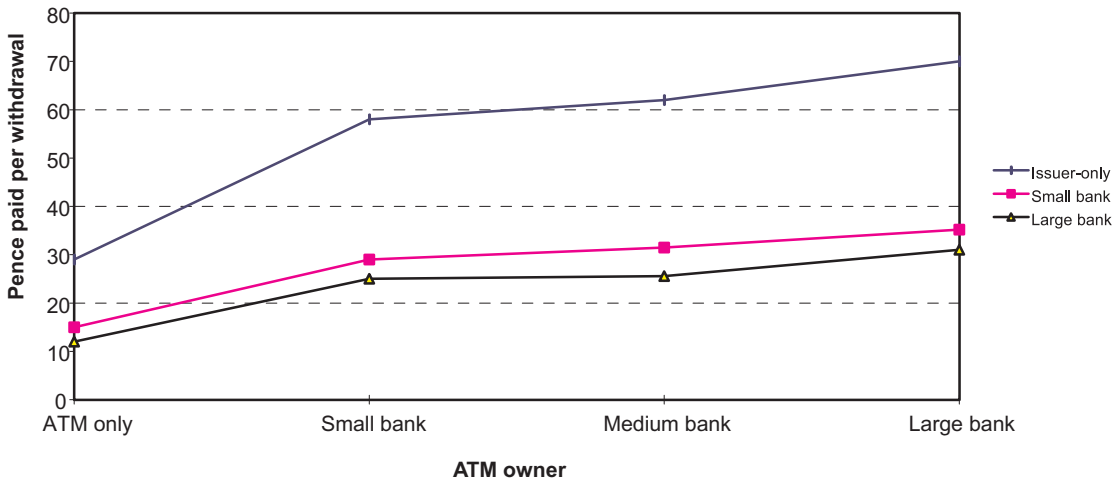
3.117 Third, competition between payment mechanisms is distorted in favour of products with artificially high interchange fees. The current pattern of interchange payments creates a cross subsidy for credit card use, shared between credit card issuers and users. Users of many credit cards receive loyalty points or cashback for making transactions by credit card. This encourages greater use of the cards and perpetuates the advantage of existing schemes. In essence, the system subsidises relatively sophisticated consumers of financial services at the expense of poorer customers who either do not hold a credit card or who cannot obtain the best deals.

3.118 Fourth, the current structure of interchange payments discourages e-commerce by charging web based retailers a high price for services they do not consume.

Wholesale and retail prices combined to raise barriers to entry

3.119 Member run schemes also have incentives to use the structure of wholesale prices to erect barriers to entry. This is a particular problem in the ATM network, LINK. A full analysis of the issues raised by charges for cash withdrawals is included as Annex D4. In LINK, interchange fees are paid by the card issuer to the ATM supplier. Chart 3.16 shows the interchange fees paid between different types of participant in the LINK scheme. The top line shows the fees paid to various types of ATM owners by a supplier of current accounts who does not own any ATMs. The two lines below that show the fees paid by a large and a small bank respectively.

Chart 3.16. Interchange fees in LINK scheme



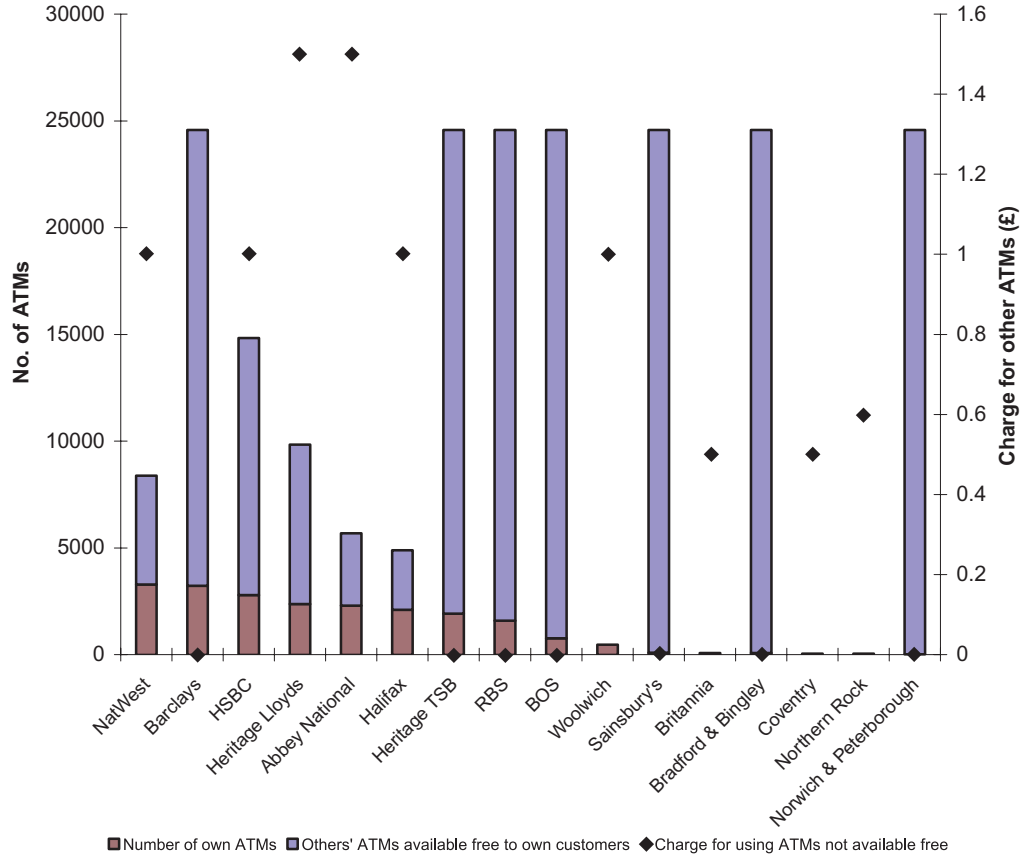
Source: Banking Review

3.120 Chart 3.16 shows that the system greatly favours suppliers who both own ATMs and issue cards. Suppliers without their own ATMs, such as new Internet banks, are forced to pay over twice as much for access to ATMs as well established players. The figure also shows that larger participants do significantly better from the LINK interchange system than smaller players. Neither difference is cost related and both create entry barriers to the concentrated current account market.

3.121 This anticompetitive wholesale pricing structure is made worse by anticompetitive retail charging practices among the larger banks. These suppliers - who pay the lowest prices for access to other suppliers' ATMs - have levied extremely high and discriminatory 'foreign fees' on their customers who use a competitor's ATM. Chart 3.17 shows details.

3.122 This combination of distorted wholesale and retail prices raises entry barriers in the supply of current accounts and the distribution of cash. This in turn leads to higher customer charges and lower levels of service in these markets. It also effects the geographic distribution of ATMs, and is likely to produce excessive clustering in larger towns and major shopping areas and significant under supply in poorer and rural areas.

Chart 3.17. ATM charges and availability



Source: Banking Review, APACS ATM Survey 1999

3.123 LINK has recently introduced a new interchange fee structure, which takes into account some of the concerns raised here.

Lack of innovation in the use of existing payments infrastructure

3.124 The governance of UK payment schemes restricts their ability to innovate in a number of ways. First, schemes controlled by existing players have little incentive to change their infrastructure purely to benefit customers or new entrants. Schemes have made slow progress towards helping customers switch accounts using the BACS infrastructure, for example, or displaying ATM charges at the point of withdrawal.

3.125 Second, mutual governance means that many schemes move at the pace of the slowest member. It is hard to innovate in the face of vested interests, especially when members' interests diverge. The need to achieve consensus on all decisions exacerbates this tendency and all too often leads to inertia. The constitution of mutually owned schemes can further constrain the operators of shared infrastructure such as BACS and LINK, holding them back from collaborative ventures with non members to develop new shared facilities. Examples include delays in developing paper and especially electronic payment systems, and the limping development of online internet payment mechanisms.

3.126 Conflicts of interest can also stifle innovation. Board members represent their own company's interests as well as those of the scheme. There are poor incentives to maximise value and make the best use of the scheme's assets. As well as attempting to delay innovations for which a bank is not ready, conflicts may arise when the same bank is represented on the board of more than one scheme. The Review heard of several instances when the owners of a scheme stopped its management expanding into new areas that would compete with other schemes.

3.127 The boards of payment schemes are in effect committees of bankers. They lack the fresh ideas and expertise that directors from other areas of life would bring. This is a particular shortcoming when facing new challenges such as e-commerce. This does not mean that the UK payments system is incapable of innovating. Existing schemes have made a number of real achievements over the past five years. But better governance would undoubtedly spark more innovation.

3.128 One practical response to the problems of innovating within the existing framework has been for individual suppliers or groups of suppliers to develop new services unilaterally or to set up new consortia. For example, the debit card scheme Switch, the electronic money scheme Mondex and the LINK ATM network were all initially set up by a small group of existing banks and building societies. But in some cases, innovation may be more effective if it originates within existing schemes or uses existing infrastructure. The development of bespoke payments 'silos' for separate payments schemes can duplicate resources and costs. Economies of scale and problems in obtaining critical mass mean that this option is open only to larger suppliers who often have the most to lose from change.

3.129 Access restrictions also prevent innovative use of payment schemes at network margins. New entrants are unconcerned about the impact of innovation on existing business and are thus more willing to try new ideas. This in turn forces existing suppliers to raise their game. It is difficult to predict the direction that a liberalised payments market might take. The types of service that might become more widely available include: using a debit card to settle a range of bills at supermarkets; obtaining change, buying theatre tickets or cashing a unit trust through an ATM run by a specialist non-bank supplier; renewing a season ticket through the BACS system via a terminal owned by the transport operator.

Slow and inflexible service to end users

3.130 The rhythm of the UK payment system often seems to reflect the nineteenth century more than the twenty first. It takes three to four working days for a customer of an internet current account provider to transfer money electronically through BACS to an account held with another supplier, for example. Other aspects of the payments cycle still bear witness to the work habits of a nineteenth century bank clerk. Weekends and bank holidays add further unnecessary delays to what are now largely automated processes. Internet retailers are frustrated at the credit and debit card systems' lack of flexibility in adapting to an e-commerce world.

3.131 There are two main reasons for this slow pace. First, there is still a large amount of paper flowing around the system in the form of cheques. Although the UK is not as

dependent on cheques as economies such as the United States, it still lags behind countries such as Norway and Finland in their reliance on fast, efficient electronic payment methods.[9] Second, the timescale of electronic systems still resembles that of the paper based systems they are replacing. The 'pace of the slowest' effect has also been a factor here. Until recently, the accounting systems of many of the larger UK banks have been unable to update customer accounts in real time. These suppliers would draw little benefit from developing a system that could make more rapid payments.

3.132 Delays matter for a number of reasons. One reason is that banks and building societies can earn float revenue from delays. This argument is often overstated. For most cheque and BACS transactions, the recipient starts receiving interest for the transaction value on the same day as the payer stops receiving it. In some cases, the recipient's account is credited before the payer is debited. Where float revenue is earned, however, it is a particularly opaque form of charging. It is not transparent to those who pay for it and it is difficult to calculate.

3.133 Much more significant are the costs to businesses and customers of slow payment. Clearing delays make it hard for retail and business customers to manage their financial affairs effectively. This results in higher bank charges from unauthorised overdrafts and foregone interest revenues. These problems are especially acute for low income consumers and SMEs. The lack of a seven day input cycle for BACS inconveniences its user companies.

3.134 The leisurely pace of all retail payment schemes imposes a high price on customers who need to make a payment in a hurry. Prices for same day CHAPS payments for retail customers are typically between £15 and £20. This high price reflects cost factors relating to the system's security requirements and the need to prioritise such payments. However, the lack of a cheap alternative makes it possible to exploit customer needs by charging high margins on CHAPS transactions.

3.135 This is an area where the UK is falling behind best international practice. Cheque recipients in Canada start to earn interest within 24 hours and are often able to withdraw funds against cheque payments in the same timescale. In the UK, customers rarely receive interest before the third working day after paying in a cheque, and may have to wait up to eight days before they can use the money. Retail customers in Finland can make same day low value payments, without incurring the costs of a system designed for high value payments. Customers of the Finnish Bank Merita can make secure real time internet payments, through the Solo product. Not all customers require speedy payments. But at present, all customers get the same slow service from the banking system.

Adapting to e-commerce

3.136 The internet is changing the way people live and work. It has also spawned a new genre of industry known as e-commerce. The recent Performance and Innovation Unit (PIU) report, *e-commerce@its.best.uk* sees the importance of e-commerce lying in:[10]

[9] Diana Hancock and David Humphrey 'Payment transactions, instruments and systems: a survey' *Journal of Banking and Finance* 1998

[10] Performance and Innovation Unit *e-commerce@its.best.uk* September 1999

- 'its dramatic growth and potential;
- the major impact it will have on market barriers to entry;
- the way it enables increased efficiency and effectiveness within existing business models; and, most importantly;
- the way it enables transformation of existing business models.'

3.137 The PIU report also looked at the UK's relative performance in this area, and identified issues which may be restraining the development of e-commerce in the UK.

3.138 One issue identified by PIU is the availability of facilities to accept payment online by credit or debit card. This mainly affects the consumer to business side of e-commerce, which according to the PIU report accounts for just 20 per cent of electronic transactions. This still amounts to a figure approaching $1 billion in 1999 (e-commerce revenues reached an estimated $4.5 billion that year).

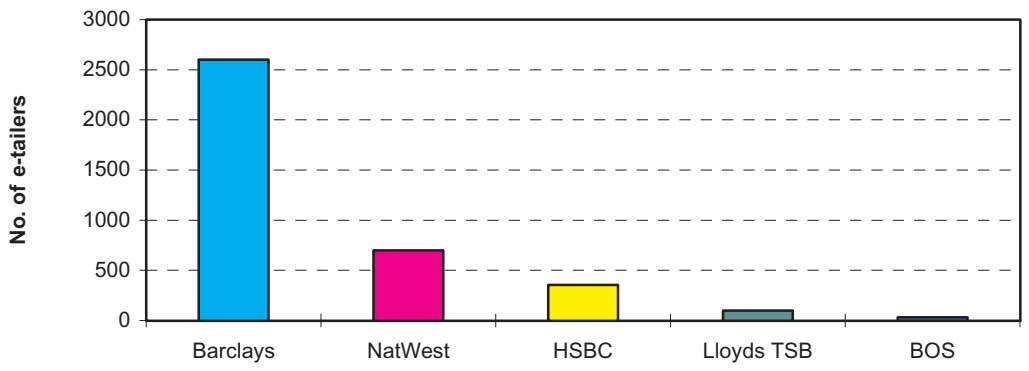
3.139 Payment by plastic cards is currently the main choice of settlement for online transactions, putting e-tailers who cannot accept credit or debit cards at a considerable competitive disadvantage. Any retailer wishing to accept payment by debit or credit card must gain a contract with a merchant acquirer for the scheme.

3.140 There are currently eight merchant acquirers in the UK, all banks, of which at least five acquire for purely web-based retailers or accept transactions from retailers which carry out some business online. Chart 3.18 below shows the extent of the merchant acquirers' e-tailers customer base.

3.141 As the chart shows, Barclays currently acquires for the largest number of web-based retailers. Its closest rival, NatWest, acquires for around a quarter as many e-tailers. The market is highly concentrated, offering web based retailers a restricted choice of suppliers. Those merchant acquirers which do supply web based firms generally require a trading and banking history, which prevents start ups from obtaining card acceptance facilities.

3.142 Merchant acquirers have been slow to develop payments products suited to e-commerce. Only NatWest currently offers a multi currency acquiring service, which is better adapted to the international nature of e-commerce. This service is available at a premium, adding to the costs the e-tailer incurs in accepting payment by credit or debit card.

Chart 3.18. Number of purely web-based firms acquired for, October 1999



Source: Banking Review

3.143 The market has found ways to circumvent these problems. Third party firms such as WorldPay (in which Natwest has recently bought a stake) act as intermediaries between the e-tailers and the merchant acquirers. These payment service providers (PSPs) offer web based firms card acceptance facilities and in some cases accept some of the financial liability in the event of failure. They cannot 'acquire' the card transactions however, as they do not qualify as members under current rules. The PSPs themselves need a contract with a merchant acquirer and act as the acquirer's bureau or agent. Some retailers also use overseas acquirers.

3.144 PSPs charge a premium on top of the merchant acquirer's charges. So while they help e-tailers gain access to the payment system, this inevitably adds to the e-tailer's costs and hinders the development of e-commerce.

3.145 In other areas, too, the UK payment system has failed to respond rapidly to the challenge of e-commerce. Despite paying high interchange fees, web based retailers find it hard to obtain guaranteed payments for debit and credit card transactions. In other areas of e-commerce, the UK lags behind the US and Scandinavia where banks have made greater progress in introducing electronic bill payment over the internet. E-commerce also demands faster payment systems. Without face to face contact, people want to be paid immediately, not in the three days offered by the UK payments system.

Poor transparency to end-users

3.146 The UK payment system is patently not transparent. Governance is once again an issue here. Full membership of a payment scheme confers the benefit of more and better information. As a result, contact between payment schemes and their end users is discouraged. This means, for example, that credit and debit card schemes keep their rules secret from the retailers and customers who use their cards. Visa is particularly secretive. Wholesale prices for the BACS system are withheld from the end users who ultimately pay them. Lack of contact with end users may also create practical inefficiencies. For example, the decision to roll out chip for debit and credit cards was made by APACS, following a trial in summer 1998, without proper consultation with third parties, such as retailers. The British Retail Consortium has argued to the Review that there were a considerable number of technical and operation issues which had not been resolved at that time, which made it impossible for large retailers to implement chip cards. Many of these issues are only now being addressed, by bringing together the interested parties (eg retailers, banks, hardware and software suppliers).

3.147 Poor transparency also extends to the provision of information to customers, notably in the failure to disclose ATM charges.

Ineffective framework for government intervention

3.148 The institutional framework for dealing with the market failures identified in this report falls some way short of the ideal. A number of different government bodies have responsibilities for the payment system. The Financial Services Authority plays a direct role in regulating some payments activities. Given the requirement in many payment schemes that members must be 'properly regulated', the FSA implicitly regulates access to many payment schemes. In performing this role, it has not been required to consider the

effect on competition in customer-facing markets. The Bank of England is heavily involved in payment systems, both as a settlement bank and as a guardian of financial stability. It has been put to the Review that it also plays a public interest role as a member of APACS and its clearings. In this last role, its objectives are much less clearly defined than those relating to stability. The Office of Fair Trading and the European Commission's DGIV have powers to apply normal competition law to the agreements and conduct of payment schemes.

3.149 There are two main problems with the institutional framework as it currently stands. First, the objectives of the Bank and the FSA are not sufficiently robust to ensure competitive outcomes. Second, the competition authorities do not have sufficient powers to promote competition and innovation. Competition at the scheme level is never likely to be effective. Normal competition laws are designed for markets where effective competition can thrive in the absence of particular types of agreement or conduct. In markets where this is not feasible, further powers are needed to protect consumers' interests.

New policy approaches in Canada and Australia

3.150 This problem is not just one facing UK policy makers. Australia and Canada have both introduced new regulatory frameworks designed to address issues of competition and access to payment systems. In Canada, the government has explicitly laid down the constitution of the Board of Canadian Payments Association (CPA), requiring it to contain five banks, six non bank users, three independent members and the central bank. The CPA also has a stakeholder advisory council. The Canadian Ministry of Finance must approve CPA rules within 30 days and has the authority to designate other payment systems for oversight. In effect, this gives the Ministry of Finance the power to direct a payment system to change any by-laws, rules or practices which the Minister deems to be against the public interest.

3.151 There are two key institutions involved in the governance of the Australian payments system. These are the Australian Payments Clearing Association Ltd (APCA) and the Payment Systems Board of the Reserve Bank (Australia's central bank). APCA was established in 1992. The Payment Systems Board is a new institution established in July 1998. There are both similarities and differences between APCA and its UK counterpart, APACS.

3.152 APCA is a membership association, owned and controlled by banks and other deposit taking institutions. Its function is to oversee the clearing and settlement of transactions in Australia. Unlike in the UK, clearing and settlement for all payment systems in Australia are carried out bilaterally between individual banks. APCA itself owns no physical infrastructure, nor does it oversee the companies that do. Direct access to clearings is not linked to membership of APCA, as it is here.

3.153 APCA has four different clearing committees with nine members on each (the four large banks plus representatives of credit unions, building societies, regional banks, foreign banks and the Reserve Bank). Votes are in proportion to clearing volumes. At Board level, which considers any appeals against committee decisions, each member has one vote and at least six out of nine possible votes are required to pass a decision. So while the

big four banks do not enjoy a majority in their own right they have enough power to form a blocking minority.

3.154 As in the UK, member banks are free to develop payments initiatives outside APCA. Examples of such initiatives include participation by the four big banks in the Mondex franchise for Australia, and a telephone bill payment scheme, BPAY, which six of the banks have joined.

3.155 APCA intends to change its board representation so that it is based solely on volume. This would remove the requirement to be a deposit taker and allow any clearer (acquirer or issuer) to participate. APCA also intends to go further by including retailers which switch EFTPOS transactions directly to individual banks, such as Coles Myers[11].

3.156 The Australian Payment System Board was established in July 1998, in line with the recommendation of the Financial Services Inquiry (FSI). The FSI had expressed a concern that previous arrangements - essentially cooperation through APCA, with the Reserve Bank as one voice among others - were not sufficiently attuned to public policy goals. Of particular concern was the lack of a body with the responsibility and powers to improve the overall efficiency of the payment system.

3.157 The Payment System Board has a mandate to promote the safety and efficiency of Australia's payment system. It has formal regulatory powers to achieve this, based on long standing powers of the Reserve Bank and on specific new powers, introduced after the FSI. The key piece of new legislation is the Payment Systems (Regulation) Act 1998. This gives the Reserve Bank powers to:

- 'designate' a particular payment system as being subject to its regulation;
- determine rules for participation in that system including rules on access;
- set standards for safety and efficiency for that system;
- arbitrate on disputes in that system;
- gather information from that system or from individual participants.

3.158 The legislation was framed to allow a 'coregulatory' approach. APCA and other private-sector bodies take the lead in the first instance, with the Reserve Bank's formal powers acting as a safety net. To date, the strategy pursued by the Payment System Board is to intervene and regulate only if coregulation fails.

3.159 The Australian Competition and Consumer Commission (ACCC) continues to apply competition law in the sector. It has a legal duty to scrutinise the rules of the different APCA clearing schemes and has so far approved three out of the four schemes. The fourth is currently before the ACCC. The Payment Systems Board is required to work closely with the ACCC in areas where their powers overlap - over access to payment systems, for example. They have agreed a memorandum of understanding which sets out how this will be achieved.

[11] *APCA's application to the Australian Competition and Consumer Commission*, 7 July 1999.

3.160 The Payment Systems Board's current areas of interest are promoting direct debit and looking closely (together with ACCC) at interchange arrangements for credit and debit cards. It also claims some success in persuading banks to accelerate their plans to reduce cheque clearing times, although the banks argue that they were already doing this through APCA.

3.161 Given the overlap in responsibilities between the Payment Systems Board and APCA, one might expect some tension to arise between these them. There may also be some conflict between the Reserve Bank's role as a regulator and its membership of APCA's committees. APCA has looked at this but it is too early to draw conclusions.

Conclusion

3.162 The analysis reveals serious problems in the UK payment systems. Basic flaws in governance contribute to concentrated market structures in markets to supply customers and SMEs. This leads in turn to poor service levels and high consumer prices. Innovation is thwarted by vested interests, hampering technological progress and the development of e-commerce. Government reaction to these problems is ineffective. UK customers and businesses need a better payment system. These problems are not unique to the UK, and some other countries have taken positive action to deal with them. So can technical change and other external factors bring about the dramatic improvements needed without further intervention? These issues are considered next.

MARKET DYNAMICS

The euro

3.163 The euro became a reality on 1 January 1999 when 11 EU Member States - all except the UK, Denmark, Sweden and Greece - irrevocably fixed their exchange rates against the euro and ceded control over monetary policy to the European Central Bank (ECB). The policy of the UK Government is that, barring unforseen economic circumstsances, the UK will not join the euro within the lifetime of the current parliament.

3.164 Even without British membership, the euro will have an impact on UK payments systems. Over half Britain's overseas trade is with partners in European countries. As overseas trading partners adopt the euro, UK firms will naturally make far greater use of the new currency. These firms may pass on the currency risk by using euros to pay their domestic suppliers. The overall effect will be a substantial increase in both crossborder and domestic euro denominated transactions by UK firms. In aggregate these will outweigh the transaction volumes which would previously have been denominated in any other single non euro European currency. The relatively high volume of euro transactions will motivate UK firms to adapt their payment arrangements to process euros. Given pressures to minimise costs, this is likely to hasten the trend towards electronic payment methods.

3.165 Change driven by the euro has already begun in high value payment systems. APACS set up CHAPS Euro on 4 January 1999 to provide a real time gross settlement (RTGS) system linked to TARGET, a pan European clearing system which links the national

RTGS systems of EU member states. Even without British membership of the euro, CHAPS Euro processes a substantial volume of euro denominated transactions: 80,000 payments on an average day with a total average value of £150 billion.

3.166 The euro is already having an impact on UK payments systems. It will have an even greater impact if the UK adopts the euro. Crossborder transactions should become smoother as they would no longer carry the financial risk of a foreign exchange transaction. Adopting the euro strengthens the case for a low value crossborder payment system, one that would remove the complexity and inefficiency of current correspondent banking arrangements.

3.167 Large corporations which already use payments systems in individual European countries are likely to rationalise their payments, taking advantage of the common currency to consolidate their payments functions. The euro and the development of pan European settlement systems such as TARGET will allow firms to settle all intra EU transactions across a single clearing system. Payment volumes will migrate to the more efficient payment systems as firms will no longer need to settle Belgian transactions using the Belgian payments systems, say, or French transactions using the French system.

3.168 This will increase the pressure to merge payment systems, as the less efficient lose business and demand grows for cross border payments. This is happening already with low value payment systems of countries that trade extensively with each other. Spain and Portugal are looking at harmonising their cheque clearing systems, for instance. High value payment systems will experience even more pressure because of the relative size of their end users and will eventually consolidate to one or two pan European systems. This will bring European suppliers of payment services - banks - into competition with each other.

3.169 One effect for the UK of consolidating payments systems within Europe will be to bring settlement and rules under the control of the European Central Bank rather than the Bank of England as at present. So it is very important that the UK participates in the development of efficient European systems.

3.170 A single currency will not by itself create an efficient, competitive and innovative pan European payment system. This is for several reasons. First, more groundwork is needed to prepare the change. Standardised procedures, payments instruments and, in some cases, laws will all be needed - issues which are independent of the euro. The US has a highly fragmented payment system despite its common currency.

3.171 Second, the euro will not change the local character of certain segments of the market for money transmission. Many consumers and SMEs will still carry out transactions through local suppliers. So without intervention, national payment systems such as BACS will still maintain strong positions in their national markets, at least in the medium term.

3.172 Third, the euro will not necessarily help non banks gain direct access to payment systems. Other EU countries place similar restrictions on access and it is unclear how the single currency might change the situation. It could even make it worse if the lowest common denominator applies and merging payment systems adopt the tightest set of restrictions. Governance arrangements may not change either.

3.173 And finally, the dynamics arising from the single currency will not necessarily lead to greater competition between payment systems. Schemes offering complementary services to geographically separate customers might have some member institutions in common, for instance. A British clearing bank for low value payments might belong to a French clearing scheme to offer its British customers French payment facilities. Over time, mutual membership would build bridges between the schemes and they would eventually collapse into one scheme. In the long term it is likely that national schemes will merge rather than compete for customers.

The internet

3.174 The internet and e-business offer consumers a new interface to money transmission systems. With the arrival of electronic banking, consumers can now access their bank accounts though their home PCs or digital televisions. The internet will also give rise to new markets such as video on demand which generate large volumes of micro-payments, and new services such as electronic bill consolidation and payment.

3.175 The internet has already affected the technical process of making a payment. The need for a separate, secure infrastructure for each scheme has lessened with the development of security standards like Secure Sockets Layer (SSL) and Secure Electronic Transfer (SET). These lay down standards for the transfer of payments data over telecommunications links. Potentially, this allows new payment schemes to set up using existing internet links, without investing in separate infrastructure.

3.176 The internet has also seen the development of new payment systems such as 'beenz', which internet shoppers can collect and exchange for goods. These face the hurdles of network effects and may never become more than niche players.

3.177 The international nature of the internet will reinforce the globalisation of trade and payments. Like the euro, this will provide an impetus to consolidate payment systems.

3.178 However, the internet does not offer an instant miracle cure for the ills of UK payment systems, any more than the euro. The basic elements of the systems will not change overnight. At least in the short term, existing payment systems will dominate e-payments. BACS and credit and debit card transactions will remain the obvious means of making payments over the internet. The governance structure of these payment schemes and their attendant problems will also remain. The clearing banks which control these schemes will also control the speed and nature of change in payment methods.

3.179 So although the internet offers tremendous possibilities for buying and selling goods and services online, people inhabit a real not a virtual world. Physical transactions will still take place, supported by the necessary means of payment. People who bank online will still need access to the ATM network. Traditional payment schemes will remain highly important in day to day life.

Conclusion on market dynamics

3.180 Overall the main effects of the euro and the internet will be to hasten the trend towards electronic forms of payment, increase crossborder payments and in the long term, encourage consolidation in the payments business. But governance and access problems remain and neither the euro nor the internet will automatically solve these problems. Nor will they necessarily stimulate direct competition between payment schemes.

RECOMMENDATIONS

3.181 Many of the problems facing UK personal and SME customers of banking services are caused by the underlying structure of the UK payment system. The UK payment system consists of a series of unregulated networks, mostly controlled by the same few large banks who in turn dominate the markets for services to SMEs and personal customers. In many cases, this results in concentrated downstream markets, high barriers to entry, distorted wholesale prices, high retail prices and low levels of flexibility and innovation for end-users.

3.182 Changes to the external environment, such as European Monetary Union and increasing internet use, are likely to have a significant impact on the supply of some payment service, especially cross-border payments and payments between larger businesses. They cannot be relied on to resolve the problems identified by the Review, however, as they will not affect the underlying structural problems. The economics of payment systems - in particular, the competitive advantage that network effects confer on schemes that have established critical mass - also tend to work against the development of new payment schemes in competition with existing bank run schemes. There is a strong case for government intervention to counteract these market failures.

A new framework for competition

3.183 The Government must provide a framework of rules in which effective competition can flourish. It could do this in one of the three ways. The first option is to rely on existing powers such as those created by the Competition Act 1998. This would require activities of existing government bodies to be modified to make sure that these issues are given a sufficiently high priority. The Office of Fair Trading could be required to publish regular reports on competition in payment systems, for example. The second option is to enable the government to designate particular payment systems and to intervene directly in them. This is the approach that Canada and Australia are developing.

3.184 A third option is to establish a licensing regime for payment systems that embodies the core principles set out in this Review. Under this approach, a legal person would be given the power to issue licences for participating in payment systems. Licence conditions would spell out the principles aimed at safeguarding effective competition, and violating these principles would put a firm or scheme in breach of its licence.

3.185 The licensing approach is preferable for two reasons. First, the Review has identified fundamental competition weaknesses in payments markets. Many of these

problems are inherent to the economic character of the system. Reacting to complaints as they arise or to individual agreements as they are furnished may not reach the heart of these underlying problems. Second, there is considerable merit in establishing ex ante principles up front so that new entrants can make investments secure in the knowledge that they will not, for example, be denied access unreasonably. Designation may give governments more effective powers to intervene in a timely fashion but at the cost of regulatory uncertainty for all concerned.

3.186 The Review therefore recommends that *the Government should establish a licensing regime to regulate competition in payment markets. This regime should have the following features:*

- *participation in payment systems should be a licensed activity. All participants in payment systems should be subject to a class licence, written by the Treasury;*
- *a legal person should be granted effective powers to monitor compliance with the class licence and to impose sanctions. The sanctions should be in line with those contained in the Utilities Bill, currently before Parliament;*
- *there should be a process of appeal.*

The Government should put in place licence conditions to secure the following outcomes:

- *price transparency;*
- *good governance;*
- *non discriminatory access;*
- *efficient wholesale pricing;*
- *fair trading.*

3.187 In order to define the scope of this licensing regime, 'payment system' should be given a legal definition. For example, the recent Australian legislation defines a payment system as a 'funds transfer system which facilitates the circulation of money'. Participation in a payment system should be defined widely to include suppliers of payment services to end users (such as banks), payment schemes, scheme or service administrators, infrastructure operators, and end users.

3.188 For many participants there would be no further licence conditions. This means that the licensing regime would not constrain their activities any more than they are constrained by any existing legislation. The class licence should include a number of further conditions, aimed at payment schemes and firms that offer services to end users. These further requirements are discussed below.

Significant market power

3.189 The class licence would include a number of further conditions for participants who enjoy significant market power in the supply of payment services, whether as schemes, banks or infrastructure providers. The test of market power is an economic one: is the participant able adversely to affect the overall level of prices, service quality or

innovation in the supply of payment services to end users? This falls short of the test required to prove dominance under European competition law. More than one participant in a relevant economic market may enjoy significant market power.

3.190 The licence conditions applying to participants with significant market power would aim to overcome the problems identified in this chapter, and especially poor governance, distorted wholesale pricing and anticompetitive retail pricing. The regime should concentrate on the **economic effects** of particular behaviour, rather than the particular form that such behaviour takes. In particular, it must not be possible for individual banks or groups of banks to avoid the licensing regime by taking unilateral or bilateral actions that replicate anticompetitive restrictions currently imposed by payment schemes.

Price transparency

3.191 For competition in retail markets to work effectively, customers must know the price they are paying for goods and services. Clear price information is also a basic consumer right. The standards of price transparency in some payment systems are currently unacceptable. The class licence should therefore require that all participants who offer payment services to personal and SME customers to provide timely, accurate and relevant price information.

Good governance

3.192 The second area to be addressed is the way in which committees of bankers own and operate all the major payment schemes. This stifles innovation and change, provides incentives for anticompetitive behaviour and has resulted in a system that cannot cope well with the demands of the new internet age. What is needed are governance structures designed to meet the needs of users rather than suppliers.

3.193 The approach taken by the Canadian government has been to regulate directly the board structure of the Canadian Payments Authority, their equivalent of APACS. A more flexible approach would be to apply a simple rule to payment schemes where significant market power is present, and allow schemes to experiment with different corporate structures.

3.194 The class licence should contain a condition which prohibits a firm - or group of firms - with significant market power from controlling a scheme which likewise exerts significant market power. Control of a scheme by a firm can be defined as the power to ensure that the scheme's affairs are run in line with that firm's wishes, whether by means of shareholding, voting rights or other powers.[12]

3.195 Prohibiting such control of a scheme with significant market power would still allow a range of governance models. These might range from running schemes as arms length for profit companies to wider stakeholder models in which a range of users jointly govern a scheme.

[12] As for example in the *Income and Corporation Taxes Act,* 1988, section 840

Non discriminatory access

3.196 Another fundamental problem is the restrictions on direct access to payment schemes. These hamper competition in the markets facing customers and businesses, resulting in higher prices and lower levels of innovation. Widening access to payment schemes will bring in new suppliers and fresh ideas and will help to provide a payment system for e-commerce. Access conditions for payment schemes may still be tough, given the risks involved, but must be based on explicit criteria that directly reflect these risks. For example, participants may be required to prove that they have a sufficiently high credit rating, or that they have adequate safeguards in place to control operational risk. Access conditions should not be permitted which artificially limit access to a payment scheme to particular classes of firms, such as banks or card issuers.

3.197 The class licence should therefore contain a condition which requires that access to payment schemes with significant market power and any infrastructure they control must be non discriminatory.

Efficient wholesale pricing

3.198 Wholesale prices in payment schemes are often set to further the interests of controlling banks rather than to reflect underlying costs. The process by which they are set is neither competitive nor transparent. Wholesale prices directly influence the prospects of entry into customer facing markets and the prices that customers and businesses pay for payment services. The economic consequences of distorted wholesale prices include higher prices, lower levels of innovation and slower development of e-commerce.

3.199 The class licence should therefore ensure that any wholesale prices - including interchange fees - that are wholly or largely determined by a payment scheme with significant market power should be derived through a process that is transparent to final users. Such prices should be based on legitimate costs and should anticipate achievable cost reductions.

Fair trading

3.200 More effective regulation of payment schemes could induce larger suppliers to retrench into bilateral agreements between themselves. They may also be able to recreate similar entry restrictions through their own individual activities, for example by charging high and discriminatory fees for using their ATMs. These would be bad outcomes in terms of efficiency and competition. To prevent this, further powers are needed to deal with this potential problem.

3.201 The class licence should ensure that those suppliers of payment services who have significant market power are not able to withhold cooperation unreasonably from payment schemes and from other suppliers. Suppliers with significant market power should not recreate access restrictions or wholesale prices that would be prohibited if introduced by a scheme.

Location of licensing powers

3.202 The next issue to consider is where the proposed new powers of monitoring compliance, exercising sanctions and proposing modifications to licenses should be located. There are essentially four options: the OFT, the FSA, the Bank of England, or a new payments regulator.

3.203 Each of these options has its attractions. Regulation by the OFT would ensure consistency with the application of competition policy elsewhere in the economy. The FSA is experienced in assessing the risks posed by particular firms and their competence in managing those risks. The FSA should be well placed to evaluate any trade off between competition and risk. And it already has some experience of regulating similar financial services through its oversight of stock exchanges and clearing houses. But the FSA would need a sufficiently robust duty to secure a competitive outcome. Locating these powers in the central bank is the approach taken in Australia. The Bank of England has developed expertise in payment systems issues. The Bank's objectives would need to reflect the explicit aim of promoting competition. Finally a new payments regulator would have a clear focus on competition in payment systems but would need to co-operate carefully with other government bodies involved.

3.204 Of these options, the Review's clear preference is for a new payments regulator. None of the alternatives could guarantee the sustained dynamic focus on competition in payments systems that is required to deliver results in this area. The Review therefore recommends that ***the Government should bring forward legislation to establish a payments systems commission (PayCom), charged with supervision of the payment system licensing regime. It should be independent of the competition authorities, other regulatory commissions, and of the industry.***

Likely consequences of new competition framework

3.205 This set of recommendations would entail much tighter and more effective government involvement in this area. The benefits of this approach are clear. The payment system underpins the economy and exerts a key influence on competition in banking markets. Getting the regulatory framework right for these key economic assets will bring lasting benefits to consumers. Effective regulation will constrain the ability of large banks to use payment schemes as entry barriers in downstream markets and will remove the checks on innovation created by current governance arrangements. This will bring lower prices for consumers and encourage innovative new services.

3.206 Government itself will benefit directly from more dynamic and innovative payment schemes for its own payment needs - delivering benefits, for example, or collecting taxes. This competition framework will also make it easier for the government to deliver on its other policy objectives. Box 3.2 shows how greater competition combined with other government interventions could provide much better access to credit card networks for e-commerce merchants.

Box 3.2. Example of coordinated government response to a payment system issue: access to credit card networks for e-commerce retailers

The PIU report "e-commerce@its.best.uk" identified government concerns about the problems faced by e-commerce retailers ('e-tailers') in obtaining credit card facilities. The new regulatory regime proposed by the Review would help reduce these problems by:

- **removing unnecessary restrictions on who can be a merchant acquirer.**

This would exert downward pressure on the prices charged to all retailers - including e-tailers - for access to credit card networks and will clear the path for Internet specialists to offer a 'one stop' payment service to e-tailers.

- **reforming wholesale pricing for credit card services**

This would help e-tailers by removing an added cost and further reducing the price of merchant acquiring. Many of the problems with this particular aspect of credit card systems stem from the distribution of risk. This is heavily influenced by the chargeback system, which for internet transactions effectively leaves the e-tailer and merchant acquirer bearing all the financial risk of disputed transactions. This is the case even though part of the interchange fee is a charge for the card issuer's guarantee of payment. There are two options to remedy this: change the rules to remove the issuer's right of chargeback when it has authorised the transaction; or make the payment guarantee an optional service. Both options would ensure that retailers get what they are paying for (a payment guarantee). Under the second option, retailers would choose to pay the premium for the service or bear the risk themselves.

Other government interventions that would help deal with this problem include:

- **introducing digital signatures**

The Electronics Communication Bill 2000 will help to reduce overall levels of risk in this part of the market. The Bill makes provision for digital signatures to be 'admissible in evidence in relation to any question as to the authenticity of the communication or data or as to the integrity of the communication or data'. This will allow e-tailers to use digital signatures to prove transactions took place and so avoid chargeback.

- **providing a forum for cooperation**

Web-based firms have suffered from the lack of a forum for projects which could benefit e-commerce but which require co-ordination between issuers, acquirers and retailers. Examples include cardholder address verification, which would require card issuers to contribute to a database; and the development of software which tracks transactions to detect possible fraud. This would require retailers to pool transaction data. To encourage development of products designed to meet e-tailers' specific needs, the Government could chair a series of seminars between banks and e-tailers aimed at advancing projects that require co-ordination.

Consequences for the main payment networks

3.207 This new competition framework would leave many participants unaffected or only marginally affected, notably those who do not enjoy market power. By contrast, it would have substantial implications for those payment schemes and firms which do.

3.208 The application of this framework to existing payments networks would be the responsibility of the legal person charged with applying the new licensing framework. He or she would have powers to investigate breaches of the class licence and may come to different conclusions to those reached by the Review. The research carried out by the Review shows that the likely implications of this new framework would be far reaching, however.

3.209 All of the main payment schemes would have to reform their governance arrangement to comply with the good governance requirement. The need for change to comply with the other terms of the class licence would vary from case to case. The likely implications for the main payment methods are discussed below.

Cash withdrawal

3.210 Problems with current arrangements for making cash withdrawals are detailed in Annex D4. A clean and effective first step in the reform of the governance of LINK, the main ATM network, would be to transfer the infrastructure owned and operated by LINK to an independent for profit company. Application of the other principles would lead to the following changes:

- customer charges incurred in making a cash withdrawal through an ATM would be displayed on the ATM screen before the customer withdraws any cash. The fee disclosed would be the sum of both issuer and acquirer charges;
- any non-bank who meets objective risk-based criteria would be allowed full access to the LINK scheme as an issuer or an acquirer. Firms who operate ATMs but do not issue ATM cards would be allowed to connect directly to the LINK ATM network;
- interchange fees in both LINK and for cash withdrawals using credit cards would be derived through a process that is a transparent to final users, would be cost-based and would anticipate achievable effiency gains. There would be no difference in the interchange fees paid and received by different market participants;
- suppliers with significant market power in either the current account or cash distribution market or both, would be prevented from unduly descriminating against customers of other suppliers. This will prevent them imposing extra charges on other suppliers' customers significantly above the cost of supply. Further, these suppliers would not be able to refuse to connect with other ATM owners, card issuers of ATM networks.

3.211 LINK has recently made a number of important steps in this direction.

Plastic card schemes

3.212 Visa, Mastercard/Europay and Switch all have significant market power. No other plastic card scheme enjoys significant market power in the UK. The new regime would lead to a number of substantial changes to these three schemes. Non discriminatory access means that non banks who meet objective risk based criteria would be allowed full access to these schemes as either a merchant acquirer or a credit or charge card issuer. There would be no obligation for merchant acquirers also to issue cards under any of these schemes. These restrictions and their impact on the merchant acquiring market are discussed in Annex D2. Non discriminatory access would also imply changes to the restrictions on 'cashback' for debit card schemes, for example the obligation to make a sale when offering cashback. These in effect restrict entry to the market for cash distribution. Restrictions on cashback would be agreed between retailers and merchant acquirers. They would not be determined centrally by the schemes.

3.213 There would be significant changes to the way in which interchange fees are set compared with the current approach described in Annex D3:

- interchange fees would be determined through a process that is transparent to end-users. The methodology for determining these fees would be publicly disclosed and aggregate returns would also be publicised;

- interchange fees would have to be based on estimates of costs of specific well defined services supplied by issuers to retailers. Where a cost is of doubtful relevance, it would not be included in the calculation;

- the costs of supplying an interest free period to customers would not be included in the calculation of interchange fees for credit cards;

- the interchange fee would include a forward looking element (similar to the 'X' of price regulation) to take into account achievable future cost reductions;

- as far as practicable, different interchange fees would be set to reflect differences in the costs of services provided to retailers by issuers. For example, retailer actions which reduce fraud costs should be rewarded with lower interchange payments;

- retailers would have the option of paying a 'plain vanilla' interchange fee, excluding the cost of providing a payment guatantee.

BACS and the CCCL

3.214 A clean and effective first step in reforming the governance of **BACS** would be to transfer the infrastructure owned and operated by BACS Ltd to an independent for profit company. Non discriminatory access implies that non banks that meet objective risk based criteria would have full access to the BACS infrastructure and to the schemes using it. There would be no obligation to join APACS in order to obtain full access to BACS. The wholesale charges levied by BACS Ltd on its users would be made public.

3.215 These changes would promote more flexible and innovative use of the BACS infrastructure. This would drive service improvements such as shorter clearing cycles, and make it easier to switch current accounts where there is a customer demand. If larger banks attempted to thwart desirable innovation through non cooperation, this would be tackled by the fair trading condition of the class licence.

3.216 Non banks who meet objective risk based criteria would be allowed full access to the **Cheque and Credit Clearing** (CCCL). While cheque issuing is essentially a banking activity, as cheques are drawn on customer accounts, acquiring or cashing cheques are not. There would be no obligation to join APACS to obtain full access to CCCL.

3.217 The regulatory framework would not by itself require a faster clearing cycle. Cheques are in decline, and the investment required may not be justified by the potential gains. However, transparent pricing would bring about greater visibility of the costs to SME and personal customers of delays in clearing and the revenues these delays generate for the banks. Better governance would also stimulate innovation in the cheque clearing system.

High value payment systems

3.218 **CHAPS** would be least affected by the new competition framework. Annex D1 concludes that there is limited scope for opening up high value payment systems to non-banks. It is highly unlikely that many, if any, non banks would meet objective, risk based access criteria or would wish to join CHAPS if they did. There would, however, be no obligation to join APACS to obtain full access to CHAPS.

Avoid creating regulatory distortions

3.219 It is not just the activities of payment schemes and firms with significant market power that can distort or restrict competition in payments markets. Through its regulatory activity, the government plays a direct role in determining the conditions of access to the payment system. There is a legitimate public interest in ensuring that operational and credit risks in the payment system are adequately controlled. In performing this role, government and regulators may need to set restrictions on access to payment schemes. The new framework for assessing competition under FSA regulations should make sure that any new rules do not create unnecessary access restrictions.

3.220 The Government should further ensure that it does not create similar restrictions when negotiating international agreements, for example with other EU Member States. The recommendations in this Review aim to ensure the UK leads the world in the degree of competition, innovation and efficiency in its payment system. Other countries may set less store by these criteria. There are a number of examples where a European agreement has produced regulations which restrict competition in payment systems. The E-money Directive, for example, has placed unnecessary restrictions on e-money issuing institutions. To help create the right conditions for competitive payments markets, the UK government must be vigilant in pursuing this objective in international arena.

3.221 The Review recommends that ***the Government should ensure that it does not unnecessarily stifle competition by restricting access to UK payment systems, either through its direct regulatory activities or in negotiating international agreements with other Member States.***

Act as an intelligent consumer

3.222 The Government can also help to drive efficiency by acting as an intelligent and proactive consumer of payment services. Increased competition in payment markets will make it easier for government to do this.

3.223 The Government can act as an intelligent consumer of payments services in several ways. The first step is to ensure that the public sector achieves private sector best practice in making and receiving payments. For example, government bodies should aim to accept modern forms of payment such as direct debit and offer discounts (or tax rebates) for payments made through cheaper payment mechanisms. Second, as a large user of payment services, the government can stimulate change in the development of payment infrastructure, for example electronic bill payment. Finally, in one off projects such as the electronic delivery of benefits payments, the government should define its objectives in terms of the service it wants delivered, rather than the way in which it should be delivered.

3.224 This would bring significant rewards in reduced public expenditure costs. Government can also encourage the individuals and firms with whom it does business to use efficient low cost payment methods. A proactive and informed government can also help establish critical mass for new services, overcoming the chicken and egg problem faced by payments innovators. The Review therefore recommends that ***the Government should develop a strategy for acting as an intelligent consumer of payment services across all of its functions. The Office of Government Commerce should be responsible for monitoring performance.***