

APPENDICES

A MEMBERSHIP OF WORKING GROUP: ORGANISATION OF MEMBERS

Office of Fair Trading (Chair)

Association for Payment Clearing Services

BACS Payment Schemes Limited

Barclays Bank

British Bankers' Association

British Retail Consortium

CHAPS Clearing Company Limited

Cheque and Credit Clearing Company

The Co-operative Bank

Federation of Small Businesses

HSBC

Lloyds TSB

National Consumer Council

Nationwide Building Society

The Royal Bank of Scotland Group

Which? (formerly Consumers' Association)

Bank of England (sitting as observers)

HM Treasury (sitting as observers)

B WORKING GROUP TERMS OF REFERENCE

PAYMENT SYSTEMS TASK FORCE **BACSWG Paper 01/04**

BACS PSL CLEARING WORKING GROUP DRAFT TERMS OF REFERENCE

1. The BACS PSL working group has been set up to consider the following:

BACS PSL Clearing: What is the scope for, and costs and benefits of, innovation?

2. The working group membership consists of Task Force members and nominees of Task Force members. The working group has the right to co-opt other members from outside the Task Force. The working group shall be chaired by an OFT official from the Payment Systems team.

3. The BACS PSL working group shall meet as often as is deemed necessary by the Chairperson and members of the working group to achieve the work allotted to it by the Task Force within any time constraints imposed by the Task Force. Meetings will be held at OFT's premises.

4. The BACS PSL working group shall report to the Task Force in such manner as the Task Force may direct, or, in the absence of any such direction, in such a manner as the working group shall itself consider appropriate.

5. A consensus of opinion will not necessarily be reached by the working group on any or all issues. Working group members shall have the right to report a diverging view to the Task Force. Working group members shall be named in any minutes or reports only with the permission of the participant.

6. The Chairperson of the BACS PSL working group shall provide, on the request of the Chairman of the Task Force, a report of the work of the working group for inclusion in the Task Force's annual report.

7. The work of the BACS PSL working group will not affect or impede existing or future enforcement activity undertaken by the OFT's enforcement divisions in this sector.

Payment Systems Team

OFT

19 May 2004

C SERVICE FRAMEWORK: RELEVANT EXTRACTS FROM THE FRAMEWORK

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INTRODUCTION

This paper has been prepared to inform the work of the BACS working group and has been compiled from numerous sources. It is not recommended that this document be used as a final source document for information relating to other payment schemes. It attempts to set out:

- the different payment methods available in the United Kingdom
- the different characteristics are of those payment methods, and
- to compare payment methods to assess where demand substitutability may arise between payment methods.

We wish to assess whether there is scope and demand for innovation in low-value high-volume payments (BACS type) in the United Kingdom. This first of all requires setting out the consumer-facing capabilities of BACS type payments to assess where they may not satisfy outstanding or potential demand.

Assessment of the shortcomings of BACS payments will need to be made relative to what can be offered as evidenced by other countries payment schemes and whether there is consumer demand for payment characteristics not currently available through BACS payments.

Potential solutions may arise and demands be met through innovation(s) by BACS Payment Schemes Limited⁴⁶ (BPSL) or through a currently (or soon to be) available alternative payment method. Therefore, it is also necessary to identify alternative (non-BACS) payment methods and their characteristics. The purpose of this paper, then, is to identify what payment methods are available in the United Kingdom and what their characteristics are. It can then provide all members of the Working Group with a common understanding of current payment methods as well as providing a starting point for assessing whether any potential issues of concern identified within the current BACS service can

⁴⁶ BACS Payment Schemes Ltd is the membership based 'not for profit' business dedicated to maintaining the integrity of the Standing Order, Direct Debit and Direct Credit payment schemes. It also governs the rules and legal structures under which payments are made.

be met by existing payment methods. Finally, the paper may assist when making cross-country comparisons of payment method characteristics. The central focus will be on those characteristics that are consumer facing rather than technical aspects of the scheme or payment method. However, certain consumer facing characteristics may arise due to certain aspects of the scheme. Therefore, relevant (non-consumer facing) aspects of payment schemes are also compared.

Payment methods currently available in the United Kingdom⁴⁷

Cheques (including paper credits)

BACS:

- Direct debits
- Standing orders
- Direct credits

CHAPS

Cards:

- Credit cards
- Charge cards
- Debit cards

e-money

⁴⁷ There are other payment schemes in the United Kingdom for processing payments for equity and foreign exchange. These schemes are not dealt with in this paper. Annexe B contains a brief description of other payment instruments available in the United Kingdom.

PART I: THE UNITED KINGDOM PAYMENT SYSTEMS

SUMMARY

Cheques

A cheque is a pull payment: it is a written order by an account holder⁴⁸ payer (the drawer) addressed to his/her banker (the drawee) to pay a specified sum of money to the bearer (rarely used) or to a named recipient (the payee, now used in nearly every case). In most cases, the payer's details are printed on the cheque and the payee typically presents the cheque via his/her bank (the collecting bank).

A banker's draft is a cheque drawn not by the customer but by the bank itself against funds already held by it. A bankers draft is often considered to be a more secure way of receiving money from someone the payee does not know because it is more likely to be honoured and it is more desirable and convenient than cash for some transactions.

It is also possible to transfer funds by way of a paper credit accompanied by cash or cheques to an equivalent value, which can pass through the inter-bank credit clearing system. In this instance the payer originates the payment using a paper item that has been printed with the payee's details. Many customers do not find this to be a particularly efficient mechanism when compared with telephone/internet banking and direct credit services offered by their banks in parallel.

⁴⁸ Many credit card issuers are now issuing cheques which a cardholder can use in connection with their credit account. The cheque will pass through the banking system in the same way as any other cheque but will be applied to the cardholders credit card account by their card issuer.

BACS payments

Direct debit

A Direct Debit is an electronic automated payment and is known as a 'pull' payment. This is because the process enables a beneficiary (who has been pre-authorised by a payer) to request regular payment from the payer's bank account, by automated means.

A payer (e.g. a consumer) gives authority for his/her account to be debited by a particular Direct Debit Originator (i.e. corporate beneficiary) by completing a Direct Debit Instruction (DDI),⁴⁹ which the Originator must 'lodge' at the payer's bank before claiming any payments from the payer's account.

Direct credit

A Direct Credit is an electronic payment that is initiated by an organisation or an individual. It can be used for payment of salaries, regular bills and payments to suppliers. Payments are processed by Voca Ltd⁵⁰ over a three day processing cycle. Payment instructions can be transmitted directly into the BACS system by banks and corporate users using telecommunications and the internet.

Additionally, consumers and business customers can submit instructions via a bank channel (e.g. a branch, ATM, telephone banking or internet banking services); the provision of channels and their associated conditions of use are a competitive matter for each bank.

Standing order

A Standing Order is a type of recurring Direct Credit payment. It is an instruction, or 'payment order', given by an account holder to his/her bank or building society to make payments to a specified customer at another bank or

⁴⁹ The Direct Debit Instruction is commonly referred to as the Direct Debit 'mandate'.

⁵⁰ Voca Limited (formerly known as BACS Limited prior to 12 October 2004) is the commercial company that physically processes the Standing Order, Direct Debit and Direct Credit payments, and maintains the payment network.

building society in the United Kingdom. Standing Orders may be initiated via a number of bank channels (as per Direct Credits) and are usually set up for recurring or 'regular' payments due to the same beneficiary and for the same amount.

Standing Orders and Direct Credits are 'push' payments, whereby the payer initiates the payment instruction.

CHAPS (Clearing house automated payment system)

CHAPS is the real time gross settlement system (RTGS) for credit transfers. In CHAPS there are two separate clearing schemes, one in sterling the other in euro. Real-time Gross Settlement (RTGS) is a process where each individual payment is settled in real time across clearing members' settlement accounts at the Bank of England. During the course of normal operations payments between settlement banks within the system are irrevocable at the point in time when value is exchanged across respective settlement accounts. During normal operations finality (settlement) is also achieved at the same point in time.

In order for payments to be eligible for Clearing it must:

- comply with the specification of a Payment as outlined in the Schemes' reference documentation
- not be conditional, and
- be directed between offices of Members of the relevant schemes.

There is no restriction on the value of transactions handled.

Card payments

Visa and MasterCard are the United Kingdom's principal operators of both charge and credit cards. Switch/Maestro and Visa Debit are the principal debit card operators. Indeed, in the United Kingdom Visa debit cards are more widely

issued than Visa credit cards. All the above schemes use a four-party system.⁵¹ However American Express (which does offer some branded four party credit cards) or Diners Club are three party schemes as the issuer of the card is also the merchant acquirer; therefore there is one fewer party to the transaction.

Credit cards

A credit card enables the cardholder to obtain goods and services from a merchant on presentation of the card or, for remote transactions, the card details. Visa and MasterCard are the principal credit card payment systems in the United Kingdom. Both payment systems also cover the issue of charge cards. Visa and MasterCard do not issue cards themselves. Instead the card is issued to the cardholder by a bank or financial institution that is a member of the Visa or MasterCard payment system.

A credit card holder will generally have an interest free period (up to a maximum 60 days depending on the issuer – the average interest free period for a transaction will be much less than 60 days) in which to pay the card issuer. According to the issuer's terms of agreement the cardholder can choose to pay off the amount owed to the issuer in full at the end of the month or can choose to roll over the balance usually at the cost of being charged interest on the value of transactions (usually subject to a minimum monthly payment).⁵²

Charge card

A charge card has a very similar structure to a credit card with the exception that there is no option to roll over the balance. All cardholders must pay off the amount in full at the end of the interest free period. American Express cards have in the past been charge cards although American Express now also issues credit cards. Charge cards are also issued using the Visa and MasterCard brands by member banks.

⁵¹ The four parties being the cardholder, merchant, card issuer and acquirer. A three party scheme differs in that the issuer and acquirer are the same institution.

⁵² Not always the case, as many 0% APRs are available.

Debit card

A debit card can similarly be used to obtain goods and services from merchants but unlike a credit or charge card there is no interest free period. Instead the amount is debited from the cardholder's account – this can take 2 days depending on the merchant/acquirer/issuer concerned. It can also be used to obtain cashback and, by the merchant, to make certain types of payment to Cardholders (e.g. Refunds).⁵³ Debit cards are usually issued as a multi-functional card forming part of a current account package; they frequently act also as cheque guarantee cards and as ATM cards. Visa Debit and Switch/Maestro/Solo are the only debit card payment systems operating in the United Kingdom, with market shares of transaction volumes in 2001 of 48 per cent and 52 per cent respectively. Switch/Solo announced in August 2002 that these brands would migrate over the next few years to Maestro, the international debit card brand of MasterCard.

e-money⁵⁴

E-money is a form of monetary value which is:

- paid for in advance
- stored on an electronic device, e.g. a plastic card with a chip or magnetic strip, or on a computer, and
- accepted as a means of payment by persons other than the issuer.

Like notes and coins, e-money can be used to pay for goods and services in shops, supermarkets and other locations. As an electronic means of payment it can also be used over the Internet or by phone. However, payment by e-money is only possible if the goods or services provider is equipped with an electronic

⁵³ Refunds can also be made to a credit card or charge card.

⁵⁴ This is the definition of e-money used by the Financial Services Authority (FSA), which took responsibility for regulating e-money issuers on 27 April 2002. www.fsa.gov.uk

device to accept and store e-money. In many respects an e-money card may look and work like a debit card. However you do not need a bank account to use it, and losing your e-money card can be the equivalent of losing cash.

Electronic means of payment that are only accepted by the issuer and can only be used to pay for the issuer's own good or services (e.g. school lunch cards) are not considered to be e-money.

There are a great many different schemes within the United Kingdom which exhibit a great deal of heterogeneity. The most common types of e-money in the United Kingdom are internet-account based products such as PayPal.

PART II: SPECIFIC FEATURES OF UNITED KINGDOM PAYMENT SYSTEMS

1. Length of clearing/processing cycle; when can you withdraw funds and when do you start earning interest on funds?

Cheques

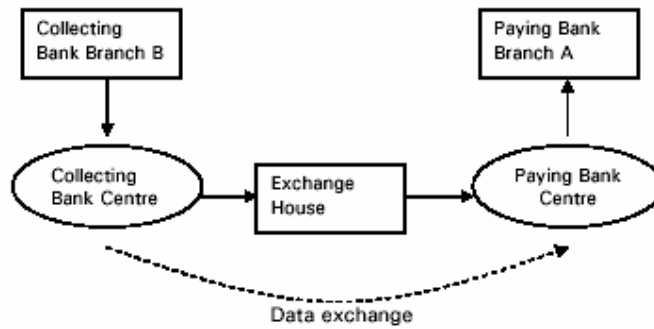
It is a requirement of The Banking Code that banks and building societies provide personal customers with details of 'how the clearing cycle works, including when you can withdraw money after paying cash or a cheque into your account, and when you will start to earn interest'. The date when funds can be withdrawn is often referred to as the 'cleared' date, and the day from which funds begin to earn interest the 'value' date (this may be one or more business days prior to the 'cleared' date).

Decisions on setting the cleared or value dates for customers are entirely a matter for each bank or building society.

The inter bank clearing process involves the transmission and settlement of payments between accounts held at different banks. The inter bank cheque clearing operates on a three-day processing cycle.⁵⁵

⁵⁵ In addition to the above, where a cheque is drawn on and collected by a branch of the same bank then a different – truncated process may apply.

DIAGRAM K.3: SIMPLIFIED CHEQUE/CREDIT PROCESSING CYCLE



Day 1 Bank A's customer has issued cheques in favour of Bank B's customers who have paid them into Bank B. Bank B credits their customers on day one with the amount of the cheques paid in before sending those cheques to their clearing centre for processing. The cheques are received at the clearing centre either late that night or early on the morning of day two. Cheques are typically accepted for processing on the day of lodgement until late afternoon.

Day 2 In the early hours of day two, Bank B's clearing centres receive all the cheques deposited on day one. The information from all these cheques is transmitted electronically through a secure data exchange network known as the Inter Bank Data Exchange (IBDE) from Bank B's clearing centres to Bank A's clearing centre. The electronic files passing across IBDE are the 'payment messages,' which comprise the values that will form the basis of settlement via the Bank of England during the morning of day three of the cycle.

Simultaneously with these electronic exchanges, the cheques themselves are being delivered by Bank B to one of the two Clearing Exchange Centres that are located in Milton Keynes and Edinburgh from where the cheques are collected by Bank A. This happens between 6.30 a.m. and 11.00 a.m.

Day 3 Bank A examines the cheques drawn against it to validate authenticity and authority and makes a decision about whether to pay or return them unpaid to the collecting bank. Multilateral inter-bank settlement now takes place over their Bank of England accounts. The cut-off for this is 11 a.m. Any returns (apart from a small number of exceptional items, see 'inadvertence' below) are despatched to the collecting bank by close of business.

It should be noted that the above description applies only to 'automated cheques'. Non-standard cheques and paper credits cannot be included in inter-bank electronic files at the present. They are processed manually from the paper items themselves by both banks involved in the transaction.

In Northern Ireland, paper based instruments are cleared via a separate clearing system managed by the Northern Ireland Bankers Association.

BACS payment systems

BACS payments currently operate on a three day processing cycle. The emphasis is that this is a processing, and not a clearing cycle, since BACS transactions are normally treated as cleared funds when they are applied to the beneficiary's account.

Day 'T' – input day (the day that the Transaction is initiated)

Transactions submitted by 22:30 Monday to Friday are validated by Voca to ensure they meet technical requirements and are processed overnight. This is when the sorting of payment information between collecting and paying accounts occurs.

Day T + 1 – processing day

The sorted payment information is 'output' from Voca to Member⁵⁶ banks by 06:00. Member banks also receive reports confirming their submissions.

Member banks process the payment data so that payments are ready for overnight posting to their customers' accounts.

Voca net the totals of payments due to and from each Member bank to produce single multilateral net amounts and transmits these net amounts to the Bank of England for settlement the following day.

⁵⁶ Of BACS Payment Schemes Ltd.

Day T + 2 – entry day

Direct Debits, Direct Credits and balancing entries are applied to accounts as cleared funds, (i.e. the payee has value). The timing of when accounting entries are posted to customer accounts is a matter for individual banks, although typically customers' accounts are credited and debited with the relevant payments by 09:30.

Banks generally pay interest (where this is offered as part of the bank account) from this day. Unapplied and unpaid transactions are normally returned on this day. The net values of payments are settled over the Member banks' accounts at the Bank of England.

Direct debit

With Direct Debits the debiting of the Originator's account and the crediting of the beneficiary's account occur simultaneously on the third day (T + 2) of the processing cycle.

Direct credit

Where Direct Credit payment instructions are submitted directly into Voca (this is the case with many corporate users) the payment value is not debited from the payer's bank account until Day T + 2; i.e. the same day that cleared funds are received in the beneficiary's account.

For Direct Credit payment instructions submitted via a bank channel, the timing of when the payer is debited is a feature of the product/ service being used by the bank customer, and as such the banking industry considers this as a competitive consideration for the Banks offering this type of service. Generally, for consumers and small businesses this occurs at T.

Standing orders

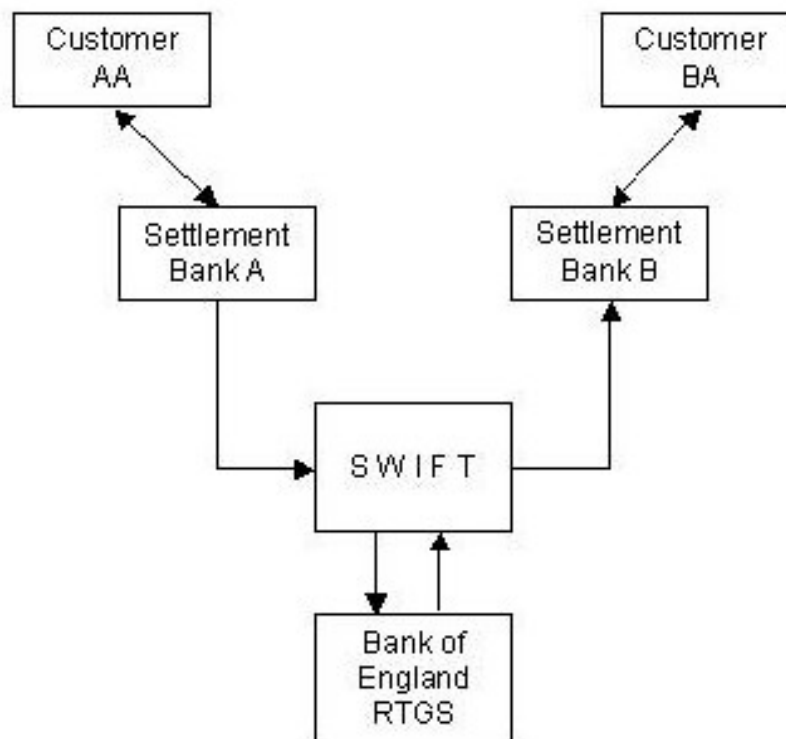
Standing Order payments are submitted into Voca from banks. Generally, though not in all cases, banks debit the payer's account on Day T to ensure funds are available for settlement on Day T + 2. The banking industry considers the decision on whether interest is paid on the payment amount for the two days between day T and T + 2 to be a competitive consideration for each bank.

Only the credit element of the transaction (the payment due to the beneficiary) is transmitted to Voca for processing.

CHAPS

Each Member must for the purposes of making payments through CHAPS accept and give same day value to all payments denominated in sterling received within the timeframes set out in the CHAPS Timetable in the CHAPS Procedural Documentation.

Illustration of Information Flows Within the CHAPS Systems:



From the diagram above, Settlement Member A submits a payment message to SWIFT on behalf of its customer, Customer AA. SWIFT intercepts the payment message within the SWIFT network and places the payment message on an internal queue. Thereafter it extracts a subset of the payment data and sends this extract to the Bank of England in a settlement request.

When the Bank of England has settled the settlement request in its RTGS Processor (debited the sending bank's settlement account and credited the

receiving bank's settlement account) the Bank then returns a positive response to SWIFT.

The positive response causes SWIFT to remove the payment message from its internal queue and deliver it to the receiving Settlement Member with the addition of an authentication code evidencing settlement at the Bank of England.

Each CHAPS transaction is settled individually (gross) and in real-time. Subject to funds being available within the sending Settlement Bank's account the settlement process takes around 60 seconds.

Other financial institutions can make use of the United Kingdom's real-time gross settlement system on their own behalf or on behalf of their own customers by entering into agency agreements with Settlement Members of the clearing schemes. Thus the 'Customer' in the diagram above may be an individual, a business entity or another financial institution.

Card payments

The flow of funds for a card transaction will depend on each system's arrangements and the individual arrangements of the merchant acquirer and the card issuer. However, using an illustrative example of the Switch/Maestro/Solo debit card scheme, if a cardholder performs a transaction using a Switch/Maestro/Solo card on a Monday, the transaction details will normally be obtained from the merchant on Monday evening, the merchant acquirer will include these details in the file that he sends to the card issuer on Tuesday and the card issuer will settle for the transaction on Tuesday. The settlement procedure is currently bilateral net settlement using CHAPS but multilateral arrangements are to be introduced in 2005. This is a two day clearing cycle.

The Switch/Maestro/Solo scheme rules do not prescribe when a merchant acquirer should credit a retailer's account or when a card issuer should debit a cardholder's account. However, it would normally be the case for the cardholder to be debited, for the purposes of calculating interest, on Wednesday, in the above example. For the purposes of determining whether funds are available to honour other payments, earmarking of funds for the transaction would normally take place on Tuesday evening.

Visa settles on the same day between Visa acquirer and Visa issuer and does not prescribe when merchants/cardholders are charged for transactions; this is a matter for the Acquirers/Issuers respectively.

e-money

The central e-money transaction is instantaneous between members of an e-money scheme, the payee is credited and the payer debited instantly at T. Several schemes allow transfers to be made to non-members; however, in these instances, it is necessary for the payee to sign up to the scheme before being credited.

Transferring money between an e-money account and a bank account requires the use of an external payment system. The length of time this process takes depends on the payment instrument used. For example, crediting an e-money account via BACS will take three working days (through the process discussed above). NB: If the e-money institution is also the provider of the member's bank account, it may be possible for customers to move funds instantaneously between these accounts.

Additionally, e-money issuers may decide to provisionally credit an account holder prior to settlement of funds. For example, credits received via credit/debit card are often credited to the e-money account straight away.

2. Up until what point can payment be stopped and returned/revoked? What happens if the payment is dishonoured?

Cheques

A customer, having written a cheque, can stop it before it is paid.⁵⁷ Banks sometimes refer to this as 'countermanding'. A cheque cannot be stopped if it has been validly issued with the support of a cheque guarantee card. To stop a cheque it is necessary for the drawer/payer to inform the branch of the bank upon which the cheque is drawn with details of the cheque in question. The notification must have been received by the branch in question before the item

⁵⁷ The effects of the Cheque Guarantee Scheme are discussed in Annexe A.

has been paid i.e. before the close of business on day three of the cycle which is the day of presentation.

Cheques which are to be dishonoured are returned by first class post direct to the collecting bank branch (unless other arrangements have been agreed bilaterally between the banks involved). In normal circumstances, the earliest that a collecting bank can know about dishonour of a cheque is the morning of the business day after presentation (day four after lodgement). However, in certain clearly defined circumstances the decision on dishonouring a cheque can be delayed until mid-day on the morning of the business day following presentation (this is known as 'inadvertence' and applies up until midday of day four). Where the cheque is returned in these circumstances and is above £500 in value then the collecting bank must be notified by the (non-) paying bank, by telephone, before noon of business day four. It is however possible, either through delays in the post or because late return applies to a cheque under £500 in value, for notification of dishonour to be received by the collecting bank two or more days after presentation. For this reason banks and building societies may elect not to allow customers to withdraw funds until the fourth or fifth business day after deposit. This is, however, a matter for the commercial judgement of each institution.

BACS payments

Direct debit

From the Originator perspective:

- it is not possible within the BACS system for an Originator to revoke an individual item within a submitted Direct Debit file. However, an Originator can request that a whole Direct Debit file is extracted up to 22:30 on Day T. This ensures that none of the Direct Debits are delivered to the destination banks. Requests received after 22:30 on Day T are considered by the originator's Sponsoring Bank, which can authorise BACS to reverse the file up to T + 7, such that payer's accounts are refunded up to T + 9.

From the payer perspective:

- a Direct Debit payer cannot revoke an individual Direct Debit unless it has been originated in error. Should this arise, the payer can claim an immediate refund under the terms of the Direct Debit Guarantee.

Additionally, the payer may cancel the Direct Debit Instruction (i.e. the authorisation given to debit an account) at any time, simply by contacting their bank.

Paying banks have the right to dishonour a Direct Debit (e.g. through lack of funds) but this must be notified to the Originator according to defined procedures and timescales. The Paying Bank may charge the payer an administration fee for returning the Direct Debit, as per the situation when a Cheque is dishonoured. If a Direct Debit is dishonoured then the Originator must contact the payer to confirm a date when the Direct Debit claim can be resubmitted or arrange payment by alternative means.

Direct credits and standing orders

A Standing Order or Direct Credit can be recalled by the remitting or sponsoring bank respectively (e.g. on behalf of the payer/ Originator). The recall request must be completed by 15:30 on Day T + 1 of the processing cycle. Some banks may impose an earlier cut-off time.

A timely recall instruction will result in either the credit being stopped prior to reaching the beneficiary's account or reversed from the account upon receipt; this depends on the timing of the request and individual bank processes for handling recalls. The payer's/ Originator's account is reimbursed in full, subject to any charge levied by the remitting/ sponsoring bank for the cancellation service.

CHAPS

Between sending customer and the sending Settlement Bank irrevocability is a matter of the commercial service levels agreed between the parties.

Within the parties to the payment scheme (the Settlement Banks) and under normal operations a Payment Message is considered to have entered into CHAPS from the point at which the relevant Member's Settlement Account is

debited. At this point the Payment Message shall not be and is not capable of being revoked by the Sending Member or any other party.

Plastic cards (i.e. credit, deferred debit, charge and debit cards)

Settlement of the account by the cardholder with credit, deferred debit, charge and debit cards is delayed. A payment protection provision exists whereby if the purchase was not authorised by the credit card holder or if the goods were faulty the payment can be refunded. These protections are documented in the rules of the payment system.

Authorisation is a process where a transaction (in the case of purchases of goods and services a transaction between a cardholder and a merchant) is granted prior approval by or on behalf of the card Issuer.

An issuing member of Visa is obliged to honour transactions, based on cards which it has issued (provided, broadly, that the authorisation process and other merchant procedures have been complied with). The authorisation process underpins the system by enabling the card issuer to control the circulation of its cards and limit its exposure.

Additional legal protections also apply to credit card transactions in the United Kingdom under the consumer Credit Act 1974. (This protection does not apply in law to debit cards which were introduced as electronic substitutes for cheques & cash for which there is no protection.)

In some cases completed transactions (both credit and debit) can be 'charged back'. A 'charge back' is initiated where a cardholder disputes whether a transaction should have taken place (e.g. it may have been fraudulent, the goods purchased may have been faulty, and the services bought may not have been rendered). A charge back is so called because the transaction is charged back from the Issuer to the Acquirer. Where agreement cannot be reached between an issuer and an acquirer Visa operates a dispute resolution process to determine when a charge back can take place. Charge backs can sometimes assist a cardholder resolving a dispute with a merchant which it may be difficult for the cardholder to progress.

While Solo is 100% authorised, about 40% of Switch/Maestro transactions are not. However, all transactions performed with Switch/Maestro/Solo cards are,

providing the Retailer observes Scheme rules & procedures at the point of sale, guaranteed by the Card Issuer as soon as the transaction takes place. These transactions cannot be dishonoured in the same way as cheques (i.e. for lack of funds); if there are insufficient funds, the Card Issuer remains liable. However, a transaction may be charged back by the Card Issuer if the Retailer has not observed correct procedures and, as a result, a fraudulent transaction has taken place or, in the case of Mail and Telephone Order transactions, the Cardholder denies performing the transaction. The time allowed for a Card Issuer to raise a Chargeback may, depending on the circumstances, be up to six months. This is to allow adequate time for the Cardholder to identify that s/he did not perform a transaction shown on his bank statement.

A Cardholder cannot stop or revoke a transaction at the point of sale without the agreement of the Retailer.

e-money

It is generally not possible to stop an e-money payment once it has been initiated. Equally, as a transaction is only allowed if the payer has sufficient funds in their account, e-money payments are not dishonoured due to lack of funds. In some cases, failure of funding transaction (issuing e-money in exchange for another instrument) may have a knock on effect on e-money transactions.

3. How confident are the payer and payee likely to be that the payment method will not leave them defrauded?

Cheques

Where a cheque has been accepted from a payer with the support of a guaranteed cheque card then the receiver may be assured that payment will be made so long as the terms stated in the Cheque Guarantee Scheme conditions of use have been followed. Counterfeit cheques and forged signatures, as well as lack of funds, may be a risk and the payee may wish to confirm the fate of the cheque before releasing any goods being given in exchange for it. To do this it is possible to send the cheque for special presentation so that payment can be assured before goods are released. This will invariably result in a charge being applied for the service.

BACS payments

Within the BACS system are a number of safeguards which have proven to be robust, including:

- file security methods
- use of file and individual item value limits (approved by Originators' sponsoring banks)
- secure closed user network for 'High Speed Transfers' (of data) used by banks, and
- mandatory reviews of BACS Bureau and Bank processes and controls relating to the submission and processing of BACS transactions.

Controls and checks are built into the various means/ channels of initiating Direct Debit, Direct Credit and Standing Order payments. The details/ features of these controls and checks are a matter for individual banks, although all must consider legal and Banking Code requirements.

The BACSTEL-IP project will migrate all BACS users to a new platform by the end of 2005. This will feature leading edge PKI authentication and encryption.

Direct debit

In addition to the above BACS and bank security features, the United Kingdom Direct Debit Guarantee gives payers an assurance that:

- in the event of error by the Originator (e.g. where an account is wrongly debited) they will be immediately refunded by the Paying Bank, and
- advance notice must be given before the first collection is made or when amounts, dates etc are subsequently changed. It is general practice for payers to be notified at least ten days prior to their account being debited so that they may query a transaction, although individual Originators may have a shorter (or longer) notice

period providing that this is set out in the Direct Debit Guarantee section of the DDI at the initial payer sign-up stage.

CHAPS

The integrity of the messages within the system is protected by a number of methods including inter alia:

- highly secure authentication algorithms
- a secure closed user network
- the data within the message is protected by highly secure encryption technology, and
- a robust anti-intrusion process in place within the overall network.

Card payments

Credit cards

The Consumer Credit act offers protection to card users. Credit cards are vulnerable to fraud and default. In the case of fraud, there is redress for the payer and guarantees for the payee (with some qualifications). In the case of default, the matter could be seen as one for the card issuer: there is risk inherent in any form of credit. There is a general exception in the case of card not present transactions where the merchant is liable for the risk of the cardholder repudiating the transaction, except where the merchant has implemented a cardholder verification system such as 'Verified by Visa' or 'MasterCard SecureCode'.

Charge cards

As for credit cards

Debit cards

Debit cards are also vulnerable to fraud and default. Because of the Card Issuer's guarantee, a Retailer that conducts a Switch/Maestro/Solo transaction

in accordance with Scheme rules & procedures currently faces no risk of default in the case of 'Cardholder present' transactions.

Chip and PIN⁵⁸

In accordance with Visa's rules, as from 1 January 2005, liability for fraudulent transactions, performed with chip/PIN cards at a Retailer that does not possess a terminal with Chip/PIN capability will lie with the acquiring bank and may lie with the Retailer depending upon the merchant contract, if chip and PIN technology could have prevented that fraud from occurring. A Retailer that conducts a 'Card not present' (i.e. Mail or Telephone Order or e-commerce) transaction using Scheme-approved security methods does not face a risk of default if all correct card acceptance and service delivery procedures are followed. However, the retailer will incur additional risks and possible default if the approved methods are not applied and used correctly.

A Cardholder is protected from fraud as follows:

- s/he must be refunded with the amount of any transaction (and, if appropriate, any interest or fee which would not have been charged in the absence of the transaction) if s/he has not received the card used to perform the transaction and the transaction was performed by someone else, and
- unless a Card Issuer is able to show that the Cardholder has acted fraudulently or without reasonable care, the Cardholder's liability for any misuse of her/his card is limited as follows:
 - if a card is used by a third party before the Cardholder receives it, there is no liability
 - if a card has been lost or stolen and a third party uses the card for a Card present transaction before the Cardholder advises the Card Issuer of the loss/theft, total liability for all such transactions is limited to, for example, £50 (depending upon the relevant terms and conditions), and

⁵⁸ This is relevant for debit and credit/deferred debit/charge cards.

- liability will depend upon: (1) the capability of the merchant to verify the cardholder and whether the merchant has indeed sought to use such verification methods available; and, (2) whether the issuer is able to respond to a verification request.

e-money

Security is issuer dependent, as is any guarantee or protection provided by the issuer.

Card based systems may employ strong encryption together with tamper resistance and local password authentication. Server based products may rely on SSL together with username and password authentication.

4. What is the cost of using a particular payment method? (both to the payer and the payee)

Cheques

The charges applied for depositing, drawing and stopping cheques are a competitive matter between the banks and building societies. In many cases, customers are not charged for these services. SMEs are generally charged for lodging and drawing cheques.⁵⁹

All BACS payment methods

Charges are a commercial/ competitive matter for each institution concerned although presently BACS transactions are generally free of charge for most United Kingdom personal bank customers. Businesses are generally charged by their bank for sending and/or receiving BACS payments.

CHAPS

Charging is a competitive matter. Generally, consumers and SMEs are charged £20 - £25 for initiating a CHAPS transfer. Non-personal customers initiating a

⁵⁹ Source: *Business Money Facts* (Issue 107) July 2004 United Kingdom, pages 50 -53.

CHAPS payment through electronic banking will generally benefit from lower charges, this includes some SMEs.

Card payments

There are default charges for all payment methods. These vary from issuer to issuer and are not subject to scheme rules.

Credit cards

Cardholders issued with credit cards by Visa members usually do not pay an annual fee for their card. The card holder will, depending upon the issuer concerned, generally have an interest free period (up to a maximum of 60 days depending on the issuer – the average interest free period for a transaction is likely to be significantly less than 60 days) in which to pay the card issuer. Cardholders who settle in full within this period are not normally charged interest (An exception is a cash advance obtained from an ATM machine or over the counter where interest is usually charged from the date of transaction). Cardholders who pay off the amount in full within the interest free period are known as 'transactors'. However the cardholder has the option to roll over the balance (subject to a minimum monthly payment) at the cost of being charged interest on the value of the transactions. Cardholders who choose this option are known as 'revolvers' and they often do not benefit from an interest free period once they 'revolve' (i.e. they will have benefited from an interest free period up to the point of not paying off their balance in full. Revolvers will not necessarily pay interest having not paid off the balance in full as there are a number of 0% APRs available. Cardholders may move between 'revolving' and 'transacting' behaviour.

There are various other charges (e.g. annual fees (though rare), ATM withdrawal service charges etc.) that an issuer may levy and the issuer may also choose to offer benefits (e.g. free insurance, loyalty points etc).

Charge cards

Charge card balances must be paid off at the end of each month. If only part of the balance due is repaid then the payer must pay interest charges on the remaining balance. An annual fee is generally levied on charge cards. The payee will typically pay his acquirer a fee per transaction.

Debit cards

There is normally no direct cost to the Cardholder for using debit cards. However, the Retailer is permitted to charge the Cardholder for Switch/Maestro/Solo transactions.

Merchants also incur other costs and achieve savings by using debit cards. It is understood that, taking into account merchant service fees and these internal costs/savings, Switch/Maestro/Solo transactions are the least expensive form of payment (including payment by cash) in the majority of cases.

All card payment types

Depending upon the terms of agreement between a merchant and its acquirers, the payee (merchant) usually pays a Merchant Service Charge (MSC) to the Acquirer. This would typically be higher than the centrally set fallback multilateral interchange fee, paid by the acquirer to the issuer, but is not itself dictated by scheme rules.

The charge which the merchant pays reflects the costs of all services provided by the acquirer to the merchant in connection with accepting card payments. These charges are a competitive matter between the banks that offer these services.

e-money

Set-up and per-transaction fees vary between issuers. Generally, for personal customers, setting-up an account and sending payments are both free of charge; with a small fee for receiving payments and/or withdrawing funds. Merchants will generally be charged a percentage, with a minimum payment, for receiving payments.

5. Can the payment method be used abroad and for cross border payments?

Cheques

There is no international cheque clearing system. The value represented by cheques may be obtained across international borders by way of correspondent

banking arrangements between individual banks and involves the negotiation or collection of the cheque in question. Banks recommend that alternative payments methods are used for international transactions wherever possible, as cheques are slow, uncertain and expensive for these types of payment.

There is a United Kingdom cheque clearing system which supports United Kingdom accounts holding balances in euros.

All BACS payments

It is not possible to make or receive cross-border payments using BACS. It is possible for Originators to submit files into Voca from outside of the United Kingdom although both the debit and credit sides of each transaction must be posted to bank accounts held within the United Kingdom, Isle of Man, Channel Islands or Gibraltar (i.e. these are still defined as United Kingdom domestic payments). In addition to the main Sterling services, Voca also operates a Euro denominated Direct Credit service, for domestic United Kingdom transactions (as defined above).

CHAPS

The CHAPS Euro scheme offers real-time gross settlement in euro between the Members of the CHAPS Euro Scheme.

In addition CHAPS Euro provides an interface to TARGET.

TARGET is the mechanism that enables RTGS cross border credit transfers in euro. The main components of the TARGET system are the 15 national RTGS systems, the ECB payment mechanism and the Interlinking system.

The Interlinking system provides an inter-National Central Bank accounting system and a secure telecommunications network for the transmission of payment messages.

Card payments

Payers receive favourable rates of exchange charged by the issuer⁶⁰ (compared to others available to consumers) for international payments, though the payer is generally charged a foreign usage commission fee on each transaction, this is usually a percentage mark-up on the wholesale money rate provided by the payment scheme. Cross border alliances allowing reciprocal free use of ATM's for cash withdrawal have been set up by many banks.

Credit cards

Credit cards are used easily and commonly in cross border payments.

Charge cards

Charge cards are used easily and commonly in cross border payments.

Debit cards

The use of debit cards in cross border payments is becoming more common. S2 is moving to the international Maestro platform which provides fully authorised point of sale transactions in 7 million outlets worldwide. Debit cards are increasingly used for international ATM access as they provide a safer and cheaper way to access cash abroad.

Switch/Maestro and Visa Debit transactions may be performed with cards issued on United Kingdom bank accounts at retail outlets (and ATMs) overseas. Similarly, Maestro transactions may be performed at retail outlets (and ATMs) in the United Kingdom with cards issued on non- United Kingdom bank accounts. Solo transactions are domestic only. However, most Solo cards are co-badged with Maestro, thus enabling the Cardholder to use his card overseas.

e-money

The reach of e-payment schemes vary from issuer to issuer. Some e-money issuers operate internationally; as such these schemes may offer an international

⁶⁰ In some cases the issuer levies no fee.

reach to their customers, who are free to send/receive funds to/from any member, regardless of their country of origin. To facilitate such payments, issuers may provide an exchange facility.

6. How has the demand for payment methods been changing and how might this demand be expected to change in future? What are the typical uses of a particular payment method?

Cheques

The volume of cheques being drawn by customers is reducing by approximately 6% per annum. Both commercial and private customers are finding more efficient ways to make some payments but there are transactions, particularly between individuals and involving small businesses, where cheques are still perceived as being more convenient. These situations tend to occur where cash is the only viable or mutually convenient alternative. Cheques are also used in situations where the payee perceives a cashflow benefit, where the payee wants some physical proof of payment or payment with remittance information.

BACS payments

Direct debits

The growth in direct debit volumes has been at a consistent level over recent years, and 2003 saw a continuation of this trend with a 6.2% increase to 2.4 billion items, only slightly lower than the 6.3% experienced in 2002. Personal customers use direct debits for a wide range of regular household and individual commitments, valuing the convenience of payment by direct debit and taking advantage of the discounts which are often offered. Life insurance premiums, which are the single largest direct debit application, saw a fall in volumes last year. The recent poor performance of the stock market and the lower levels of pension take-up by younger workers may have both contributed to this decline. The utility billing market, including mobile phones, accounts for more than one-fifth of total direct debit volumes, and saw above-average growth in 2003. Some of the fastest growing applications in 2003 included subscriptions, credit card bill settlement, and business-to-business payments. Other major uses of direct debits are TV licenses and mortgages.

The same trends are expected to be the major influences on future direct debit volumes. Most major billers are likely to continue to incentivise customers to pay by direct debit and many households to prefer them for the convenience and control that they offer. New applications such as 3G mobile phones could be a major source of growth.

Direct credits

Payment of wages, salaries and private pensions represented around 40% of direct credits in 2003. The scope for growth in these areas has been shrinking as the market approaches saturation. One quarter of direct credits arose from the payment of state benefits, pensions and tax credits. The Government's Direct Payment programme will result in a substantial increase in the volume of these transactions over the years 2003 to 2005. Other major areas of direct credit use include business-to-business payments and transactions initiated by personal customers through remote banking. Personal customers use direct credits for bill payment, in particular credit card bills, and for other transfers such as deposits into savings accounts. Both business-to-business and personal direct credits are expected to continue to see robust growth. Last year there were 1.3 billion direct credits processed by Voca.

Standing orders

The volume of standing orders rose by 5.6% to 288 million payments in 2003. The most popular applications are for regular payments to charities and for funding savings accounts. Standing orders are also used for a wide variety of other purposes, such as payment of maintenance, person-to-person payments, mortgages and bill payment. Standing orders are also used to a limited extent by businesses. Remote banking has made it easier for customers to set up and amend standing orders and will continue to facilitate growth. Looking ahead, there are not expected to be any significant changes to the recent trend of steady growth in standing order volumes.

CHAPS

The volume and value of CHAPS transactions are influenced by underlying demands for same-day payments and, in contrast to the bulk automated methods, are also sensitive to specific changes within the same-day markets.

The latter include settlement changes in the financial markets and the routing decisions taken by individual banks - both the volume and value of CHAPS were affected in the last two months of 2003 by the migration in-house of payments by one major bank.

The value processed by CHAPS Sterling is driven by changes in the higher-value payments. The picture in 2003 was complex. The impact of the CLS foreign exchange settlement service was to subdue the volume of payments in the £1 million to £3 million band and may have been one factor behind growth in transactions between £300 million to £1 billion in value. Trading in other financial markets such as equities, commodities and derivatives grew strongly last year, and this translated into underlying growth in financial payments. There was, however, a significant decline in very-high-value payments of £1 billion or more. The net impact was that the total value of CHAPS Sterling changed little last year, standing at around £52,000 billion.

CHAPS Sterling volume growth rates in 2003 were marginally lower than in 2002. The 27.2 million items processed in 2003 represented an increase of 6.5%, compared to a rise of 6.7% in 2002. Although CLS was an influence on volumes, the primary drivers were the lower-value payments made by individuals, businesses and solicitors. There has been a decline in the number of payments made by individuals for the last two years, mostly arising from a fall in transfers to off-shore investments accounts.

Business payments last year saw only a modest rise. Although there was a slow-down in the number of house purchases, the mortgage market was boosted by the growth in remortgaging and secured lending not for house purchase. The volume of CHAPS Sterling payments in the £30,000 to £300,000 value band, which is typically associated with mortgage transactions, was around 10% higher last year.

CHAPS Euro has a higher proportion of financial and commercial payments than CHAPS Sterling, and a lower proportion of payment for legal and person-to-person payments. Commercial payments encompass both business related payments and employment-related ones. There are differences between the CHAPS Euro payment streams. CHAPS Euro Internal payments and payments to TARGET have a higher proportion of business payments, whilst payments from

TARGET continue to have a higher proportion of financial payments.

Cards

Credit cards

Credit cards are used relatively less than debit cards for the regular weekly supermarket shopping, and more for more sporadic, high cost, payments such as for travel, tickets, holidays and meals in restaurants. One of the most significant changes to the pattern of credit card spending in 2003 was growth in shopping online.

Credit card usage has grown strongly over recent years; by the end of 2003 there were 67.4 million personal Visa and MasterCard credit and charge cards in issue in the United Kingdom (an 8 million increase on the previous year).⁶¹ Nearly two-thirds of all over 18s now have a credit card.

Multiple card holding is a major driver in credit card growth; for several years the number of cards in issue has risen significantly more rapidly than the number of cardholders. The United Kingdom is still lagging behind the US in terms of the average numbers of cards per cardholder, standing at 2.2 in the United Kingdom and 3.7 in the US for Visa and MasterCard credit cards, though the United Kingdom is expected to reach an average card holding of 2.9 by 2013.⁶²

Charge cards

Debit cards

The number of debit cards has been rising steadily; in 2003 39.1 million adults held a debit card (spending a total of £130 billion). Between 1997 and 2001 the major driver for debit card growth was the issuance of fully-authorized debit cards, Solo and Visa Electron, to existing current account holders.⁶³

⁶¹ APACS Payment Markets Report 2004.

⁶² APACS Payment Markets Report 2004.

⁶³ APACS Payment Markets Report 2004.

Debit cards have now almost completely replaced cheques for most non-regular payments by personal customers. They have also replaced a significant proportion of cash payments of this type but there is scope for greater cash substitution, particularly for higher-value cash transactions where notes are used.

Debit card schemes will continue to innovate to find new acceptance opportunities and adopt solutions appropriate to new merchants' circumstances. Switch/Solo/Maestro has, in particular, adopted secure solutions for e-commerce and mail/telephone order payments that reduce risk for retailers.

Verified by Visa is a new service that protects a consumer's card (debit or credit) details with a password and has been adopted by a number of large retailers. E-commerce is likely to continue to grow as payment schemes such as Visa continue to develop technology to ensure that payments via the Internet are as safe as possible.

e-money

e-money is generally used for person to person and person to business payments. It is particularly popular amongst the un-banked and under 18's, and for use on online auction sites, the gaming industry and, increasingly, for digital content.

Many merchants (including sellers on auctions) accept e-money, in part because they are unable or unwilling to accept card payments. e-money offers extra certainty and speed compared with receiving payments via cheque in the post.

7. What requirements and restrictions are placed on payer or payee for a payment method?

Cheques

Cheques must be made out by customers with care (i.e. not negligently, such as leaving the payee or amount boxes blank). Cheque books are only available to customers that hold a current account. Some payees will only accept cheques drawn with the support of a guarantee card. In order to protect the rightful owners of cheques, most are now issued as 'crossed' items which means that

they cannot be cashed and must pass through the recipient's bank account. In many cases the words 'Account payee' are included which restricts the item to being collected by the named payee's account.

Cheques are a flexible payment mechanism for all types of transaction but they do have inherent weaknesses in relation to fragility, opportunities for fraud and inconvenience which makes some customers averse to their use.

BACS Payments

Direct Debit

Generally speaking, a bank 'current account' customer may agree for payments to be collected by an approved company (Direct Debit Originator) using the Direct Debit service. The precise details of which types of bank account allow Direct Debits is a competitive matter for each bank concerned.

The organisations able to instigate Direct Debit collections are known as Originators. They must lodge an indemnity with a Sponsoring Bank before they are allowed access to the Direct Debit Scheme. Under the terms of the Direct Debit Scheme an Originator may only collect from accounts where the payer (account holder) has signed/ agreed a Direct Debit Instruction; it must also adhere to the Direct Debit Guarantee in terms of notifying the payer of any changes to amount or collection date.

The Sponsoring Bank must be confident that the Originator has the correct attributes in terms of:

- financial standing
- administrative controls - it is critical to the success of the scheme, and to the protection of all parties, that an Originator has the necessary procedures in place to operate efficiently and within the rules of the scheme
- systems capability - an Originator or Bureau wishing to make submissions directly into Voca (i.e. not routed via a bank) must be able, either using their own systems or the services of a solution provider, to meet the requirements for formats, security, standards,

timing, controls etc. necessary to facilitate safe and secure direct access to Voca, and

- contractual capacity - in addition to agreeing to be bound by the rules of the Direct Debit Scheme, the Direct Debit Originator is required to sign an indemnity in favour of all banks participating in the scheme. This backs up the Direct Debit Guarantee, which (inter alia) entitles payers to an immediate refund of any erroneous or disputed Direct Debits passed to their accounts.

More specialised complementary services including 'Paperless Direct Debit' are available to Originators subject to meeting qualification and usage criteria.

Direct Credit

At a high level, Direct Credits use the same central processes as Direct Debits.

To make a Direct Credit payment, the only information needed are the Payee name and account details of the Payee's bank or building society account. Direct Credits may be initiated at a branch, at an ATM, via internet banking or via telephone banking.

Companies authorised to initiate Direct Credit transactions may have Settlement Limits, File Limits and Item Limits agreed by their sponsoring bank as a means of controlling various risks.

Standing Order

Generally speaking, any current account holder can set up a Standing Order instruction providing they have details of the payee's account. Standing Orders can be initiated by customers using a number of bank channels. The provision of channels and any terms and conditions that apply is a competitive consideration for each bank. These channels include telephone banking, internet banking and in person at a branch.

CHAPS

Payment initiation is undertaken by the payer and there may be a number of channels open to service this requirement all of which will form the competitive

offering of banks which provide same day payment services. These channels include telephone banking, internet banking and in person at a branch.

Assuming the transaction was to be completed on the date of the request then typically the minimum requirement to initiate a Sterling CHAPS payment will include:

- Beneficiary Sort Code
- Beneficiary Account Name
- Beneficiary Account Number
- Amount
- Reference detail subject to the constraints of the message type, and
- Sender Account name.

Payment cards

The introduction of Chip and Pin will require card users to enter a pin number when initiating card-present transactions. Though, until fully deployed, certain retailers will still allow customers to sign for goods and services bought by card.

Credit cards

The payer must have a suitable credit standing and available credit within the limit. The payee must have a merchant acquirer who is prepared to underwrite the facility to accept card payments to whom they must pay the MSC in exchange for the service provide to them by the bank. The banks are also responsible for ensuring the bona fides of the merchant from anti money laundering perspective.

Charge cards

As for credit cards.

Debit cards

The payer (Cardholder) must have a current account which offers the use of a debit card. For the merchant service charge the same comment applies as per credit cards.

The terms and conditions on which transaction services are provided to Cardholders and Retailers by Members of the Switch/Maestro/Solo and Visa Debit schemes (including any restrictions or requirements) are within the discretion of the Members except that a Retailer must observe correct procedures when undertaking transactions and handling/storing records thereof.

e-money

Depending on the nature of the scheme, there may be a number of requirements placed on e-money users. These may include minimum/maximum deposit values or minimum usage requirements.

PART III: THE SCOPE FOR CHANGE

1. What does the future hold for this payment method?

Cheques

All APACS research suggests that the gradual decline of cheque volumes will continue but that there is likely to be a residual number of payments for which cheque is favoured by customers. This will result in the unit cost of processing rising significantly.

BACS Payments

Electronic automated payments are well established in the United Kingdom (e.g. for making salary payments). BPSL member banks are in the process of investing almost £100 million in the 'NewBACS' project. As part of this process, all BACS users must have migrated to the new BACSTEL-IP system infrastructure by the end of 2005.

- NewBACS is a technological renewal programme which will:
- replace existing telecoms-based delivery channels. The new service uses the latest technologies including Internet Protocol and Public Key Infrastructure (PKI) security
- cater for the envisaged future growth in BACS payment volumes
- upgrade member data management processes
- provide for new and enhanced reports to Originators and the ability to track the progress/ status of transactions within the system
- provide a new infrastructure and systems architecture. This will be more conducive to innovation and the development of new 'value added' services for customers, and
- provide improvements to the 'ToDDaSO' service used for transferring details of Direct Debit Instructions and Standing Order details

between banks – making it easier for current account customers to switch between banks.

Any technical developments relating to the provision of new BACS services, or enhancements to the existing payment schemes, will need to be implemented on the new BACS infrastructure, following completion of the NewBACS project described above.

CHAPS

The CHAPS clearing schemes will continue to provide real-time gross settlement services to its member banks. In the short to medium term CHAPS Euro may cease operations as described below. Unless the United Kingdom embraces EMU it is likely that CHAPS Sterling will continue to satisfy the demand for systemically important and time dependent payments for some time to come.

Euro

Subject to the delivery and implementation of TARGET2 in January 2007 CHAPS Euro is likely to cease operations. TARGET2 is a project driven by the ECB which will collapse the 15 national euro RTGS systems into one logical single shared platform.

Sterling

Migration to the generic industry standard SWIFT platform in Q3 2001 resulted in a much reduced infrastructure cost to prospective new settlement Members. Subject to internal strategies and a positive business case this generic approach offers active financial institutions an alternative to the use of agency bank facilities.

The recent technical changes to the CHAPS platform have meant that the cost of accessing the scheme as a settlement member has fallen. This may result in more competition for the provision of this service through an influx of new entrants. An influx of new entrants may in turn lead to a reduction in price to consumers. On the other hand potential changes to banks capital adequacy requirements and changes to the make up of eligible collateral could increase the underlying costs of provision of RTGS services.

The price of a CHAPS payment is far higher than a BACS payment and, unless the price of a CHAPS transfer falls, there will be limited substitution of CHAPS payments for the current BACS payment proposition. Manual processing of CHAPS payments results in manual security and prudential measures being undertaken at the payer's bank and, depending on the systems in place, at the payee's bank. The cost of a CHAPS payment could be lower if initiated electronically by the sender account holder; thereby requiring minimal or nil manual intervention by the sending bank. Also as volumes grow then the unit cost per transaction is likely to fall. It would appear unlikely that an increase in the volume of low value payments will result in any change in the level of liquidity required to support the payment system. There does not appear to be a fundamental barrier to CHAPS processing more payments which require a quicker clearing/processing cycle than available through BACS payments (although, depending upon demand and ultimate volumes, using the current configuration could result in significant central infrastructure and bank centric investment costs).

Prospects for the future of clearing systems

The Cruickshank (2000) and OFT Payment Systems (2003) reports both concluded that there was limited inter-system competition within payment systems, and that this was unlikely to change in the short term.. These reports also concluded that mutually governed payment schemes may not have strong incentives to innovate where they do not face direct competition.

The separation of scheme and infrastructure with BACS (into BPSL and Voca respectively) might facilitate inter-system competition, and in particular, plastic card networks might be able to use their infrastructure to offer competing clearing systems. However, the OFT Payment Systems report concluded that such a separation seemed unlikely to have much impact on inter-system competition in the short term, when the ownership profile of scheme and infrastructure remain similar.

Clearing systems and plastic card networks are developing new payment products. The development of Electronic Bill Presentment and Payment (EBPP) by Voca may be seen as introducing extra competition in United Kingdom payment systems. Although not a new payment system, if an EBPP service were launched this may lead to an increased proportion of bill payments being

made through BACS, rather than those payment methods offered by other schemes, such as cheques, cash, debit cards, credit cards and paper credits. The development of person-to-person (P2P) payment instruments by card networks (Visa Direct and MasterCard MoneySend) may increase competition for these types (P2P) of payments.

In addition, domestic United Kingdom systems might, at the margins, face some increasing competitive pressure from developing pan-European schemes. RTGS systems in Europe, including CHAPS, already face competition for non-systematically important and non-time dependent same day payments from the same day netting systems. EURO 1, the EBA's pan-European same day netting system, is a prime example of this competition. The extent and precise nature of European competition for both CHAPS Sterling and BACS payments depends on when, and whether, the United Kingdom joins the Euro area (as this would ease entry for Euro area ACH's to enter the United Kingdom payments market, be they pan-European or national schemes). Competition could be a two way process e.g. United Kingdom payment processors may wish to realise extra economies of scale by entering new markets. Until that time, the direct impact of evolving pan-European systems on the United Kingdom is likely to be limited, but may have some influence on the level and nature of investment in the United Kingdom schemes.

Card payments

The growth of Internet payments and e-commerce merchants will be strongly influenced by the use of all cards (credit and debit).

Credit cards

The introduction of Chip and PIN will provide a platform for further product innovation, both in terms of dynamic risk management and in non-payment applications such as loyalty. The number of credit cardholders is expected to continue to grow, with the total number of cardholders expected to rise from 30.3 million in 2003 to 34.5 million in 2013.⁶⁴

⁶⁴ APACS Payment Markets Report 2004.

Debit cards

Debit cards are likely to remain the most popular non-cash method for personal customers to make irregular payments from their current accounts. The introduction of Chip/PIN technology could enable cards to offer new functionality e.g. e-purses and new processing methods.

e-money

Current e-money products all serve specific consumer needs well, but none appears suited to all transaction types. Virtual accounts are well suited to niche applications such as online auctions and payments to small merchants, and are growing these markets as well as causing migration away from cash and cheques. The main opportunities for pure person-to-person solutions may be in the cross-border market, such as expatriate workers sending money to family members back home.⁶⁵

2. How might innovation affect risk within payment systems?

A number of different risks arise as a result of the design and operation of payment systems. In many payment systems, the most significant risks by value are related to the credit and liquidity exposures arising between settlement members. Where these exposures are large, significant systemic risk may arise: the risk that a 'disruption within the system could trigger or transmit further disruptions amongst participants or systemic disruptions in the financial area more widely'.⁶⁶

Innovation within a payment system can have a direct impact on these risks. When considering the potential costs and benefits of changes to systems, it is important also to identify these risk-related impacts.

⁶⁵ APACS Payment Markets Report 2004.

⁶⁶ BIS (2001) *Core principles for systemically important payment systems*, p7.

Settlement risk in payment systems

As a result of the design of some systems, no credit exposures arise between settlement members. In a well-designed RTGS system such as CHAPS, payments are settled with finality before details thereof are released to the recipient, who can therefore act upon the payment without risk of it subsequently being dishonoured. Some non-RTGS systems (but not, at the current time, BACS) also eliminate credit exposures in this way, or by earmarking funds to cover settlement obligations before releasing payments details.⁶⁷

In many Deferred Net Settlement (DNS) systems, however, details of payments are released to the receiving bank prior to inter-bank settlement. Both BACS and the C&CC operate in this way. The receiving member may therefore act upon a payment (eg by initiating an associated credit to a customer's account) in anticipation of final settlement. Credit exposures can therefore arise between settlement members of the systems. (Although it is possible to ensure that surviving members would have no credit exposures to a failed member – by requiring all members to collateralise fully their net positions – such a requirement is not usually applied in practice due to the practical difficulty of limiting net debit positions and the potentially very large amounts of collateral that would be required fully to collateralise positions.)

If final inter-bank settlement does not occur on the same day as payments are input, exposures can extend over more than one day. In a system with a three-day cycle (such as BACS and the C&CC), there are up to three open cycles at one time. Aggregate exposures across the three cycles are therefore larger than they would be if settlement took place on the same or next day. Shortening the inter-bank clearing cycle can therefore reduce settlement risk.

Other risks within payment systems

- **technical risk:** The ability of a member to manage their capacity requirements or to successfully introduce system changes

⁶⁷ RPS in Germany is an example of such a system.

- **credit risk** (Other than the settlement risk): An example in this category which relates to BACS is the credit risk associated with the direct debit guarantee - a customer is entitled to a no quibble refund; if the paying bank is unable to recover this amount from the originator, this becomes a credit loss
- **security risk**: Covering risks to the integrity, authorisation, confidentiality of payment messages and payment related information and the ongoing resilience of the system to attack
- **legal risk**: This usually means the risk of failing to comply with legal requirements, but in this context the key legal risk relates to failure to understand the risks and liabilities arising from scheme membership
- **reputational risk**: A payment system needs to retain the confidence of the customers. Customers should be in no doubt regarding the integrity of the system. If there is a loss of confidence, customers are inconvenienced as they seek out alternative payment mechanisms, and the system is inconvenienced by the loss of traffic, and
- **operational Risk**: For example the failure of a member to submit payment instructions in the correct format to the required timescale.

APPENDIX A – THE CHEQUE GUARANTEE CARD SCHEME

SUMMARY

Cheque guarantee cards

The first cheque card was introduced in late 1965 by National Provincial Bank, guaranteeing payment of cheques up to the value of £30. A number of other commercial banks subsequently followed suit. In mid-1969, the United Kingdom Domestic Cheque Guarantee Card Scheme commenced - the objective being to create common and easily identifiable design features to simplify acceptance procedures at Point of Sale.

The £30 limit was not revised until mid-1977 when it was replaced by the £50 limit. Subsequently, two additional limits (£100 and £250) were introduced in 1989. All three limits are in operation today.

Purpose of the scheme

The Scheme provides payees with greater confidence and certainty of payment when accepting personal cheques (the Scheme is predominantly for personal use although there are a few exceptions, e.g. sole traders). The Scheme was originally introduced to provide an alternative payment mechanism to cash for the traditional retail environment. However, the acceptance of guaranteed cheques has evolved and guaranteed cheques are now accepted by a range of payees including traditional retailers, small businesses, schools, and in respect of personal transactions.

Conditions of use

When guaranteeing a cheque the Conditions of Use must be adhered to. A copy of the Conditions of Use and information on how to handle a cheque guarantee transaction are publicly available from the APACS website www.apacs.org.uk. Failure to comply with the Conditions of Use will void the guarantee and the cheque may be returned.

Proprietary cheque cards

In addition to the United Kingdom Domestic Cheque Guarantee Card Scheme, a small number of banks issue what we would term 'proprietary cheque cards'. Such cards will not bear the common Cheque Card Scheme feature (i.e. the bust of Shakespeare) and will be unique to the individual organisation issuing them in that they do not bear a feature shared by any other proprietary scheme. There are therefore only a small number of issuers who have chosen to adopt this approach and the volume of cards in issue is small in comparison to those issued under the Cheque Card Scheme. The terms and conditions of operation of these products may differ to the United Kingdom Domestic Cheque Guarantee Card Scheme.

Question 1 - Length of clearing/processing cycle; when can funds be withdrawn and when is interest earned on the funds involved?

Decisions on setting the cleared or value dates for customers are entirely a matter for each bank or building society and is an issue associated with the cheque itself rather than the guarantee functionality.

Question 2 – Up until what point can payment be stopped and returned /revoked? What happens if payment is dishonoured?

A customer, having written a guaranteed cheque, cannot stop/countermand payment. To allow guaranteed cheques to be countermanded would undermine the purpose of the guarantee, i.e. the provision of greater certainty of payment, and could result in a significant reduction in the level of acceptance by retailers and others.

If a guaranteed cheque is drawn outside of the Conditions of Use (e.g. for an amount over the guarantee limit) the bank will treat the cheque as if it were not guaranteed and may dishonour it if, for example, funds were not available in the account.

Question 3 – How confident are the payer and payee likely to be that the payment method will not leave them defrauded?

Providing the Conditions of Use have been adhered to, the card issuer should honour payment of the guaranteed cheque. Cardholders are always advised to sign the card upon receipt.

Question 4 - What is the cost of using a particular payment method?

There is no charge for the guarantee functionality per se and the charges applied for both depositing and drawing cheques are a competitive matter between the banks and building societies. In many cases, customers are not charged for these services.

Question 5 - Can the payment method be used abroad and for cross border payments?

The Cheque Card Scheme is a domestic scheme. The Conditions of Use state that a guaranteed cheque can be issued in the United Kingdom, the Channel Islands, Isle of Man, Gibraltar or on the premises of any United Kingdom Customs post located outside these territories. As there is no international cheque clearing system this payment method would not be recommended to cardholders outside of these jurisdictions.

Question 6 - How has the demand for payment methods been changing and how might this demand be expected to change in future? What are the typical uses of a particular payment method?

The volume of personal cheques being drawn by customers has been in decline for the last decade and is falling by approximately 6% per annum. A subset of these will be guaranteed items that are declining at a similar rate and we would expect this trend to continue.

Although guaranteed cheque usage continues to decline in line with general cheque volumes, a number of cardholders (in the region of 7.5 million) can be defined as 'regular users'. In the majority of these cases other payment mechanisms, i.e. debit or credit cards, are also held. Cardholders cite the level

of security, ability to record transactions and the clearing cycle as the main rationale for continued guaranteed cheque usage.

Guaranteed cheques can be used for a variety of purposes although to comply with the Conditions of Use they can only be issued in a face-to-face environment.

Question 7 - What does the future hold for cheque guarantee cards?

The future of the cheque guarantee card is inextricably linked to what is happening with personal cheques. All APACS research suggests that the gradual decline of cheque volumes will continue but that there is likely to be a residual number of payments for which customers favour cheque.

Question 8 - What are the systemic features particular to cheque cards?

As for cheques in general.

Question 9 - What requirements and restrictions are placed on payer or payee for guaranteed cheques?

These are covered by the Conditions of Use which state that only one cheque per transaction can be guaranteed and must be within the limit stated on the cheque card.

Payer

Cheques must be made out with care and where possible the cardholder is encouraged to keep cheque book and cheque card separate.

The customer cannot countermand cheques that have been guaranteed.

Payee

The payee of a guaranteed cheque must comply with the Conditions of Use to ensure the validity of the guarantee. If the Conditions are not met, cheques could be returned unpaid.

Where the guarantee is used to support encashment i.e. cash, rather than goods or services, is provided, the payee is required to mark the frequency marking page in the cheque book as only one encashment per day is permitted. Encashed cheques must be banked within the timescales prescribed within the Conditions of Use.

APPENDIX B – OTHER PAYMENT INSTRUMENTS AVAILABLE IN THE UNITED KINGDOM

Cash

Under the Bank Charter Act 1844, the Bank of England has the sole right to issue banknotes in England and Wales. The Bank currently prints and issues banknotes in four denominations - £5, £10, £20 and £50 - and these banknotes circulate freely throughout the United Kingdom. Three banks in Scotland and four banks in Northern Ireland retain the right to issue their own sterling banknotes, but, apart from a very small fiduciary issue, these must be covered by holdings of Bank of England banknotes, or of approved coins.³ New banknotes are withdrawn by commercial banks from the Bank of England for distribution through their own cash centres.

The Royal Mint (a government agency) is responsible for the production and issue of coins throughout the United Kingdom. Coins are currently in general issue in eight denominations: 1 penny, 2, 5, 10, 20 and 50 pence, and £1 and £2. A millennium commemorative GBP 5 crown was also issued in 1999. The Royal Mint meets demand by delivering coins to bank cash centres against payment by the banks.

Discussions between the wholesalers of cash (the commercial banks and the Post Office), the Bank of England and the Royal Mint are held under the auspices of the APACS Cash Services Group, the industry body for cash-related issues. The work of this Group covers all non-competitive issues concerning banknotes and coins.

At the end of January 2002, the value of banknotes in circulation totalled GBP 30.5 billion. APACS estimates that, in 2000, cash payments accounted for 74% of all transactions by volume (down from around 86% in 1984).⁶⁸ In 2003 APACS estimated that cash spending was £272 billion and that cash transactions accounted for 69% of all payments.

⁶⁸ 'Payment and settlement systems in selected countries' CPSS Publications No. 53 (April 2003).

Postal orders

An instrument used to remit money to a named payee, often used by persons who do not have a chequing account relationship with a financial institution, to pay bills or to transfer money to another person or to a company. There are three parties to a money order: the remitter (payer), the payee and the drawee. Drawees are usually financial institutions or post offices. Payees can either cash their money orders or present them to their bank for collection.⁶⁹

Money transfer services

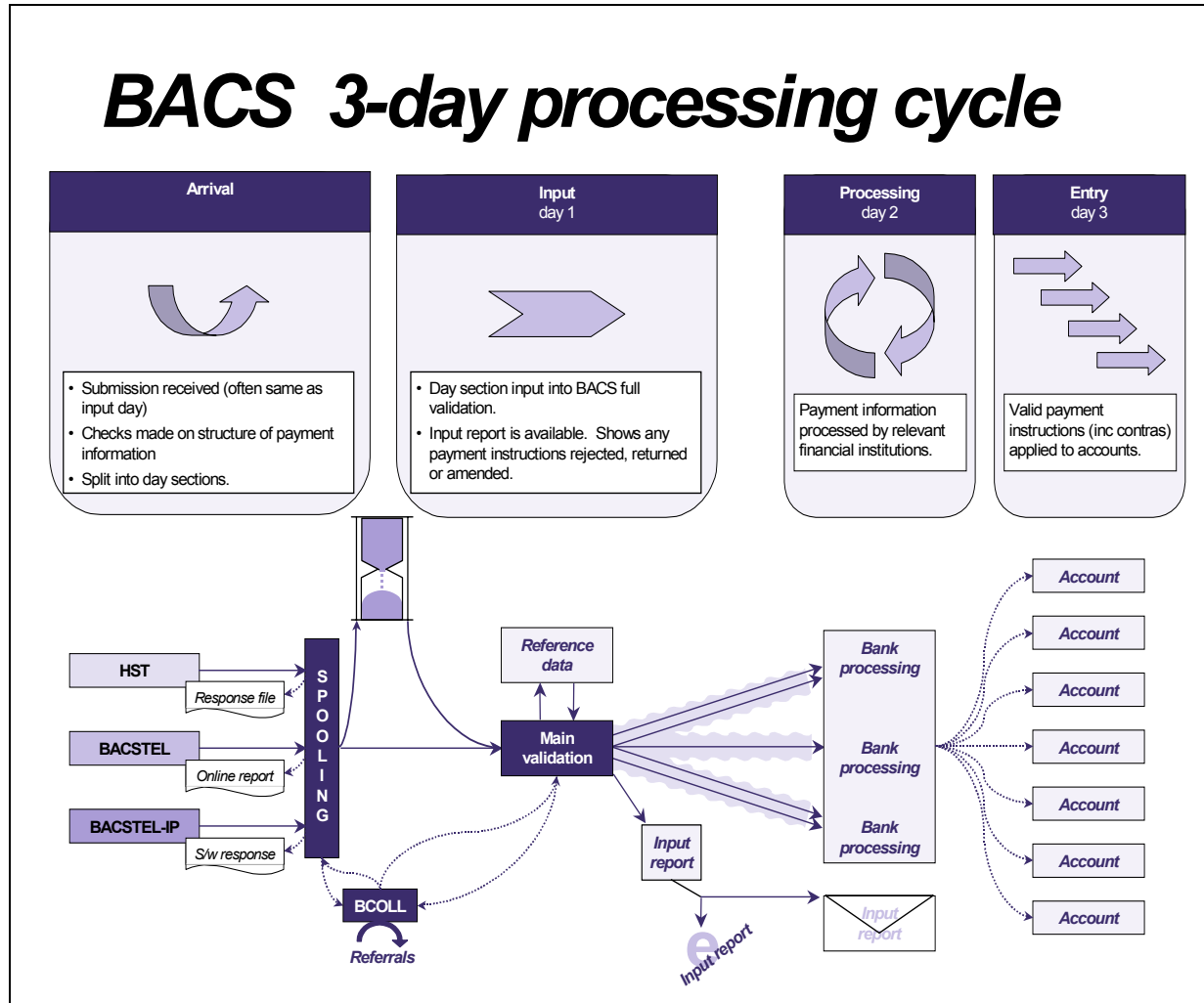
Companies such as Western Union and MoneyGram offer international money transfer services. An individual can make a payment to a scheme agent in one location; the payee will then be able to collect these funds from an agent in another location. These payments are most frequently used by expatriates sending money to friends and family.

Intra-bank transfers

Payments made between accounts held with the same institution or group are often processed without going through the inter-bank clearing systems. For internet or telephone transactions, crediting and debiting of the two accounts generally happens immediately on initiation, though times vary from institution to institution.

⁶⁹ 'Payment and settlement systems in selected countries' CPSS Publications No. 53 (April 2003).

D TECHNICAL SUMMARY OF FEATURES OF BACS



System and processing related innovation

Further details relating to the innovations referred to in paragraph 5.11:

Automated Return of Unpaid Direct Debits (ARUDD)

Beneficiary(ies): Large Direct Debit originators and Paying Banks.

The ARUDD service went live in 1988 and is the service used by BPSL member banks to return unpaid direct debit collections (for example, because the account details are incorrect, the account no longer exists, the mandate has been cancelled or the paying bank has returned the collection as 'unpaid' through lack of funds). Direct debit originators who use the ARUDD service receive a report of their unpaid direct debit collections on the day after the paying banks have processed the direct debits and returned them as unpaid (that is, on Day 4, the day after settlement). The ARUDD report also includes a reason code for each unpaid direct debit listed.

The ARUDD service allows the paying bank to return the direct debit automatically to the originator's bank account via BACS. Unpaid direct debits are debited from the originator's account on the next processing day after the date of the report. The ARUDD service is vital in helping large originators keep an up to date customer billing database and in avoiding any further invalid direct debits from being collected. ARUDD is available to originators electronically through their sponsoring bank. (Some agency banks are not ARUDD participants and return their unpaid direct debits using a 'manual unpaid' form.)

Automated Direct Debit Amendment and Cancellation Service (ADDACS)

Beneficiary(ies): large direct debit originators and paying banks.

ADDACS went live in 1993 and automates the process of paying banks informing organisations of changes to direct debit instructions. It is a faster method of communicating changes and reduces the number of unpaid direct debits and resulting indemnity claims. Changes may include amendments to the customer's account or a request from the customer to cancel a direct debit. Late receipt of information about direct debit amendments and cancellations can be costly to organisations in terms of both time and money. ADDACS streamlines the process and ensures that organisations receive information on amendments and cancellations quickly - and with dramatically reduced risk of error. The majority of paying banks use ADDACS. They electronically send their DDI amendments and cancellations into BACS for distribution to the organisation, either electronically or by post. Some agency banks however may give their amendment or cancellation details using a manual advice form. Since its launch, ADDACS has grown from being a standard messaging service to one of the most vital components of the Direct Debit operation.

Automated Return of Unapplied Credits Service (ARUCS)

Beneficiary(ies): receiving banks and corporates initiating large numbers of BACS (direct credit) payments.

Banks try to ensure that direct credits received with incorrect details are applied to the appropriate accounts, often using manual intervention to achieve an accurate account match. If it is not possible to apply a direct credit to an account (due to the beneficiary being deceased or account transferred, for example) the payment must be returned to the bank account of the organisation that sent the payment. Since 1993 ARUCS has been the service used by BPSL member banks to return unapplied Direct Credit payments.

Direct credit payment originators who use the ARUCS service receive a report of their unapplied payments on the day after the receiving bank has processed the payment and returned it as unapplied (that is, on Day 4, the day after settlement). The ARUCS report also includes a reason code for each unapplied direct credit listed. The ARUCS service allows the receiving bank to return the unapplied payment automatically to the originating organisation's bank account via BACS. The unapplied credits are re-credited to the organisation's account on the next processing day after the date of the report. ARUCS is vital in helping organisations keep an up to date database and ensuring that further invalid direct credits are not sent to the wrong bank account. ARUCS is available electronically through the organisation's bank. (Some agency banks are not ARUCS participants and return their unapplied direct credits manually using a paper form.)

Automated Direct Debit Instruction Service (AUDDIS)

Beneficiary(ies): direct debit originators.

Launched in 1995, AUDDIS enables direct debit originators to send new Direct Debit Instructions (DDIs) to their customers' bank electronically, instead of in paper format. AUDDIS automates the transfer of DDIs from collecting organisations to the paying banks and building societies. With AUDDIS, the organisation keeps the original signed DDI and sends the details electronically to the customer's bank to validate and, if accepted, set up the instruction on its database. By automating the exchange of DDI details between organisations and banks, manual handling is reduced leading to fewer errors. DDI details are

processed faster and more efficiently, eliminating the need for the customer's bank to re-key the details. Any invalid instructions rejected by the paying banks and building societies are returned via BACS using ADDACS.

Advice of Wrong Account for Automated Credits Service (AWACS)

Beneficiary(ies): businesses making regular BACS (direct credit) payments.

Manual notification of incorrect beneficiary details can result in amendments not being received in time to change the next payment details (for regular payments). It can also result in piles of individual paper credits that require re-keying into an organisation's system. In 1995 AWACS was launched to speed up and improve the accuracy of the process for notification of incorrect beneficiary account details. AWACS is the automated system used by some banks to advise organisations of the correct account details in a consolidated and consistent way and provides organisations with the information they require to help maintain their payments database. The BACS system receives correct account details for each payment electronically from the receiving banks and then distributes the information to the organisation electronically or by post. The originator may choose to check the accuracy of these details or obtain authorisation from the account holder (his or her employee or supplier, for example) before amending the database.

E NOP REPORT TO THE WORKING GROUP

(The following pages contain only the Executive Summary prepared by NOP. NOP's full report is available on OFT's website address at [www.offt.gov.uk/Business/Payment + systems + task + force/default.htm](http://www.offt.gov.uk/Business/Payment+systems+task+force/default.htm)).

1.0 Executive summary

The key themes to emerge from the study are presented below. The qualitative research showed considerable confusion about clearing times but that both consumers and Small and Medium Enterprises (SMEs)⁷⁰ believed that existing payment options served their needs to some extent. However, the quantitative research showed that, when given a specific proposition concerning faster clearing, there was evidence of demand from consumers and SMEs, with some of these willing to pay for this service.

The qualitative research comprised six groups of consumers and six groups of SMEs. For the quantitative stage, 1000 interviews were conducted with current account holders and 900 with SMEs with turnover up to £35 million in certain sectors. These figures have been grossed up to the current account population (43.1 million) and the SME population of SMEs as defined for this survey (1.24 million). For more information about methodology see Appendix 1 in the main report.

1.1 Consumers - qualitative

In general, consumers felt that there were sufficient payment options available to them, and they were mostly happy with how these were working. A frequent exception was cheque clearing (and to a lesser extent, electronic clearing), which was thought to take longer than it should.

The most obvious gap in the present payment systems would appear to be consumer knowledge, as most expected to be able to do what they needed to with existing payments systems. There was admission that in some instances consumers would need to obtain advice from their bank first. There seemed to

⁷⁰ Definition for this study: turnover up to £35m using a business bank account.

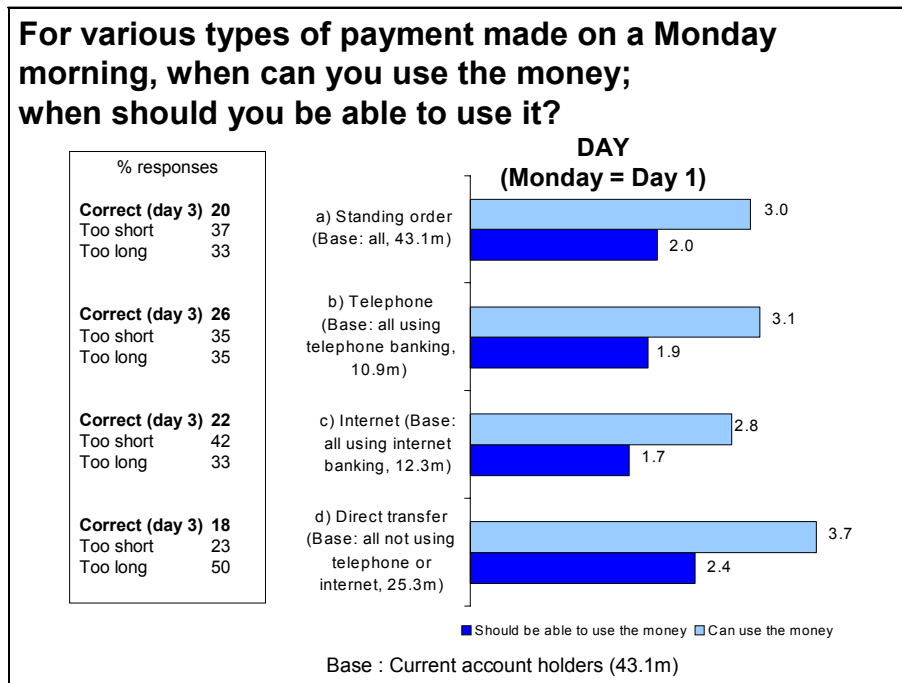
be more need for consumer information and education to increase awareness of existing services and how they can be used, than for the development of entirely new payment systems.

Those areas identified by consumers in which there may be room for improvement included increased speed, ease of control and security. Specifically an improved understanding of electronic transfers - many were concerned about security and / or asking someone for or giving someone bank details. The benefit of these transfers was thought to be increased speed over cheques, but in practice, most are not using them at the moment.

1.2 Consumers - Quantitative

A third of all current account holders said they had a need for urgent payments (this is equivalent to 13.8 million consumers). The most common needs were paying credit or store card bills, moving money between accounts held at different institutions and paying utilities bills. However, across all urgent payments, the most common payment types were cash (40 per cent) and cheques (33 per cent). Users of internet or telephone banking are less likely to use cash and cheques for urgent payments and more likely to use electronic transfers than the total population.

Figure 1

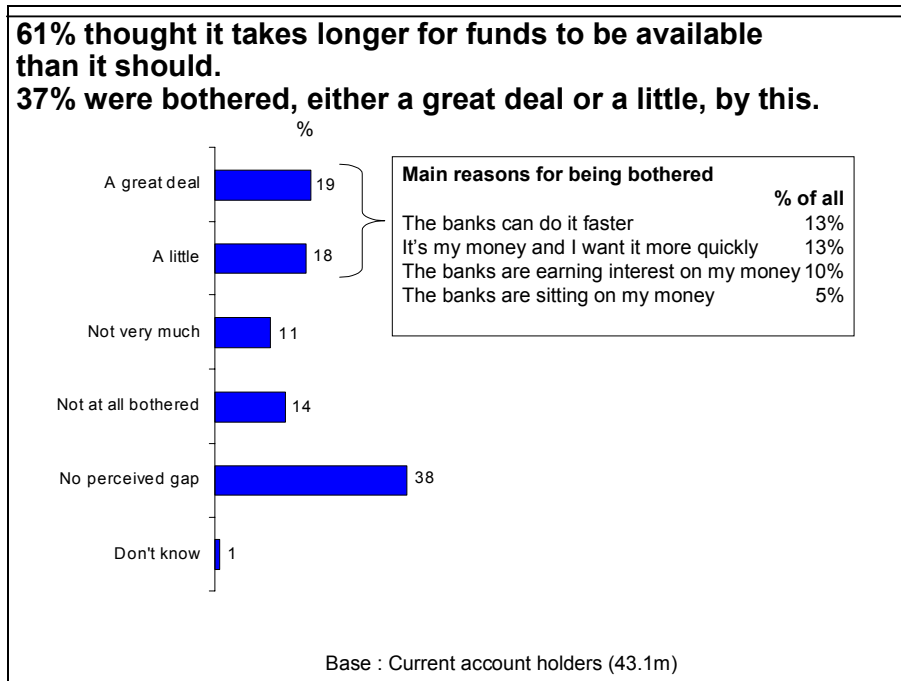


When asked to estimate clearing times for automated payments between banks, only about a fifth (between 18 per cent and 26 per cent across four payment types) actually chose the correct answer of three working days. So, although the average estimate was a clearing time of about three days, this does not signify high levels of understanding amongst consumers. When asked when the money should be available for use, the average dropped to about 2 days, with substantial numbers believing that the clearing time should be less than three days.

For example, over half of those asked about telephone or internet transfers felt the money should be available for use on the same day as the transfer is initiated.

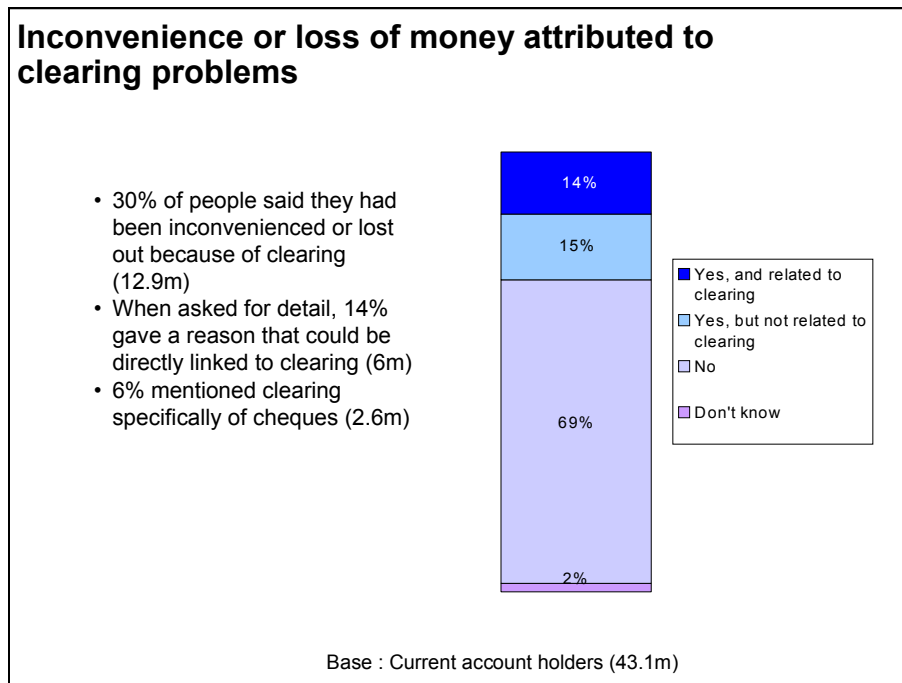
In total, 61 per cent thought that it took longer for funds to clear than it should for at least one of the payment types and over a third of the total (equivalent to 15.9 million current account holders) were actually bothered by this gap. This tended to be because consumers felt that the banks could clear transfers faster and than because of an expressed need for faster access to the funds.

Figure 2



About 30 per cent of current account holders, equivalent to 12.9 million people, said they had ever been inconvenienced or lost out financially because of clearing times. When asked about the circumstances, half of these (around 6 million people) gave a reason that could be directly linked to clearing.

Figure 3



The following concepts were read out to respondents during the research to introduce the faster payment services.

Figure 4

CONCEPTS TESTED DURING THE RESEARCH

Next day
You would be able to make a payment by Internet or Telephone banking up to 9 o'clock in the evening, and it would be available for the person or company to use first thing the next morning. How likely would you be to use this service, assuming it was free of charge?

OR

Same day
In addition to being able to make next day payments you could make a payment by telephone or Internet banking up to 12 o'clock noon, and it would be available for the person or company to use by 4 o'clock on the same day. Thinking just about payments that need to arrive the same day, how likely would you be to use this additional service, assuming it was free of charge?

(For price points) If the payment is after 12 noon, the funds will be available for the recipient to use first thing the next morning.

There was substantial interest in the faster payment concepts, with 46 per cent (20 million people) saying they would be likely to use the next day service and 43 per cent (18.3 million) likely to use the same day service.

However, while those who currently use electronic banking (either internet or telephone) were more likely to show a strong interest in the faster payment services, substantial proportions of those likely to use the service do not currently use internet or telephone banking (41 per cent of those likely to use the same day and 42 per cent of those likely to use the next day service). A further barrier that will need to be overcome in practice is that a minority of those who say they are likely to use the faster services are uncomfortable asking for account details from a known person or company (30 per cent of those very likely to use next day and 32 per cent of those very likely to use the same day service say they would be uncomfortable).

In order to further test the appeal of the services, we asked respondents how likely they would be to use these services if there were a charge for each payment. While fewer people said they would use the services at different price levels, there was still interest in the services, with about 1 in 5 saying they would be willing to use the service at a charge of £2 per payment. The average

number of payments per month dropped from about two per month when the service is free to about one per month at £2.

Figure 5

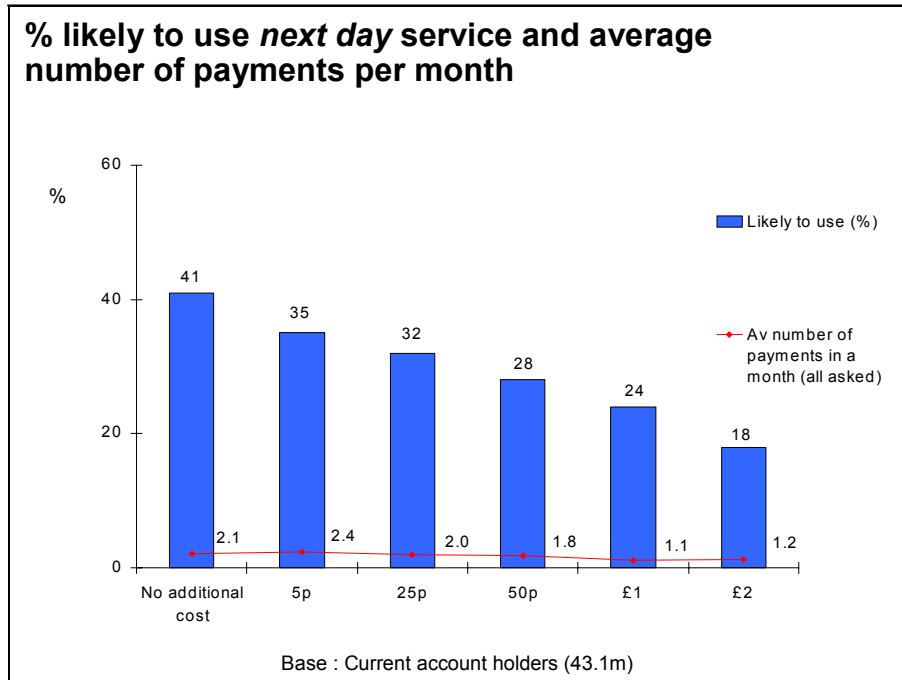
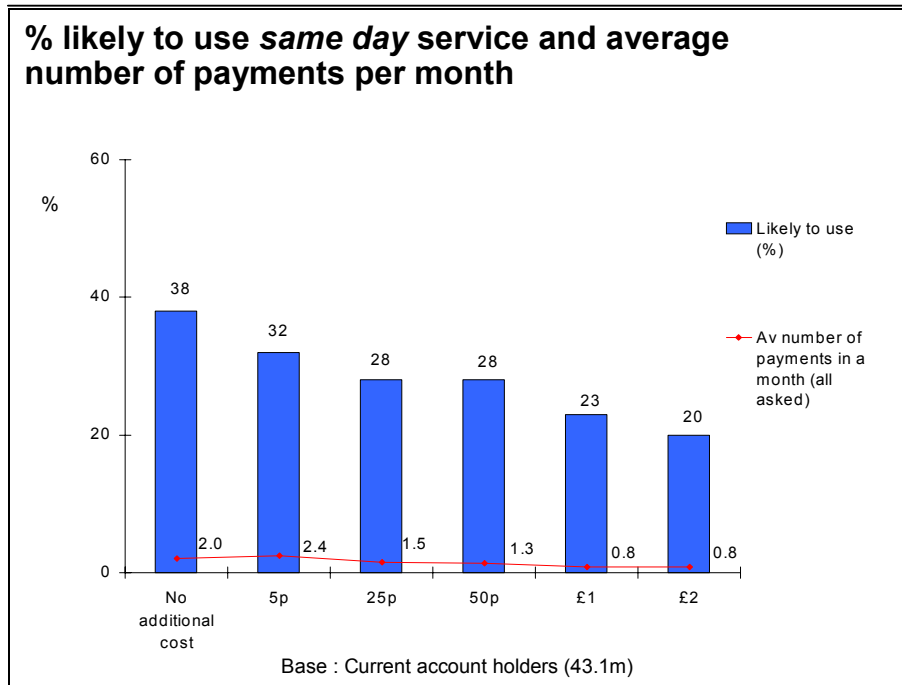


Figure 6



We know from past experience that not all those respondents who claim they are likely to do something will actually do it. For example, we know that a proportion of those who say they will use the services do not currently have access to internet or telephone banking and so are unlikely to use the service without first changing their banking arrangements.

An algorithm is therefore applied which says : of those who say they are very likely to use the service, 50 per cent will do so; of those who say they are fairly likely to use it, 25 per cent will do so.

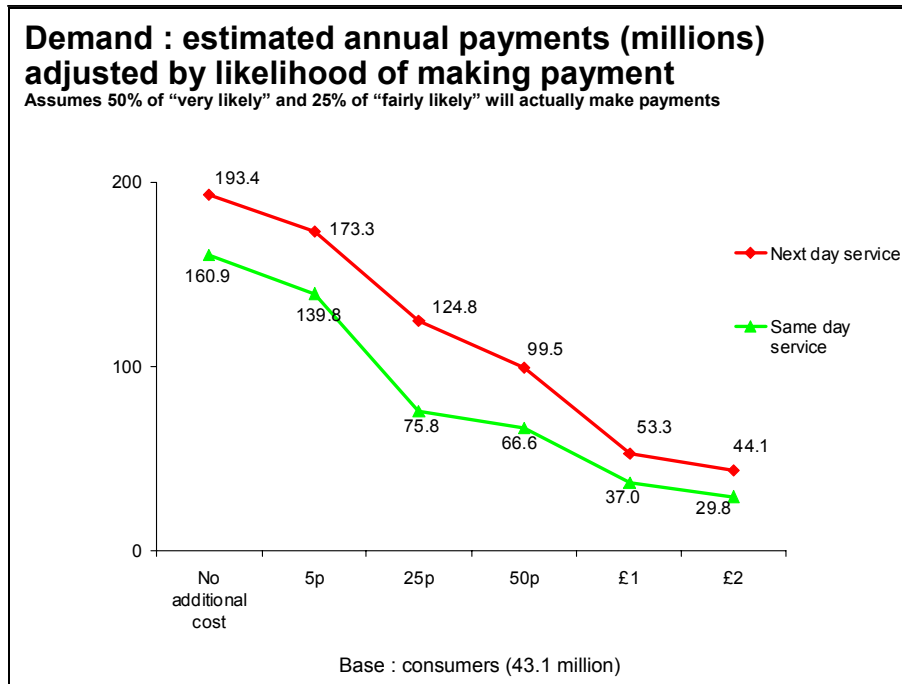
Making this adjustment gives us an overall demand figure, in terms of millions of payments per year, as follows:

Figure 7

	NEXT DAY		SAME DAY	
	All (m)	Adjusted (m)	All (m)	Adjusted (m)
No additional cost	449.8	193.3	398.2	160.9
5p	445.2	173.2	388.7	139.8
25p	319.9	124.7	209.9	75.8
50p	255.1	99.5	183.1	66.6
£1	136.2	53.3	102.0	37.0
£2	112.3	44.1	82.5	29.8

This gives overall volumes of payments as shown below.

Figure 8



Overall, we believe that sufficient consumers claimed that they would use the faster payment service, and demonstrated a willingness to pay for this, to provide evidence of demand for this type of service.

1.3 SMEs - Qualitative

As with the consumers, the SMEs generally felt that the existing payments systems catered for the vast majority of their needs. There were no major areas where payments into or out of their business accounts could be improved. One or two businesses were able to suggest improvements, but the majority were unable to do so.

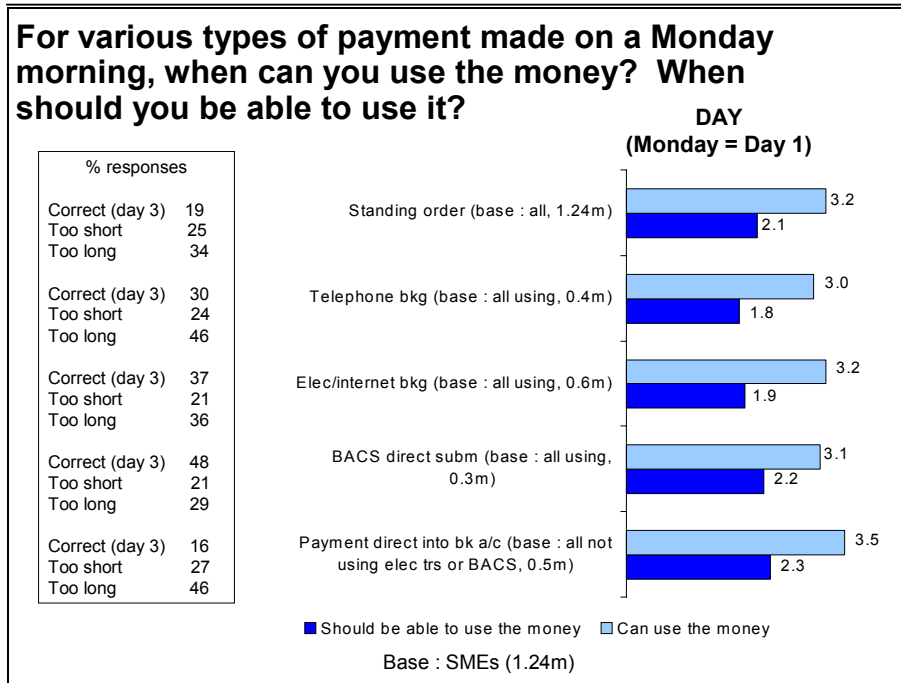
There appeared to be little interest among SMEs, as among consumers, for any express payment options where a charge would be made, partly driven by the perception that bank charges for these would be very high, and partly because they could not envisage how they would use these type of services.

The areas which did concern SMEs related to speed of clearing (and the amount of money the banks make from this), and also to bank charges per se. As with consumers, there appears to be scope for education, as many SMEs may be able to make even more effective use of the current systems than they are currently, due to lack of understanding of options.

1.4 SMEs - Quantitative

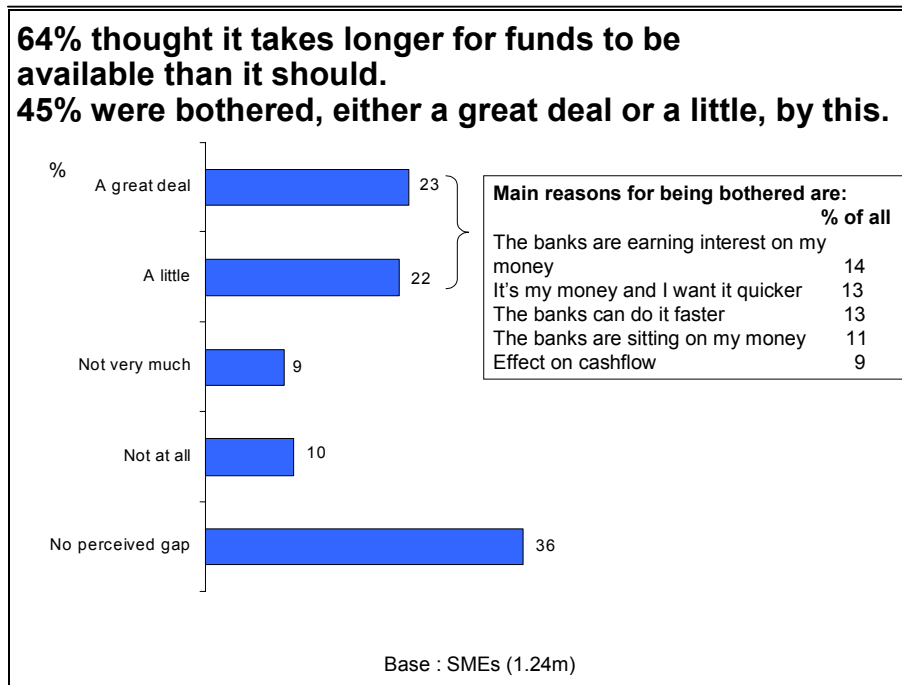
There is much confusion about clearing times. For each payment type asked about (for example standing orders, direct credits), there was a wide spread of opinions as to how long clearing takes, and overall only a minority were actually able to give the correct number of days that payments currently take to clear. So, although on average three days was felt to be the norm, this average hides a great deal of confusion. SMEs also tended to feel that clearing should take a day less than it does.

Figure 9



Forty-five percent of respondents, equating to around 558,000 SMEs, were bothered by the time it takes for funds to clear. This tended to be because the SMEs felt that the banks were earning interest on their (the SMEs') money and because they believe the banks can do it faster.

Figure 10



Around a third of SMEs claimed to have been inconvenienced by the length of time clearing takes; however on further investigation only about half of the examples given could be directly related to clearing and, of those, a minority related to cheque clearing.

A third of SMEs said that they had had goods or services withheld by a supplier until payment had been received. A quarter (23 per cent) had ever needed to make other urgent payments. Together, these accounted for just under half of the businesses in the study (46 per cent, equivalent to 533,000 SMEs). When urgent payments had to be made, cheque or credit card tended to be the payment method used.

Only a minority of SMEs (but particularly those with the highest turnover) checked their balances or statements on a daily basis, or paid in cash or cheques every day. This indicates that most SMEs do not receive urgent payments on a daily basis.

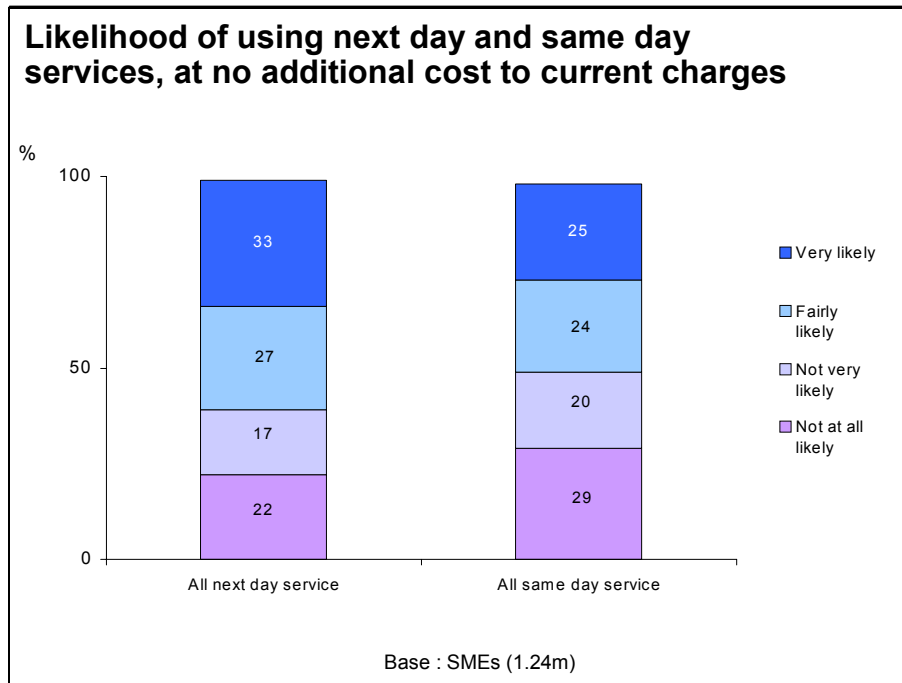
The following concepts were read out to respondents during the research to introduce the faster payment services.

Figure 11

<p style="text-align: center;">CONCEPTS TESTED DURING THE RESEARCH</p> <p>Next day</p> <p>You would be able to make a payment by telephone banking up to 9 o'clock in the evening, which would then be available for the recipient to use first thing the next morning. If this was at no additional cost to the current charges for one-off BACS electronic transfers, how likely would you be to use it?</p> <p>OR</p> <p>Same day</p> <p>In addition to being able to make next day payments, you could make a payment by telephone banking or internet banking up to 12 noon, and it would be available for the recipient to use by 4 pm on the same day. Thinking just about payments that need to arrive the same day, how likely would you be to use this additional service, if it was at no additional cost to the current charges for one-off BACS electronic transfers?</p> <p>(For price points) If the payment is after 12 noon, the funds will be available for the recipient to use first thing the next morning.</p>
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The concept of faster payment services at no additional cost was appealing to over half the SMEs interviewed, with 60 per cent overall, equating to 747,000 SMEs, likely to use the next day service and around half (49 per cent, equating to 607,000) likely to use the same day service.

Figure 12



Just over half the sample were currently making payments by internet or telephone banking. Internet banking, and to a lesser extent telephone banking, tended to be used mostly for making inter-account transfers, with direct debits used for utility bills, insurance premiums and subscriptions.

Among those SMEs already making payments by internet or telephone banking, interest in the next day and same day service rose to 72 per cent and 60 per cent from 60 per cent and 49 per cent respectively overall.

Around two fifths of those saying they would be likely to use either the next day service or the same day service were not currently using electronic (internet or telephone) banking, and the need to change to one of these channels in order to take advantage of faster payments systems may well deter some SMEs.

For those interested in either the next day or the same day service, the payments likely to be made were to regular or one-off suppliers (63 per cent and 62 per cent respectively for next day service and 58 per cent and 62 per cent same day service) and for salaries or wages (55 per cent next day, 50 per cent same day). Anticipated use was 21 payments a month for next day and 18 payments per month for same day, at no additional cost.

A number of price levels were tested among the SMEs, ranging from 10p per payment, up to £5. These costs were positioned as being in addition to any charges the respondent was currently paying. The anticipated usage of the faster payment systems decreased to 3 and 4 payments per month, for next day and same day payments respectively, at the £5 level.

Figure 13

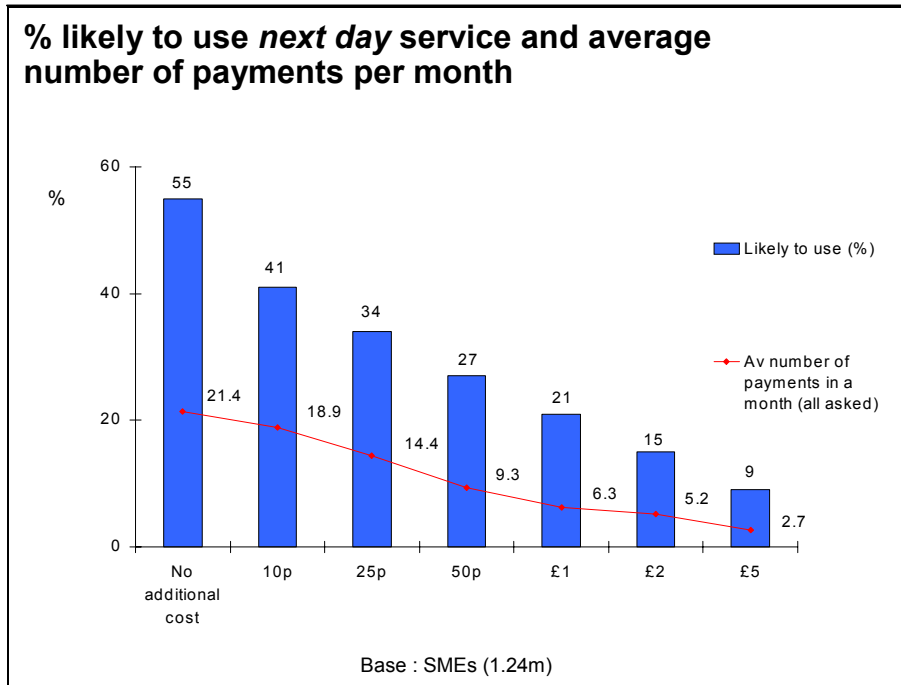
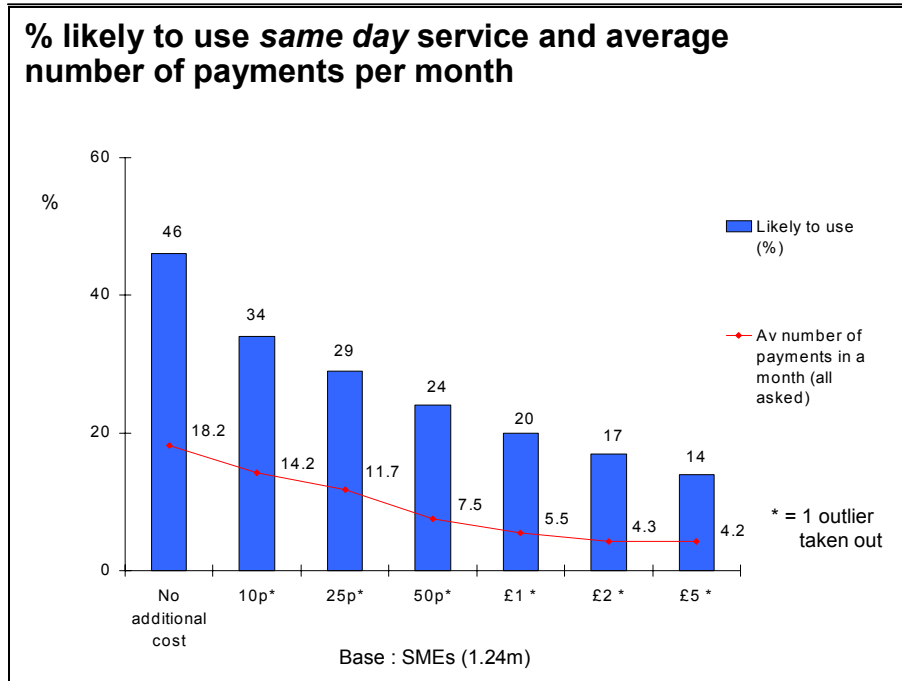


Figure 14



Experience has shown that not all those respondents who claim they are likely to do something will actually do it.

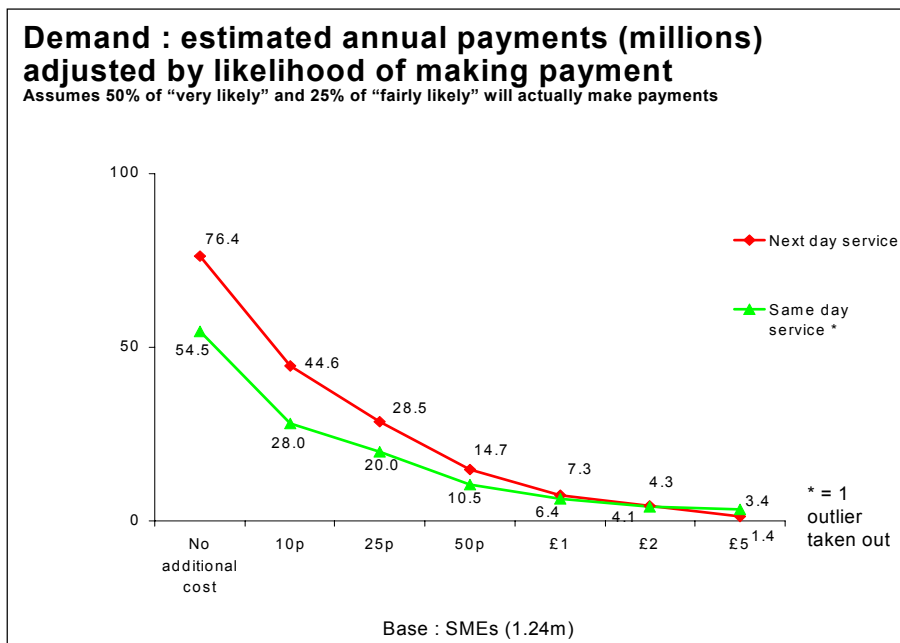
The same algorithm is applied as was used for estimating consumer demand: of those who say they are very likely to use the service, 50 per cent will do so; of those who say they are fairly likely to use it, 25 per cent will do so. Making this adjustment gives us an overall demand figure, in terms of millions of payments per year, as follows :

Figure 15

	Next day service		Same day service	
	All (m)	Adjusted (m)	All (m)	Adjusted (m)
No additional cost	176.4	76.4	125.4	54.5
10p	114.1	44.6	73.2	28.0
25p	72.7	28.5	52.2	20.0
50p	37.6	14.7	27.3	10.5
£1	18.7	7.3	16.6	6.4
£2	11.0	4.3	10.8	4.1
£5	3.5	1.4	8.9	3.4

This gives overall volumes of payments as shown in Figure 16.

Figure 16



In order to use these faster payment services, by electronic transfer, the SMEs would need to be happy to give out their banking details to customers. Overall, they would be comfortable with the idea of giving out this information to established customers (85 per cent) but less so for new customers (57 per cent). The need to do this may be a deterrent to some SMEs.

Overall, however, we believe that sufficient SMEs claimed that they would use the faster payment service, and demonstrated a willingness to pay for this service, to provide evidence of demand for this type of service.

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PAYMENT SYSTEMS – INTERNATIONAL COMPARATIVE STUDY

1 INTRODUCTION

At its meeting in May 2004 the BPSL Innovation Working Group agreed to conduct a comparative study of different countries to inform the group on the structure of their payment systems, the major system innovations and other developments of interest to the UK. It was subsequently agreed that four countries would be studied: France, Norway, Spain and Sweden. These were chosen to represent a range of different payment markets which have all experienced significant change in their retail payment systems in recent years. The scope of the study was to focus on the domestic retail payment systems, wholesale systems were only included to the extent that they can be used by retail customers, and cross-border and, in non-euro countries, euro systems were excluded.

The study was conducted through a mixture of desk research, interviews and follow-up questions with banks, bank associations, payment system companies and regulators in each of the countries concerned. Consumer bodies were contacted in France, Spain and Sweden, but in the case of France and Spain were unable to meet the study team. The level of detail and comparison in this study would not have been possible without the extensive assistance given by the contacts in these countries. Details of the organisations interviewed are provided in each of the country sections. The systems surveyed have also been compared with retail payment systems in the UK, drawing upon the Service Framework and additional desk research. The study was carried out by APACS and OFT staff.

In assessing and comparing payment systems it is important that the terminology utilised is clear and well-understood. The main terms used in this report are given in Annexe K.

2 EXECUTIVE SUMMARY

Section 3 provides a cross-country comparison summarising the key points from the study of relevance to the Working Group. It should be noted that in some areas the summary presents typical or common facts about the countries concerned. This is especially so in those areas which are purely commercial

matters between customers and their banks where practice may vary significantly. Although written to be as self-contained as possible, Section 3 should be read in conjunction with the detailed country reports given in the subsequent sections.

The broad context for the retail payment markets in the countries studied is set out in Section 3.1. This includes an overview of market structure and payment preferences in each country. The regulatory environments and the main retail payment systems studied in each country are described. The section ends with a brief discussion of the main strategic issues facing the retail payment systems in the countries surveyed.

One of the main topics of interest to the Working Group is that of the customer-facing characteristics of retail payment systems. This is addressed in Section 3.2 which compares the retail payment systems in the countries surveyed on a number of dimensions:

- speed of payments, i.e. the inclusive end-to-end timings from customer initiation to the crediting and debiting of accounts for funds availability
- the component of the end-to-end cycle relating to funds availability compared to inter-bank settlement
- float income for banks from inter-bank transactions
- payment-related pricing models for personal customers, and
- guarantees, revocation and finality.

The other key concern for the Working Group is that of innovation. Section 3.3 provides an analysis of the main payment system and service innovations identified in the study. It first looks at the main changes to the retail payment systems, which are classified under a number of headings. It then considers innovation in retail payment services and methods. Section 3.3 looks in general terms at the drivers and enablers of the innovations studied and the processes by which these innovations have taken place.

The full analyses of each of the countries surveyed are provided in Sections 4 to 7. The main retail payment system innovations and developments are described and the customer-facing characteristics are set out. Each section also provides more detail on the structure of the retail payment markets in each country, on the legal and regulatory environment and on the main trends in the holding and use of payment methods by consumers and businesses. Payment system governance is described in terms of the institutional and ownership arrangements for the payment system rules, procedures and infrastructures.

The retail payment market in the UK is described in the Service Framework in annexe C. The Service Framework deals primarily with the current situation in the UK and prospects for how the retail payment systems might develop. Developments to the BACS system are described in chapter 4 of the main report.

3 CROSS-COUNTRY COMPARISONS

The payment system context

Table 1: Basic statistics (2003 unless otherwise stated)

Table 1: Basic	France	Norway	Spain⁷¹	Sweden	UK
Adult Population	48.2m	3.6m	34.0m	7.3m	48.3m
GDP per capita (€)	€25,420	€43,791	€17,315	€29,847	€26,779
Number of credit institutions ⁷²	483	144	274	121	423
Number of branches per 1,000 adults	0.5	0.4	1.1	0.3	0.3
Number of ATMs per 1,000 adults	0.9	0.6	1.5	0.4	1.0
Retail Payment Systems ⁷³	1	1	1	3	2
Payment System Concentration ⁷⁴	58%	over 80%	61%	over 90%	76%
Internet banking users, % of adults	24%	50%	8%	58%	25%
Credits per adult	54	107	12	101	38
Card payments per adult	90	165	30	105	107
Direct debits per adult	49	10	35	18	50
Cheques per adult	81	0.4	5	0.03	47

Sources: Bank for International Settlements, Norwegian Central Bank, APACS, Nielsen NetRatings, BVA SocGen, US Census Bureau.

⁷¹ All data for Spain other than population, GDP and Internet banking users relates to 2002.

⁷² Excludes the post office, finance companies and specialised credit institutions.

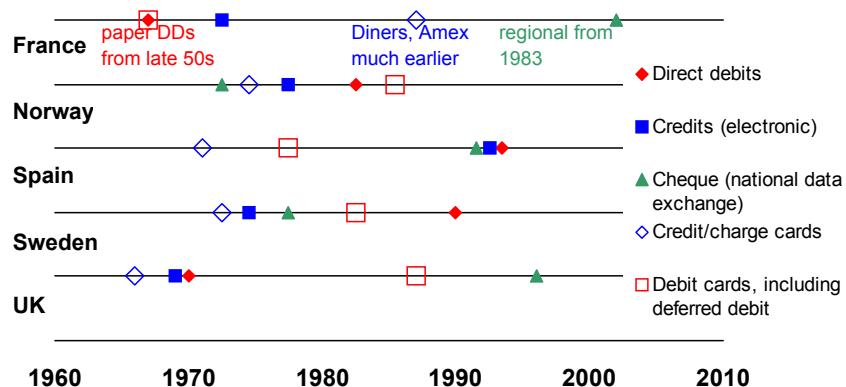
⁷³ Does not include card networks, includes an in-house system in Sweden. The UK systems are BACS and Cheque and Credit.

⁷⁴ Market share of the five largest participants across the retail inter-bank payment systems, excluding card networks.

The retail payments environment

Payment methods and payment behaviour

Figure 3.1: Approximate dates of introduction of payment methods



All five countries surveyed share the same basic core set of payment methods. Figure 3.1 presents a timeline which shows the dates in which the payment methods were introduced in each of the countries.

Sweden and Norway have similar retail payment markets. Both are giro-based (see glossary) and so personal bill payment and business-to-business payments are typically made by giro credit, with a declining proportion being made by paper and increasing use of electronic methods. Debit card acceptance and use is high and card holding is near universal in Norway and widespread in Sweden. Cheques have been priced out of both domestic markets and cash use accounts for a similar proportion of retail sales to the UK. Both countries are also characterised by high levels of use of Internet banking and by highly concentrated retail banking sectors.

France has the largest per-adult cheque volumes of all of the countries surveyed, and is at levels 70% above those in the UK. It is the only country where there is still substantial use of cheques in retailers, however compared to the UK cheques are used much less for paying bills. Debit cards are widely held and used and direct debits are popular for the payment of regular bills. Cash use is the lowest of all of the countries surveyed. Uptake of Internet banking is at comparable levels to the UK, and the retail banking sector is the least

concentrated of all of the countries surveyed. The French market is also characterised by a wide variety of payment instruments.

Spain still has a strong cash base in its retail payment market; this is despite widespread issuance and acceptance of payment cards. Total non-cash volumes are significantly lower than in the other countries surveyed, although this must be taken in the context of a lower GDP per capita. Non-cash payments in retailers are made by payment cards and direct debits are popular for the payment of regular bills. Internet banking is offered by most retail banks in Spain, but levels of uptake are below those in the other countries surveyed.

Cheque volumes in the UK are falling at a robust rate but are still substantial compared to Norway, Spain and Sweden. Debit card holding and use is widespread, and the UK is by far the largest credit card market in Europe with many cardholders using credit cards purely for transactional purposes. In all of the other countries surveyed, bank issuance of general-purpose revolving credit cards for personal customers is a recent development. Direct debits are popular for paying bills and Internet banking use is growing rapidly but is still substantially lower than in Norway and Sweden.

Market structure

All of the retail banking markets surveyed have seen significant structural change in recent years. All have seen mergers and take-overs within the domestic market and take-overs by international banks. New entrants in the markets include international credit card issuers, major retailers (particularly in the UK, France and Sweden) and other financial organisations such as insurance companies which have often launched Internet banking services. However, in all countries there appears to still be a significant amount of inertia in the current account market with little evidence of substantial levels of account switching.⁷⁵ This is in contrast to the savings and loans sectors of the retail banking markets. Consumers appear to be happy to open a savings account or take out a loan or mortgage with a bank where they do not hold a current account.

⁷⁵ In Sweden this is despite easy switching of direct debits being available since their introduction around 1990, and a very active market in savings and loan products.

Regulation of payment systems

All central banks have a statutory responsibility to promote financial stability, with oversight of payment systems an essential part of that role. In France and Sweden, the central banks have designated retail payment systems as being of systemic importance. A designated system is assessed by the central bank against the core principles for such systems set out by the Bank for International Settlements (further details can be found at the BIS web site, www.BIS.org). In Norway the central bank is the authorising and supervisory authority for payment systems deemed to be of importance for financial stability. In Spain the central bank, at the date of this report, owned and managed the payment system, and will continue with an oversight role when management of the system moves into the private sector in 2005. The Spanish central bank is considering whether to designate the payment system as systemically important. In the UK, the Bank of England's main concerns in its oversight role are in regard to the assessment and reduction of systemic risks.

There are some significant differences in how the central banks' responsibilities in the countries studied are defined and interpreted. One is with regard to efficiency. The central banks in Norway and Sweden have the statutory responsibility for the promotion of efficiency. Both have interpreted this in broad economic terms and in Norway the central bank has for several years conducted studies into the pricing and costs of payment systems. The Bank of England also has regard to the efficiency of payment systems. In particular, the Bank recognises that designing and operating a payments system to minimise systemic risk would be counterproductive if the systems thereby became so expensive that payment traffic migrated to less safe alternatives. The Bank also seeks to promote an efficient payment infrastructure where this does not conflict with its primary responsibility for systemic risk migration. Another difference is in regard to security, where the Banque de France is the only central bank which has a statutory responsibility to ensure the security of payment systems. The central bank in Spain is the only one amongst those studied which regulates customer pricing. The Banco de Espana monitors the transparency of published tariffs and can reject charges which it considers do not relate to the actual service provided or which are out of line with industry norms.

Sweden is the only country amongst those surveyed where the financial supervisory authority, the Finansinspektionen, directly supervises a retail payment system company, namely BGC (see below).

Retail payment systems

The study has focused upon the retail payment systems in each country which clear the same range of payment methods as BACS. In all cases except the UK these systems clear cheques and some clear payment card transactions.

Payment card systems have also been examined, but in less detail. The main retail payment systems studied were:

- SIT in France, the single retail payment system, which clears all retail payments below €800,000. The bank-owned organisation GSIT is responsible for the scheme and operation of the SIT system, which has a decentralised architecture where direct participants exchange payment information bilaterally
- the Norwegian Interbank Clearing System (NICS) in Norway, which includes a sub-system for the clearing for all retail payments. The banks, through the 'NICS Operating Office', own NICS which is operated under contract by a bank-owned company BBS. Strategic decisions regarding NICS are made through the boards of the commercial and savings banks associations
- SNCE in Spain, which clears all non-card retail payments. SNCE is currently owned and managed by the central bank, and is scheduled to move into the private sector in 2005. As in France, SNCE has a distributed architecture, and
- the Bankgirot and Data Clearing inter-bank retail payment systems in Sweden. The Bankgirot system processes bill payments and business-to-business transactions, it is owned by the bank-owned company BankGiroCentralen (BGC) as scheme and operator. The Data Clearing processes account-to-account payments. It is owned and managed by the Swedish Bankers' Association (SBA), and operated by BGC. The Swedish Postgirot system, which was sold to a retail bank in 2001 and is now an in-house system, was also studied.

In the UK there have been significant changes in the governance of the BACS system in recent years, with the responsibility for the BACS schemes split from that for the infrastructure. BPSL is responsible for the schemes and Voca for the infrastructure.

Strategic issues

The banks, payment system companies and regulators in all of the countries surveyed are facing a similar range of strategic issues when considering the future direction of their payment systems. In addition to payment system risk, the major issues highlighted by the organisations interviewed in the study can be briefly summarised as follows:

- Europe. All countries are deeply engaged in issues at the European level, which are among the primary concerns for the bank industry and for regulators. The EC is looking to achieve an internal market for payment services in the EU with harmonisation, through the EU Directive for a New Legal Framework for Payments in the Internal Market, forming the next stage in this evolution. For non-EU countries such as Norway one issue is the extent to which they incorporate EU Directives into domestic legislation
- the European Payments Council (EPC) was established in 2002 by the European banking industry to create the architecture, instruments and processes for the single euro payment area (SEPA). The EPC addresses the whole gamut of payment instruments, including cheques, direct debits, cards and credit transfers. The future of domestic payment systems in euro-zone countries within the SEPA environment is an overarching strategic issue
- Internationalisation. The increasing presence of international banks in all the countries surveyed raises issues both of regulatory scope and of prospects for purely national or proprietary payment solutions. These are most apparent in the smaller countries of Sweden and Norway, and
- Technology and message standards. In all of the countries surveyed there is a recognition of the requirements for infrastructure modernisation and the need to take advantage of current and

emerging technologies to improve functionality, cost-efficiency, risk management and integrity.

Customer-facing characteristics of retail payments

Speed of inter-bank payments end-to-end

Table 2 compares the inclusive end-to-end payment timings for the main payment methods, from payment initiation to the crediting and debiting of customer accounts for funds availability. The end-to-end timings relate to the typical situation for inter-bank payments made between accounts held with direct participants. It should be emphasised that the end-to-end timings are often dependent upon competitive decisions taken by direct participants regarding the availability of funds to customers, which can vary from institution to institution.

Payments made between accounts with the same bank may have a shorter end-to-end timescale, for instance some banks in the UK process intra-bank Internet banking payments in real time. The end-to-end timings may also be different if either the payer or payee has their account with an indirect participant. We were informed that in Norway and Spain end-to-end cycles for automated payments are typically the same whether direct or indirect participants are involved. In the UK, direct debits and direct credits made to or from accounts with indirect participants have the same three-day cycle, whereas the end-to-end cycle for cheques can vary between indirect participants. France has no formal rules for indirect participants. In Sweden, market practice for indirect participants is the same as for direct participants, even where formal rules do not apply to the former. Some indirect participants may be members of the payment systems but settle through other participants, and these indirect participants will be bound by the same rules as the settlement members.

Table 2: Typical end-to-end timings for inter-bank payments (in working days)

	France	Norway	Spain	Sweden	UK
Internet/telephone banking credit	same-day to three day	same-day if initiated by middle of day, two day later	two day	same-day if initiated by middle of day, two day later	three day
Direct debits	five day	seven day ⁷⁶	two to four day	two day	three day
Bulk electronic credits	same-day to three day	same-day if initiated by middle of day, two day later	two day	one to two day	three day
Standing orders	two day	same-day if initiated by middle of day, two day later	two day	two day	three day
Depositing cheque in branch	three day	two day	three day	two day	three to five day
Paper credit in branch ⁷⁷	service not available	two day	two day	two day	three day
Paper credit/cheque in post ⁷⁸	two to three day	two day	three day	two day	three to five day

⁷⁶ This timing applies to business-to-consumer direct debits. There is also a two-day business-to-business direct debit product in Norway.

⁷⁷ In some countries the paper credit is a separate instrument, in others, for instance the UK, it has to be accompanied by cash or a cheque.

⁷⁸ The timings relate to those after the item has been received, there will be an additional delay for the payer arising from the postal service in the country concerned.

The main points are:

- all countries have a wholesale same-day payment system. This is typically available to personal customers at a premium price, although in Norway and Sweden it will normally only be used by personal customers after the cut-off for same-day payments in the retail system or for payments which exceed any value constraints for the retail system
- customers in Norway and Sweden can initiate one-off same-day retail payments by Internet and telephone banking up to a cut-off, which varies from bank to bank but is typically around the middle of the day. After the cut-off the payments are two-day. In Spain these payments typically have a two-day end-to-end cycle, and in France timing is same-day, two or three day depending on the input time and the policy of the receiving bank. In the UK, there is a three day inclusive end-to-end process, with funds typically available on the morning of the third day
- the end-to-end cycle for direct debits is the same as for bulk credit items in Sweden. In Spain the cycle is two to four day. In France there is a five-day cycle for direct debits. In Norway the cycle for business-to-consumer direct debits is seven day, due to a statutory requirement on banks to inform their customers of direct debit transactions at least seven working days in advance. In the UK direct debits have a three-day end-to-end cycle
- in Spain and Sweden, bulk inter-bank electronic credit transfers (e.g. business-to-business, salaries) and standing orders are processed on a two-day end-to-end cycle. The Swedish post giro system is intra-bank and is same-day up to a cut-off. France has the same cycle for bulk files as for Internet payments. In Norway these credit transfers will be same-day if initiated early enough that day, otherwise they will be two-day. In the UK the cycle is typically three-day. Standing orders have the same end-to-end cycle as bulk electronic credits in all countries

- the end-to-end times for cheques deposited in branches vary between countries. In the UK, the end-to-end cycle for inter-bank cheques is three to five days. In France and Spain funds are typically available two or three days after a cheque is paid in respectively. In Norway and Sweden cheques are very little used, but funds will be available typically the day after pay in
- for customers using paper credits at a branch, for instance to pay a bill, there is a two-day end-to-end process in Norway, Spain and Sweden. In the UK it is normally three day. Paper credits are not routinely used in France, but one-off branch credits are three day, and
- for customers using debit cards, funds will be typically be taken from accounts the day after the merchant has input the transactions to their acquirer. In most cases the debit will occur on the day after the purchase but there may be a more extended period in some circumstances. There is also considerable variation in the crediting to merchant accounts, for instance reflecting the type of transaction and the risk profile of the merchant, and hence debit cards have been excluded from Table 1.

Customers using Internet banking can usually forward-date payments in all countries, and business customers can submit bulk files of payments well in advance of the input deadline. For instance, in Norway supplier payments may in practice be submitted up to one month in advance.

Although the analysis has been set out in terms of days, in some of the countries surveyed it is the case with many payment methods that the final deadline for customer input can be late on the first day, whereas the credits and debits for funds availability are made early on the final day. For instance, salary payments in Spain may have an end-to-end process of under twelve hours and in the UK under 36 hours.

One component of the end-to-end process is that of inter-bank clearing and settlement. This varies from country to country and by payment method. The timings are measured in inclusive working days from the last point when transactions can be entered into the payment system to receipt of output from

the system or settlement, whichever is the later. In the UK the clearing and settlement cycle is three days for all items considered in Table 2, in France and Spain it is two days, in Norway it is one or two days depending upon the input time and in Sweden is one or two days depending upon the input time and nature of the submission – all bulk corporate input currently has a two day clearing and settlement cycle.

Funds availability compared to inter-bank settlement

Another important component of the end-to-end retail payment process for inter-bank payments is the timing of the customer debits and credits for funds availability relative to the inter-bank clearing and settlement cycle. The typical practice for debiting and crediting accounts for funds availability is set out in Table 3, where D is the day of inter-bank settlement.

Table 3: Typical end customer debiting and crediting for funds availability compared to inter-bank settlement (D = settlement day)

	France	Norway	Spain	Sweden	UK
Internet/telephone banking payment	debit: D-1/D credit: up to D + 1	debit: D credit: D	debit: D-1 credit: D	debit: D-1/D credit: D	debit: D-2 credit: D
Direct debits	debit: D credit: D	debit: D credit: D	debit: D credit: D to D + 2	debit: D credit: D	debit: D credit: D
Bulk direct credits	debit: D-1 credit: up to D + 1	debit: D credit: D	debit: D-1 credit: D	debit: D credit: D	debit: D credit: D
Standing orders	debit: D credit: up to D + 1	debit: D credit: D	debit: D-1 credit: D	debit: D-1 credit: D	debit: D-2 credit: D
Depositing cheque in branch	debit: D-1 credit: up to D + 1	debit: D credit: D	debit: D credit: D or D + 1	debit: D credit: D	debit: D credit: D + 1/2
Paper credit in branch	method not available	debit: D credit: D	debit: D-1 credit: D	debit: D-1/D credit: D	debit: D-2 credit: D
Paper credit/cheque in post	debit: D-1 credit: up to D + 1	debit: D credit: D	debit: D credit: D or D + 1	debit: D-1/D credit: D	debit: D credit: D + 1/2

A common practice with remote banking payments and credits paid in a branch is for customers to be debited on the day they initiate the payment, with credits made on settlement day. Debiting and crediting with standing orders is similar. Direct debit payments typically result in debiting and crediting on settlement day in all countries except Spain. There is more variation between countries on the funds availability for paper items, for instance with cheques the availability of

funds post settlement may vary according to the systems for the return of unpaid items (see Section 3.2.5).

In the countries surveyed funds availability is often a commercial matter between customers and their banks and so practice may vary from that given in Table 3 according to market circumstances and risk considerations. For instance, a bank may take a credit risk and make funds available to customers paying in a cheque on the day of pay in, depending upon the nature of the item (e.g. a bankers draft) or the risk profile and economic value of the payer and payee.

In Norway and Sweden the rules of the payment system specify that funds for direct debits and direct credits are only made available after settlement. In Spain and France there is a risk for the banks in that they can, and in practice do, make funds for payments such salary credits available to personal customers early on settlement day, prior to settlement itself. The situation in the UK is similar to that in France and Spain.

Float for inter-bank transactions

Table 4 summarises the typical situation regarding value dating for interest purposes with inter-bank transactions in the countries surveyed. As with funds availability, float may be a competitive matter and there can be considerable variations from this position. For instance, some banks may give consumers interest upon deposit of a cheque and larger businesses may be able to negotiate more favourable terms with their banks. One exception is Norway, where legislation prohibits banks from taking float at the personal customer end of payments. In Spain a central bank regulation covers value dating relative to the debiting and crediting of customer accounts. Float may also vary according to whether the transaction is intra-bank or inter-bank.

Float of one day arises at the payee end of a payment if is settled between direct participants the day before the payee's bank gives the payee interest. One day's float may arise at the payer end if settlement occurs on the day after the payer's bank has debited the payer's account for interest purposes. Two or more days' float may arise similarly at each end of the transaction. Table 4 presents the total for float at both ends of the transaction.

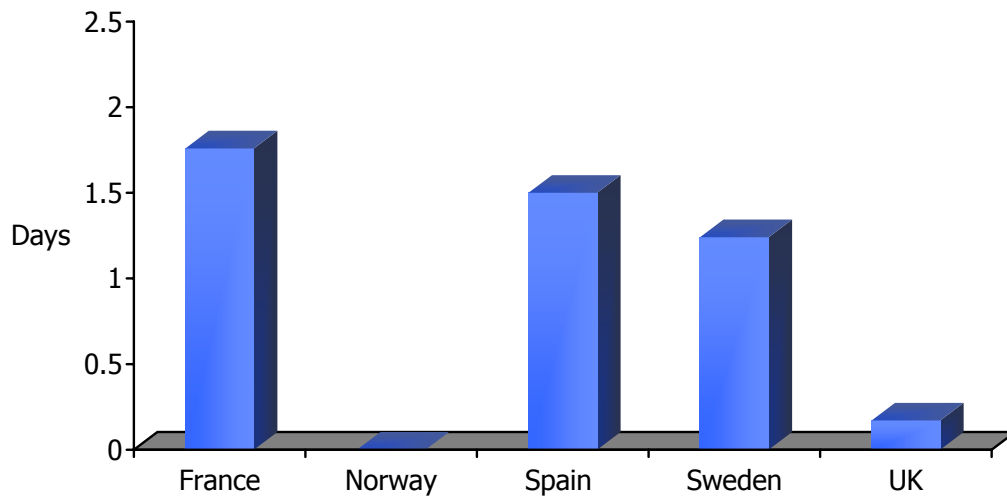
Table 4: Typical float for inter-bank transactions

	France	Norway	Spain	Sweden	UK
Internet/telephone banking payment	up to two days	none	one or two days	two days	two days
Direct debits	None	none	one or two days	two days	none
Bulk direct credits	up to two days	none	one or two days	one day (salary, state benefits) two days (B2B)	none
Standing Orders	up to two days	none	one two days	two days	two days
Depositing cheque in branch	up to four days	none	one or two days	two days	none
Paper credit in branch	service not available	none	one or two days	two days	two days
Paper credit/ cheque in post	up to four days	none	one or two days	two days	none

The typical practice in Sweden is for banks to take one day's float at each of the ends of an inter-bank payment transaction. In Spain, one or two days float is standard across payment methods. In France a court case earlier this year has banned float by the debiting bank: crediting banks have up to four days float on cheques and typically two days for credit transfers, there is little float with direct debits. In the UK, float may arise with inter-bank direct credits initiated via remote banking, on standing orders and on inter-bank paper credits paid in the payer's branch. There is typically no float in the UK on other transactions, except that float is earned on cheques by a number of small building societies.

The typical float for each payment type given in Table 4 can be weighted by the volume of each type of payments to estimate average float per payment in each country. This analysis is presented in Figure 3.2. In the UK those transactions with float represent a relatively small percentage of the total, whereas in France, Spain and Sweden float arises in a higher proportion of payments, hence the float per payment in the UK is lower than that in those three countries.

Figure 3.2: Average float per payment



The issue of float is to some extent independent of payment system issues in the sense that changes to customer accounting for float purposes can be made without the need for changes to the payment systems themselves. However, the duration of the processing cycle in the payment system is one factor which can influence float. For instance, the three day BACS processing cycle in the UK is one reason why banks have historically earned two days float on standing orders and remote banking payments.

Funds availability and float are not necessarily correlated, although that is typically the case in the UK. Tables 3 and 4 can be compared to identify differences between the timings for funds availability and for value. In three countries, France, Spain and Sweden, the timing for float can be longer than the cycle between debiting and crediting of accounts for funds availability at each end of the payment process.

Payment-related pricing for personal customers

Table 5 summarises the main payment-related pricing models in each country for personal customers. It is based upon banks' published charges. It should be noted that no attempt has been made by the study to compare countries on the basis of the complete cost to customers of banking services, including factors such as exception and overdraft charges and interest income. The study has focused upon the pricing of payment services as this has the most direct impact upon customer payment behaviour.

Table 5: Payment-related pricing models for personal customers

	France	Norway	Spain	Sweden	UK
Fixed monthly/annual fees, e.g. cards, Internet banking	Yes	Yes	Yes	Yes	No
Transaction charges, cheques	No	Yes	No	Yes	No
Transaction charges, paper credits	product not available	Yes	Yes	Yes	No
Transaction charges, electronic items	Yes	Yes	Yes	No	No
Transparency	Negotiation	Fixed	Negotiation	Fixed	Fixed

In France and Spain there is more bank-customer negotiation and less transparency with regard to personal customer pricing. Personal customers in those two countries may pay significantly less than the published charges.

Same-day payments via wholesale systems will attract a premium charge in all countries. In Norway and Sweden retail same-day payments do not attract a premium charge.

The relative prices of different payment methods can be a significant influence upon consumer preferences between different payment methods. The high charges for cheques in Norway and Sweden have resulted in the virtual elimination of cheques in those countries, whereas the lack of charges is one reason why there is still substantial cheque use in France and the UK. Charges for transactions in branches have also been instrumental in helping to reduce the volume of paper credits in Norway and Sweden.

In Norway the central bank comments annually on bank pricing, in the context of the efficiency of those systems and their relation to the costs of providing payment services. The central bank in Sweden has recently completed a similar analysis. In Spain, there is direct regulation of customer pricing for payment services by the central bank, which is concerned that prices relate to costs. In all countries, bank pricing is subject to competition legislation and therefore may become subject to scrutiny by the competition authorities. In France the legal position is that banks cannot charge for the provision of cheques to personal customers.

Increases in the prices for payment services have been a major concern for personal customers, the media and consumer representatives in all countries. For instance, in Norway there was strong consumer and union resistance to the introduction of charges for payment services, and in France there is a powerful lobby in favour of the policy whereby banks do not charge for cheques.

Guarantees, revocation, returns and cheque finality

There are direct debit guarantees in place in Spain and the UK. In the former payments can be revoked by personal customers up to 30 days after settlement, in the UK there is no time limit for customer revocation. In other countries customers can challenge a direct debit taken from their account, but there is no automatic recourse within the payment system rules.

In all the countries surveyed, personal customers cannot stop a remote banking credit once it has entered the payment system. It is up to the banks concerned whether they cancel a remote banking payment at the request of a customer during the period between customer initiation and entering the payment system.

In the UK and Norway there are cheque guarantee schemes, the limit in Norway is 2,500 NOK (£208) and in the UK cheque guarantee cards can be issued with limits of £50, £100 and £250. In France all cheques are guaranteed up to €15. In Spain and Sweden cheques are not guaranteed. In all countries customers can purchase bankers drafts from their bank if they wish to have a warranted paper item for a high value transaction.

In Sweden and Norway paying banks are typically contacted regarding funds availability before cheques are entered into the payment system. Hence the volumes of unpaid items will be a small proportion of an already small volume of cheques. In Norway unpaid cheques are returned one or two days after settlement, and in Sweden up to eight days.

In Spain cheque items are returned unpaid the day after settlement. In France cheques can be returned unpaid up to 9 days after settlement, this compares to three days which was the practice prior to the introduction of cheque truncation.

The return of fraudulent cheques varies substantially from country to country. In Norway they can be returned up to 20 days after settlement, whereas the corresponding timescales in France and Spain are two months and 60 days respectively.

The questions of the return of unpaid cheques and cheque finality in the UK is under discussion within the cheque and credit company.

Table 6 provides a cross-country comparison of guarantees, returns and unpaid cheques.

Table 6: Revocation, returns and finality

	France	Norway	Spain	Sweden	UK
Direct debit guarantee/ revocation time limit	No	No	Yes/ Up to 30 days	No	Yes/ No limit
Cheque Guarantee and limit	Yes, all up to €15	Yes, up to 2,500 NOK (£190)	No	No	Yes, variable limit
Unpaid cheque return post settlement	up to 8 days	up to 2 days	next day	up to 8 days	<i>see text</i>

Innovation

Payment system innovation

The study has examined the main programmes for the renewal or replacement of the domestic retail payment systems listed in Section 3.2. Table 6 describes the nature of those programmes and summarises the key programme dates. The rest of this section looks at these and other payment system innovations identified in the study, grouped under a number of headings.

Table 7: Programme dates for new/replacement retail payment systems

	Brief description of the improvement	Decision	First Phase Live	Last migration⁷⁹
France – SIT	Single efficient platform for all national retail payments	1983	1992	2002
Norway – NICS	Fast, efficient platform for all national non-credit card retail payments	1988	1993	1995
Spain – SNCE	National efficient platform for cheques and electronic transfers	1987	1990	2001
Sweden – BGC	Flexible, fast platform hosting bank giro and Data Clearing systems	1994	1999	2002
UK – BACS 1990s	Faster, flexible platform enabling improved security and customer communications, repairs, and updates ⁸⁰	late 80s	1993	not applicable
UK - IBDE	Interbank cheque data exchange for England and Wales; later extended to Scotland	1994-6	1996	1998
UK – NewBACS programme	Programme for improved customer communications (BACSTEL-IP, data updates); scaleable, flexible platform ²	2001	2003	not applicable

⁷⁹ Last payment method or regional clearing to migrate to the system.

⁸⁰ The detail here will be replaced by a brief summary of developments to the BACS system in Appendix 2 to this Section.

Consolidation of payment processing – combining the clearing and settlement of different payments onto a shared platform is seen to some extent in all countries except the UK:

- France's retail payment system handles nearly all domestic inter-bank retail payments including debit cards
- the situation in Norway is the same apart from internationally-branded payment cards
- Spain's combines all retail payments with the exception of payment cards, and
- the Swedish system originally developed for truncated cheques (Data Clearing) carries standing orders as well as other account-to-account transfers. It is hosted on the same platform as the bank giro system.

Table 6 shows that the concentration of different payment instruments onto a single platform was usually implemented over several years. In some instances, the later instruments to migrate may not have been included in the original programme, as was the case with cheques in France. In all countries, and for all payment methods, the main implementation effort was in the banks' own systems. In countries where corporates make direct input to the payment system, for instance Sweden's Bankgirot system and BACS in the UK, migrating the corporate users also formed a significant part of the upgrade project.

Changes to clearing and settlement cycles – the central settlement cycles (as opposed to customer-facing timings) have been cut by a day in Sweden and France (only for cheques) over the last 10 years. In Norway two daily cycles were introduced to replace the previous single settlement each day, and Sweden has introduced intra-day cycles too in some instruments, which has speeded up customer funds availability. Spain had no national clearing before SNCE, and there have been no changes to the two day cycle since it commenced operation in 1990.

Flexibility, scale-up, and other modernised architecture – in several countries the upgrades to their retail payment systems also incorporated the ability to react fast to the need for future product innovation. A flexible architecture was designed, that would carry larger volumes and incorporate other advances in

information technology. Technology modernisation is a continuing concern for all of the payment systems, for instance in Norway the payment system is moving to a web and server-based modular architecture, as is BACS in the UK.

Improved electronic communications – physical exchange of cheques between banks has been substituted or supplemented by data exchange in all countries, and in France and Spain some banks extend this to their customers. In the UK, another example is phase 2 of NewBACS which will provide direct access for users to modify their own reference data. With cheaper telecommunications and other technological changes, payment-related information has also been improved: Norway, Sweden, France and the UK introduced extended formats for business use for reconciliation, and the Swedish Data Clearing is now working to extend its text field for customer use from 11 characters to 50.

Anti-fraud measures – Chip and PIN is used to control fraud, both in the domestic French solution and that developed through the international payment card schemes (the UK making a strong contribution to the latter). These are only two of many innovations in the cards area, where there has been much activity at bank, banking association and scheme level.

Customer credit control – in Sweden and Norway, the banks check the availability of customer funds before settlement of direct debits.

Payment service innovation

In addition to payment system developments themselves, the survey look at a range of innovations in payment services, comparing the UK with the other countries studied. The aim was to identify innovations which might be considered for the UK market.

The payment service innovations studied were as follows:

- E- and M-payments services are available or being developed in all countries (see the individual country chapters and the Service Framework for details of these initiatives)
- the facilities offered to personal customers through Internet and telephone banking are very similar in all of the countries surveyed, despite a varying rate of take-up of online banking by customers

- the UK and Sweden allow paperless/online sign-up of direct debits, as does France, although there it must be signed electronically. In the UK and Sweden, switching direct debits between accounts is facilitated centrally
- in both Norway and Sweden there are operational bank business-to-consumer (B2C) Electronic Bill Presentment and Payment (EBPP) services where Internet banking users can view and pay their utility and other bills through that channel. There have been a number of initiatives in the UK looking to develop a bank B2C EBPP service, including the current Voca development. B2C EBPP has not to date been pursued collectively by the banks in France or Spain
- in the area of delivery of remittance and other payment-related information to corporates, the BACS REMIT service in the UK carries remittance information. The NewBACS infrastructure will be more conducive to the development of value added services. The payment system operators in Norway and Sweden have both developed remittance services, which participant banks can then sell on to their corporate customers. These services form a core part of banks' corporate offerings in those countries
- the UK banks have decided not to pursue the development of any domestic e-purse schemes at this time. This parallels the situation in Norway, and in the other countries surveyed e-purse solutions have not been successful to date
- the UK is well advanced in the implementation of chip and PIN with the international EMV-standard cards, along with France and Norway. Sweden and Spain are following but are behind the other countries
- one-off direct debits (item authorised),⁸¹ where the customer enters into a mandate with the originator but has to initiate each individual

⁸¹ An ongoing mandate generally used for regular bills, for which the customer authorises each payment.

transaction, are available in France where the payment initiation can be by paper or electronic methods. In France they were introduced to meet the needs of customers who were wary of entering into an open-ended direct debit mandate or who wished to authorise each payment if the amount varied from period to period. Similar services are not available in the other countries surveyed

- in Sweden the Bankgirot service issues Bankgirot numbers to corporates. These are customer IDs which are linked to bank account details held in the system. Through using the Bankgirot number on its invoices the corporate does not have to reveal its bank account details to enable payment, and possession of the ID itself is not enough to give access to the payee's account. The system facilitates account portability, but may have compatibility problems with the IBAN system. The Swedish system is unique amongst the countries surveyed. Such a service might appeal to more widely to customers who are unwilling to share their account details, and
- B2B EBPP. EBPP is a service where banks deliver electronic invoices between trading partners as well as handling the payment transaction. In France, Spain and Norway the banks reported that they are investigating the opportunities in this area. There are potentially cost savings and other efficiency benefits to trading partners in exchanging invoices electronically, and revenue opportunities to banks in providing the service.

Drivers and enablers of innovation

Figure 3.3: Drivers of innovation

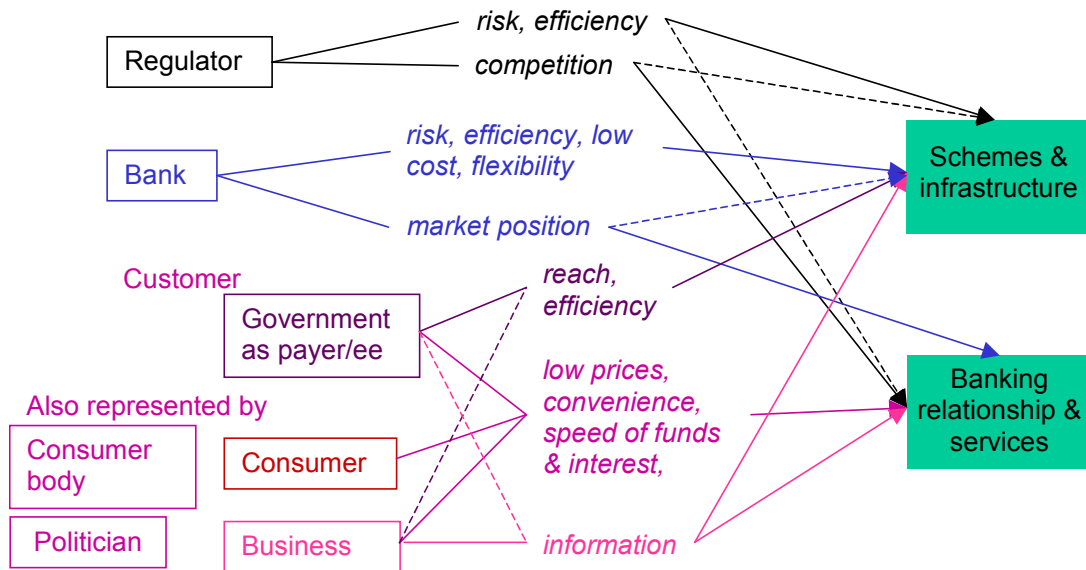


Figure 3.3 summarises the strongest influences for change in payment systems and services. In all five countries, the most important drivers on the payment system innovations studied were regulatory pressure and the owners' interests in cost-efficiency. Customer demands also featured in payment services, product design and communications improvements, though less in inter-bank infrastructure. Banks' interests in improving their own market position were pursued more through their own services, though sometimes using products developed by the payment systems or schemes.

Regulatory pressure – the interests of the central banks, financial supervisors and competition authorities are covered above in Section 3.2. All central banks monitor risk and some monitor prices to promote efficiency and competition. A strong driver in the reduction in clearing and settlement cycle times was the central banks' concerns over interbank credit risk before settlement. Banks also shared these concerns.

Cost-efficiency was a strong driver in nearly all the payment system innovations observed, exploiting the latest technology at the time in storage, processing and communications. Combining multiple payment methods on a single platform was also pursued for economies of scale. However there was little linkage between

this innovation and country size or payment volumes, which suggests that other drivers were stronger in some countries: Sweden has three retail payment systems whereas at the other extreme both Norway and France clear all inter-bank payments on a single system. As mentioned above, most payment processing and development costs are incurred at the banks rather than in the payment system itself. Banks are therefore also concerned with the full end-to-end costs for payments, and the need for straight through processing or minimal manual intervention can influence payment system design. Cost control was at least as strong a driver for the French chip and PIN development as fraud control, in the context of the high telephony charges at the time of its introduction in the early 1990s.

Customer demands (e.g. for faster access to funds or interest) were mostly addressed through the bank-customer relationship, with little direct input into payment system development. This is because clearing and settlement processes are invisible to the customer. They are decoupled from the timing of interest or funds, as discussed in Section 3.2 (though in practice there may be a link between timing of funds availability and settlement, as in Norway and Sweden). Customer demands and service improvements have been important in developing new payment methods or other payment-related products, and have influenced infrastructure, for instance the British, French and Swedish built flexibility into their retail payment systems to allow for future product development. Some examples of the influence of the demands of different customers examined in the study are as follows:

- central governments as a payer of state benefits and payee of tax have needed specialised products (and earlier, infrastructure). The Swedish and Norwegian post giro systems were created for these purposes and the French government drove the development of electronic direct debits and some specialised paper instruments. Most countries' authorities promote electronic signatures for use in online tax returns, with the Spanish tax authority offering a more rapid tax refund to tax payers using the service
- corporate customers' interests in inter-bank payment services include counterparty information and not being tied into their banking relationships; corporates negotiate directly with their bank on charges, interest and access to funds. Sweden's bank giro system is

a prime example of a system that was developed to serve corporates' needs, and

- there are a few examples of consumer influence such as the French TIP, a direct debit which must be authorised by the customer on each payment, and Internet banking, which is discussed below.

Enablers, rather than drivers, for innovation include payment system competition. In Spain there is vigorous competition between the three payment card systems. The presence of strong competition between the two Swedish giro systems encouraged speedy development of effective products that met business users' needs in the payments, cash management and accounting areas. The giro systems focus on delivering speed of information as much as speed of settlement. The view of some staff at banks and the payment systems themselves in Sweden, however, was that the advantages of innovation that competition brought in were finely balanced by the operational inefficiencies of duplication and imperfect connections between systems. In Norway, moreover, the sale of the post giro system was not opposed by the central bank on competition grounds because of the overall efficiency benefits and the fact that banks could compete for end-customers on price and service.

Many of the successful innovations studied built on local cultural features. For instance, charging for cheques was easier in Sweden and Norway because cheques had never been used to pay bills; conversely, market forces in France would probably prevent charging for cheques even if the legal position were eased. The levels of PC ownership in each country influence the use of Internet banking, and Internet banking has grown more quickly in environments where the alternatives are substantially more expensive or inconvenient.

Internet banking now drives customer demand for innovation itself: the increased visibility of balances and speed of input boosts consumer interest for faster ad-hoc payments, particularly inter-account transfers, where both ends of the transaction are visible.

The legal environment can also have a significant influence upon payment system and service innovation, either as a driver or a barrier to change. Innovations must be developed within the constraint of existing legislation or, as for instance in the case of cheque truncation, legislative change may be required

before the innovation can take place. Some specific examples of legislative influence identified in the study are given in the next sub-section.

Small countries such as Sweden and Norway have high payments market concentration (see Table 1). This is generally held to assist early innovation; for instance the payment systems are able to perform more functions centrally because the volumes of bulk payments are sufficiently low to make this economically and technologically feasible. The historic daily peak in Sweden was 6.3 million direct debits, compared to a 55 million daily peak in the UK. One example is that all direct debit mandates are checked centrally in Norway and Sweden on each payment. However in both Norway and Sweden, the small population was reported to be an impediment to innovation in some areas, particularly considering the even smaller pool of 'early adopters' of innovative products.

International harmonisation is currently a very strong theme in the countries surveyed, and globalisation can spread 'best of breed' innovation as well as wider economic benefits. International coordination may slow down the innovation process, however (or indeed national coordination, in the case of development of the French retail system alongside the high value systems). The British worked through the international schemes in the development of the global EMV chip and PIN standard, whereas the French were able to introduce it faster as a domestic-only standard. However, we were informed that the French would have been unlikely to repeat this in today's environment, given the international nature of card payments and card crime, and the French are now migrating to the international EMV standard. Some of the innovations or special features in the countries surveyed may have difficulties fitting in with European integration, for instance the Swedish bank giro number. Norway has been highly innovative, with chip-based debit cards in an early scheme and an intra-day settlement system, but local innovation may be more difficult now that most of the larger banks there are international.

Processes for innovation

The processes and the drivers for innovation are closely related. Regulatory and political intervention operated at several levels:

- the most stringent is legislation, which may be sponsored by a standing committee (the Norwegian Banking Law Commission's recommendation for legislation banning float), by consumer or political pressure, or indeed a general culture of legislation (the wide-ranging French Financial and Monetary Code)
- in France, representations by consumer bodies resulted in action by the Finance Ministry to initiate legislation (e.g. the right to a bank account) or to set up a consultative committee including the banks or their federation
- there has been political pressure for further reductions in Sweden's settlement times, even though most payment methods already have multiple cycles per day. Bulk input will move to same-day settlement in due course (up to a customer cut-off)
- the exercise of formal regulatory powers such as assessment against BIS' core principles, and the competition authority ruling against the merger of the two Swedish giro systems
- most central banks also use informal intervention including moral suasion applied in private and public as necessary, for instance the central banks in Norway, Spain⁸² and more recently Sweden on cost-related charging. The central banks generally exercised their formal and informal powers in regular meetings with individual banks, with payment system companies and with the banking community in committees and working groups. Informal intervention could also be expressed through published research and other papers, and
- consultative committees have also been used in France and the UK, such as the OFT Task Force itself.

Regulatory-driven redesign - for systems not owned by the central bank (i.e. the retail systems in all countries apart from Spain), where the central bank had regulatory concerns, these may have been disseminated via a standing co-

⁸² The Spanish central bank also has formal regulatory powers in this area.

operative banking committee that it chaired, such as the French Steering Group for Payment Methods. In Spain the payment system is owned and managed by the central bank and there is a formal Advisory Committee on which the banks are represented. The payment system company (its own staff and representatives of bank members) would then work to align these requirements with its own strategic goals, e.g. cost reduction and flexibility for product innovation, as well as the details of implementation.

The bank members/participants would also liaise internally with their own strategists and operations to ensure co-ordination and compatibility with their own aims and systems. Liaison with linked and related systems and other relevant regulators also took place. End-customers were not represented directly in any countries, but their needs were taken into account by the banks.

Purely commercial innovation of common payments systems and methods followed a similar process as in the previous paragraph with regulatory input only as required on the competition or financial stability aspects of the project. In Norway, the banking federations conducted a 'blue-sky' strategic review to draw up requirements for an 'ideal payment system'. A similar process was followed within APACS, the output from which was taken forward into the design for NewBACS.

'Bottom up' innovation is less suited to payment systems developments than the 'top-down' processes described above, as a go-it-alone approach is hampered by the lack of reach. Sometimes a single bank introduced a changed or new service, such as Internet banking or a change in the charging structure, followed eventually by the rest of the community. In most countries, this was often a recent entrant to the current account market (foreign or from other retail sector), or in an earlier wave of entry, from the savings sector.

In Norway and France, a common process for innovation was a small group of banks piloting a concept together (either a sub-group of their banking association or independently), which would then be submitted to the wider community once a solution was developed. One example is the Norwegian EBPP solution. Similar consortia have been formed with non-banking partners such as mobile phone operators in France and Spain.

4 FRENCH PAYMENT SYSTEMS

The country report on France is based upon desk research and from information gathered in five meetings/teleconferences held by APACS and the OFT with:

- the Banque de France (central bank)
- the competition authority (Conseil de la Concurrence)
- the CRI, which owns PNS and operates this and a common platform to access both PNS and the Banque de France's TBF (the wholesale real-time payment systems)
- CCF, a merchant bank, and
- several retail banks and the French Banking Federation.⁸³

The French banking sector

There are four main sectors of the retail banking market in France: the commercial banks, savings banks, mutual/cooperative/municipal banks and the post office. Their market share of all accounts (of which the vast majority are for the personal and SME market) is shown in Figure 4.1. As in the other countries surveyed, there is strong inertia in the current account market with little evidence of substantial levels of account switching.

⁸³ These were Banques Populaires, BNP Paribas, Caisses d'Epargne, Crédit Agricole, and Société Générale. The secretary of the CFONB (the committee responsible for banking developments and standards) was also present.

Figure 4.1: Percentage of all accounts held in each type of institution (end 2002)

Commercial banks	31%
Savings banks	15%
Co-operative banks	39%
Post Office	15%
Total	68.4m

Source: European Central Bank

The distinction between the savings banks and the other mutual banks is largely one of culture and alliances; the overall mutual sector is very strong at over half the market, providing business banking as well as serving the whole range of the personal sector. The post office (La Poste) also offers full retail banking services and is one of the majors with a 15% share of the market. It will also be expanding its financial services activities in 2005.

In total there are around 1,000 credit institutions (half of these are specialised finance houses with restricted activities in long-term deposits), including 350 commercial banks, about 80 of which are subsidiaries of foreign banks, and 160 mutual banks. This has declined from about 1,600 institutions ten years ago, due to consolidation in the sector. The Treasury used to have a banking role, but stopped all retail banking activity at the end of 2001. The French retail banks were nationalised in 1945, and privatised in the early 1990s.

As in other French industries, foreign take-overs or successful market entry are less common than in the UK or the Scandinavian countries studied, though possibly this may change in the future after a recent legal change favouring foreign entrants to the banking market. French customers are very loyal to their banks, which limits the market available for new entrants. HSBC took over CCF in 2000, Egg took over an Internet bank, unsuccessfully launching a new credit card, ING Direct offers savings and investment products online and La Caixa, the Spanish savings bank, has entered the market with a current account.

The main new domestic entrants are the French retailers' (supermarkets and petrol stations) banking subsidiaries, such as Auchan's Banque Accord. They

offer Internet banking as well as international credit cards and Banque Accord has agreed to take over Egg's French subsidiary.

Money transmission accounts and methods

Banks in France operate under the ni-ni (neither-nor) policy whereby they neither give interest on current accounts nor charge personal customers for cheques.

Current accounts for individuals and SMEs typically include a cheque book and allow one-off credit transfers, standing orders and direct debits (more basic bank accounts without some of these facilities also exist). Businesses also use bills of exchange (LCRs), which are dematerialised and processed similarly to the other payment instruments. Bank customers can choose a Carte Bancaire (CB) bank card: ATM-only or a national or international debit card. Debit cards come with a choice of immediate or deferred debit (the latter is about 30% of the debit card market). 8% of cards are ATM-only, a proportion that has dropped from 11% over the last 5 years. Access to accounts may be provided via bank branches, telephone, Minitel (the French information network), interactive TV, WAP and Internet banking.

Many payment processes feature the RIB (*relevé d'identité bancaire*), a detachable (or snippable) form pre-printed with the payer's bank details.⁸⁴ These can be found on bank statements; several detachable copies are in each cheque book, and they can also be downloaded and printed out in a standard format via various channels (Internet banking, ATMs etc).

Credit and charge card holding is much less widespread than debit cards. Some of this is due to cultural resistance to debt, but more important is the availability of loans at competitive rates from the banks, which generally do not promote credit cards as an alternative source of credit. Diners Club and American Express have a small T&E presence in the French market, and banking subsidiaries of the main retailers have now widened their activities from private store cards to offering international scheme cards. The private store cards have a variety of payment options and allow the card-holder to decide whether or not to take credit at the time of purchase when this is made in-store.

⁸⁴ The form also includes the international bank account identifiers: BIC and IBAN.

2.6 million people are barred from issuing cheques under French law, as a sanction following the issuing of a cheque without funds. The Banque de France keeps a register of such individuals and their bank account details until the cheque is paid or for up to 5 years. Retailers can consult this register online when presented with a cheque,⁸⁵ and by law, banks shall consult this register before delivering any means of payment.

A minority of adults in France do not have a current account, estimated at 5 to 6 million people by consumers' associations. Of these, around 1.4 million have no account at all. Anyone refused an account may apply to the Banque de France and a bank will be assigned to them to provide basic payment services.

The legal and regulatory framework

In comparison with the UK, the French banking and payments arena is more heavily prescribed by law, codified in the Financial and Monetary Code (CoMF). Only credit institutions and a few named public bodies may issue and process payments as a regular part of their business, and the legal definition of a payment instrument is very broad in France.

Recent regulatory reforms of payment systems have concentrated on minimising the risks arising from interbank settlements, improving efficiency and ensuring the openness of the French systems within the euro area.

The Banque de France is given legal competence to oversee the smooth operation and security of payment and securities systems. These powers were strengthened in 2001, in response to growing concern about payment security. It chairs a co-operative banking committee, the French Steering Group for Payment Methods, and any regulatory concerns it may have may be expressed through this group or individually with banks.

⁸⁵ This register includes all other non-functioning accounts, including those closed down normally.

There is a strong consumer lobby in France, which has the ability to influence banking services and legislation, for instance on the right to a bank account.

Customer pricing

According to the published tariffs, current account charges may include setup, replacement for lost/stolen items, cancellation, annual/monthly and per item, over the range of banking and payment services. Consumer groups have exerted pressure both to reduce fees and improve the clarity of charges made. One organisation is currently lobbying the Finance Minister over charges for cash withdrawals, credit transfers and direct debits.⁸⁶ However, banks also offer fixed-fee accounts where many of the charges are waived (these accounts may also be bundled with insurance products), and customers offering an above-average level of business may negotiate terms. A basic packaged account has also been developed at the request of consumer associations.

Banks in France neither give interest on current accounts nor charge personal customers for cheques (ni-ni). The ban on interest is enshrined in French legislation; however in early October 2004 the EC Court of Justice ruled in favour of CaixaBank, allowing this for foreign banks as a mechanism for opening up EU banking markets. Cheques are not charged to the drawer, though the payee may pay a fee (generally not personal customers). These arrangements have some legal protection, in that banks are required to provide free cheques to customers, though the main barrier to charging is strong consumer resistance.

Other services that are normally free to personal customers include provision of bank account details, transaction charges on plastic cards, ATM withdrawals from own bank branches (which may not have national coverage), and a monthly statement. There may be charges for ATM withdrawals from other banks; several banks have a free monthly allowance⁸⁷ and charge €1.00

⁸⁶ A consultative committee has been set up on these issues, including the consumer groups and the banking federation.

⁸⁷ The allowance varies by bank and type of account. With an ordinary debit card: one to six withdrawals per month in the sample of tariffs analysed for the survey.

thereafter. The periodic charge for Internet banking usually includes free payments for transactions initiated online.

Debit cards linked to a current account typically carry an annual fee of €30-60 for non-premium cards, €100 or more for premium cards (which have similar benefits to gold and platinum credit cards in the UK).

Payment system governance

The inter-bank payments arena is highly co-operative, with joint strategic direction between the Banque de France and the banks, via several committees: the French Committee for Organisation and Banking Standards (CFONB), Comité d'Orientation des Moyens de Paiement (COMP), and at the individual systems level, the Interbank Automated Clearing Consortium (GSIT) and the 'CB' Bank Card Consortium (Groupement des Cartes Bancaires or CB). GSIT, in particular, was formed in 1983 in order to consolidate and dematerialise retail payments, and their programme is described below.

The main retail payment system in France is the Système Interbancaire de Télécompensation (SIT). This system clears all national retail payments, including payment cards, cheques, credit transfer, direct debits and bills of exchange. Credit transfers over €800,000 are cleared through PNS or TBF, the wholesale electronic funds transfer systems. There are about 1,000 participating institutions, of which the vast majority are indirect, with 14 direct participants. Banks which generate a minimum percentage of volumes, set by the GSIT Board, become direct participants.

The GSIT organisation is owned by 12 banks. Its role covers scheme and operation of infrastructure (the SIT system). Scheme management covers relevant technical, banking security matters, and participation in standards-setting with national and international banking bodies. An interbank agreement (CIRCE) sets the conditions of message exchange and other operations. As well as the universal common infrastructure, SIT can also customise services for individual participants. On behalf of the banks, it hosts the remaining physical exchange of cheques. This is performed separately from their settlement via cheque truncation.

SIT is the largest payment system in Europe, carrying an average of over 45 million payments per day. About 80% of exchanges in France are interbank and are exchanged and cleared by SIT. It is designated as systemically important, partly due to the lack of alternatives in the event of failure. Work is being undertaken by the Banque de France and SIT participants on mutual guarantees (similar to the work in the UK on settlement risk) to conform to the ten core principles for systemically important payment systems.

GIE Cartes Bancaires manages the national card scheme and operates the network for ATM and POS authorisations (payment clearing and settlement is performed over SIT). GIE Cartes Bancaires is responsible for ensuring the coherence, reliability and security of the system. Members of GIE Cartes Bancaires also acquire payment card transactions for Visa and MasterCard. GIE Cartes Bancaires was created in 1984, and is used today by about 150 banks operating in France. The members issue cards to their own customers, enrol merchants, install ATMs and determine their own sales/marketing policies.

Payment system developments

The two major payments system development programmes in France both started well before the ten year horizon that is the scope of this study. These are the consolidation and dematerialisation of retail payments onto SIT and the national development of Chip and PIN.

SIT

The main driver for centralising retail payments through SIT was cost and risk reduction through efficient systems, simplified procedures and reduced delays. Providing a flexible platform to support product innovation was also an aim.

It was the result of co-operation between banks; the CFONB, GSIT and Cartes Bancaires being deeply involved in definition and implementation, while the Banque de France was a key catalyst. The GSIT organisation was set up in 1983 but the system went live only in 1992. The main reason for the long rollout was that it was part of an overall process of reform and needed to harmonise with the solutions for high-value payments and securities settlements. A centralised architecture was considered, but a bilateral approach was chosen as being more flexible.

The main stages of development (see the detailed programme in Appendix 3) were:

- migration of existing electronic payments from the previous ACH in the early 1990s
- gradual dematerialisation of bills of exchange and inter-bank fund transfers in the mid 1990s
- migration of card payments, 1995-7, and
- national cheque truncation, 2002

The decision to include payment card clearing on SIT was based on the improved netting of interbank payment settlements, as well as cost savings including economies of scale.

Cheque truncation had not been part of the original plan for SIT, but was discussed from the mid-1990s and decided in 1999. The savings banks and Credit Agricole were instrumental in pushing for system-wide truncation, having introduced it internally, but the closure of the regional branches of the Banque de France, which hosted physical cheque exchange, was the immediate driver for implementation. Some cheques had already been truncated and exchanged locally since the early 1980s, but 87% of interbank cheque volumes were still exchanged physically in 2001, the year before final migration to SIT.

Before truncation was introduced the full cheque clearing and settlement cycle was 4 days: 3 days, as in the UK, for normal settlement, followed by the 4th day for unpaid items. The normal cycle is now reduced to 2 days, but items can be returned unpaid up to 8 days after exchange (or 10 days if the paying bank needs to see the original cheque), to allow the paying bank to request the image or original of the truncated cheque.

The clearing and settlement cycles for the other instruments were cut by a certain amount as well. Credit transfers had already been settled on the same day if exchanged before 11:00 am.⁸⁸ This deadline is now extended to 1:30

⁸⁸ There was also another cut-off at 8:00 pm for early settlement the following day.

pm. The deadline for exchange of direct debits is still four days before settlement, but the cut-off time within that day has moved to 7:30pm from 11:00 am.

GSIT's current work programme includes:

- the European context, in particular SEPA
- settlement risk, to meet the Eurosystem's (the European Central Banks) deadline of 2008, and
- continuing technical development (internet protocols were adopted in February 2004), a reassessment of the architecture, and consideration of international message standards.

Further reduction of the clearing and settlement cycle times is not a priority as there is little perceived customer demand for this.

Chip and PIN

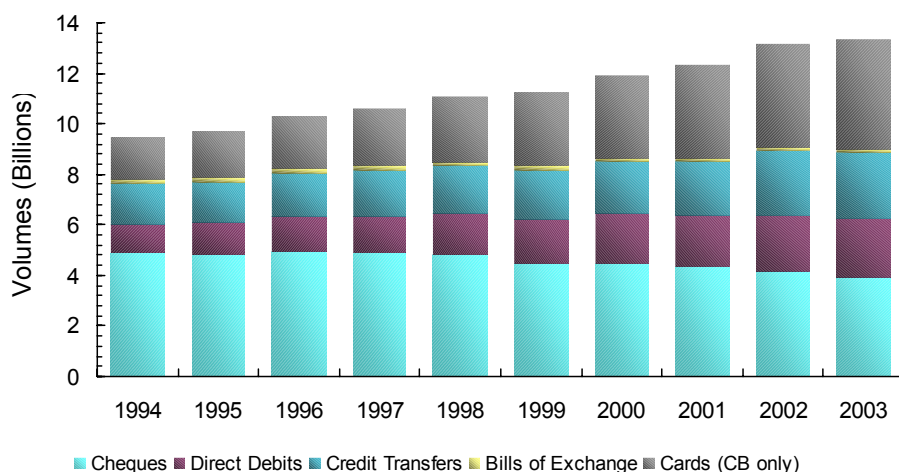
Chip cards were introduced in France in 1992 not primarily for fraud reasons but because telecommunication costs were high. Cartes Bancaires' solution was to take most transactions off-line with the chip and PIN, enhancing retailers' confidence in the authenticity of the card and cardholder. The project continued even after telecommunication costs had fallen because there was still a business case for reducing processing costs at the banks. However, the original decision was in the environment of nationalised institutions: a telecommunications monopoly and nationalised banks, and implementation of a purely domestic solution would probably not be attempted now.

The fraud benefits of chip and PIN have been high (and there has been little migration to cheque fraud). According to the Observatory for Payment Card Security, fraud in end-to-end domestic transactions was 0.03% of value in 2003. Recent growth in fraud has been almost entirely from French cards being used abroad, i.e. using the magnetic stripe.

France is currently replacing the national infrastructure with EMV-compliant cards, a process that is largely invisible to the customers, as they will use the new cards domestically in the same way as the old ones.

Payment Methods and Trends

Figure 4.2: Non Cash Payment Volumes in France



Source: Banque de France, Bank for International Settlements, GIE Cartes Bancaires

Cheques

Traditionally cheques have generally been used for similar purposes as in the UK, but use has diverged recently in the two countries. Cheques are more widely and frequently used in France than in the UK, for example in taxis (Paris taxis that don't accept cheques will put up a sign to warn their customers), and in low-value supermarket transactions. They are more popular with older people, who use them routinely for purposes where younger adults have moved on to plastic. Cheques are also used for the payment of small businesses by personal customers; however, they are less used for payment of utility bills than in the UK. Businesses often prefer cheques to pay their suppliers, for instance for the cash-flow benefits. In some cases (e.g. medical or minor educational expenses, non face-to-face P2P), cheque is the only accepted method of payment.

The French government is still a major user of paper instruments, which the banks are obliged to deliver for free. In 1994 the tax office introduced a specialised cheque where the payer (e.g. an individual paying for domestic work) pays the amount gross on the cheque to the payee. The tax due to the government is paid by a direct debit transaction, and the payee receives

payment net of tax. This year a variant of this was introduced for small businesses and associations.

The cheque was the most heavily used payment instrument in France as late as 2002, being overtaken by payment cards last year. However, the relative share of cheques in cashless payments has declined since 1993, and absolute volumes have been shrinking overall since 1996 (by 3.3% per annum) to just under 4.0 billion, or 81 per adult. In contrast, UK volumes have been falling more sharply and were 46 per adult in 2003.

Cheques must carry the address of the payer and the place of payment. The former is useful in preventing fraud, as cheque fraud is committed disproportionately by overseas residents.

Direct debits

Direct debits are used by both personal customers and businesses for the payment of recurrent utility bills such as electricity, gas, telephone and water, and for monthly tax payments. Levels of use are comparable to those in the UK, even though there is slightly less protection for payers after payment in France (see Section 0 for more details).

Direct debits are less popular with smaller billers, but some of the major utilities insist on payment by direct debit only.

Direct debits were originally introduced for EDF and France Telecom, in the late 1950s, and were also promoted by the government. The government set different thresholds above which tax must be paid by direct debit and *télèrèglement* (and also credit transfer).

There are three types of direct debit:

- the original repeating direct debit, for instance for a telephone bill, which is automatically debited every two months, similarly to the UK, but with fewer guarantees for the payer once payment has been made. Over 90% of volumes are in this original simple form
- one-off direct debit (the interbank payment order, TIP), which was introduced to meet the demands of consumers who wanted to

authorise the payment each time. It is set up via a single mandate, and the only variation with the normal direct debit is the customer authorisation, which can only be done by post, detaching and signing a form similar to the British credit slip at the bottom of the invoice, supported by a RIB on first payment, and

- téléchèquement (electronic payment order), the electronic version, which was set up for the government as its main customer. It must be supported by a digital certificate for the payer. For tax, this is provided and paid for by the government. Take-up has been tiny (in 2001 volumes were still under 1 million, despite being obligatory for tax payment by businesses with a turnover above €600 million), though with strong growth of 30-50% per annum.

Direct debits have doubled in volume since 1994. Though the main period of growth was a few years ago, there is still about 6% growth per year, mostly in the ordinary automatic product. The share of TIPs within the direct debit total is shrinking from a peak of 12% in 1996 to 9% now, perhaps as confidence grows in the standard product.

Credit transfers

As in the UK, these are used mainly by the commercial and public sectors for salaries and bill payment. Unlike Norway and Sweden, which are giro-based payment markets, credit transfers have never been used much by personal customers (charges for paper credits can be €1 to €6 for personal use, and Internet-banking volumes are low).

Over the last 10 years, credit transfer volumes have grown by 60%, slightly over the average for all non-cash payment methods in France.⁸⁹ Use of Internet banking to make credit transfers remains extremely small (40 times less per head than in the UK), but with strong growth: 1.7 million PC-initiated transfers in 2003 compared to 1.4 million in 2002.

⁸⁹ The graph shows a jump in volumes in 2002, and little growth in 2003, however the reasons for this (in the estimated intra-bank volumes) are not known and are not reflected in the steady growth in recorded interbank volumes.

There are some developments of the basic instrument:

- referenced credit transfers (Virement Référencé - VR) for settlement of invoices by Internet banking, containing specialised invoice and creditor references
- credit transfers from abroad (Virement d'Origine Extérieure - VOE) for the final leg of correspondent banking transfers, with information such as the exchange rate applied and the commission charged, and
- an e-commerce format for B2B (Virement Commercial - VCOM). However, as advice from the bank to the payee is still on paper, this has not been widely adopted.

In 2003, there were 1.06 million of these specialised credits for a total of €5.09 billion.

Bills of exchange

Bills of exchange, and a variant (billet à ordre) which is initiated by the payee, are dematerialised before exchange, if they have not been initiated electronically, and handled by SIT. They are used by businesses of all sizes (for example for items that are considered too high value for direct debits), but volumes are relatively low and shrinking gently (about 100 million in 2001).

Payment cards

Card issuance is about 80 million payment cards, according to the Observatory for Payment Card Security, including CB cards and other schemes. Overall payment card use is slightly under UK figures at 90 purchases per adult in 2003 (107 in the UK). Payment card use overtook cheques last year for the first time, with climbing plastic spending and declining cheque volumes. Card payment volumes have grown at a steady 12 to 13% per annum over the last 5 years, partly from wider card acceptance - the number of terminals reached 1 million at the end of 2003. Card payment volumes are now more than two and a half times the 1994 figures, and card spending accounts for one quarter of French household consumption.

Cash

Cash use in France is comparatively low; this may be partly because salaries have had to be paid into bank accounts for the last three decades. The level of cash in circulation is the best publicly-available statistic for cash use, though this also reflects cash stocks held by individuals (as a store of value), retailers and bank branches. At the end of 2000 cash in circulation was 3.1% of GDP, or €740 per head, the lowest levels in the G10 (the UK is next lowest at 3.3% and had €815 per head at the time). Use of cash in retailers is much lower than in the UK.

Both the provision and use of ATMs have seen single-digit growth over recent years. There is one ATM per 1,100 adults in France, and 26 ATM cash withdrawals (drawing a total of €1,700) per adult in 2003 (there are no figures on cash withdrawals at bank and post office counters). There is no cashback in supermarkets, though some now place ATMs within the store.

Payment clearing, settlement and accounting

Summary tables in Appendices A and B compare the details of timing and other customer features. Appendix 3 contains some further technical details of the payment processes.

Credit transfers

Credit transfers will be checked for funds by the bank before sending (via direct participants as necessary) to the receiving bank over SIT. Items exchanged by 1:30 pm will be settled that day.

Direct debits

Direct debit mandates must be lodged by the biller with the paying bank one to two weeks before the first payment.

For each regular payment, the biller should notify the customer of the time and the amount, eg with an invoice, and in practice this happens several weeks in advance. The cut-off time in SIT is in the evening on the 4th day before settlement, and the cut-off for the biller with the bank will be before that, for

example on the 5th day. There is an option for an expedited direct debit (charged at a small premium), which cuts 2 days off this cycle.

The days between exchange in SIT and settlement are used for customer notification and checks on paying customer accounts for availability of funds. The paying bank has 7 working days after settlement to return unpaid items.

Customers can cancel a payment or revoke the mandate before payment. They can also request their bank to return items up to 2 months later for a number of reasons, including a dispute on the amount.⁹⁰

Cheques

All cheques payable in France are truncated before settlement. Items above €5,000 (and some other items, listed in Appendix 3) are then exchanged physically, less than 2% of volumes. Images are held in an archive by the collecting bank and are sent to the paying bank, on request, by fax.

Generally customers cannot deposit their cheques in any branch other than one of their own bank (apart from any private arrangements that may be made between banks, i.e. there is no interbank clearing for cheque deposits in branches).

Some corporate customers scan the cheque data themselves, e.g. large retailers at the point of sale, though the physical cheque must be sent to the bank for matching with cheque truncation before exchange.

Cheque data exchanged through SIT by 6:00 pm will be settled the following day. The normal deadline for finality is 8 working days after exchange, to allow the paying bank to request sight of a cheque, and 60 calendar days for fraudulent items.

⁹⁰ These are the debited amount is different from the pre-information from the payee to the payer (invoice), the debited date is much more earlier than notified on the invoice, the debited amount is more than twice the previous amount (in recurrent transactions), the payer claims there was no notification or invoice from the payee.

SIT

SIT is open six days a week for exchange and five days for settlement, 24 hours a day. SIT processes electronic transactions between its direct participants only; there is no direct input by businesses. This is done in three stages: continuous exchange of batched payment orders in real time directly between banks' IT centres, multilateral netting of orders via an accounting centre and the settlement of net balances in the French RTGS system, TBF. After the closing of accounts at 2.30 pm, the system calculates the net multilateral balance of each direct participant over all instruments. This is then settled over TBF between 3.15pm - 3.40 pm.

Customer float and funds availability

There is no common rule when debits and credits to customer accounts are applied for funds availability. Customer accounts are generally credited one day after settlement at the latest, where the receiving bank is a direct participant in the payment system.

For inter-bank transfers with personal customers as payers or payees (about 20% of transfers are intra-bank and timings for these transfers are generally faster):

- direct debits are applied to both payer and payee accounts on the day of settlement, and this is usually, but not universally, the value date on both sides
- a court case in May 2004 banned float for the payer's bank, which had previously been typically two days for cheques and one day for credit transfers, and
- float taken by the payee's bank is typically one to three days after the customer credit date for cheques and one day for credit transfers (i.e. up to four days after settlement for the former and two days for the latter).

Other payments and related developments

E-purse

France originally had three e-purse schemes developed by different banking consortia at the end of the 1990s, of which Moneo is the sole survivor. Moneo is promoted by BMS (Billettique Monétique Services), owned by France's main banks, transport and technology companies. Moneo is based on technology developed in partnership with the German e-purse. The card has three forms: linked with a 'CB' payment card, tied into a bank account (both 'Blue') and standalone (Green). Another feature is that it can be loaded offline at some POS terminals. It has been widely promoted as a coin substitute, and an add-on to existing bank cards. Issuance grew by 52% last year to 1.3 million cards, or 3% of the adult population. The number of accepting terminals has grown at a similar rate, to 106,000 at the end of 2003, but Moneo has not been widely adopted yet by some coin-based applications such as parking meters. Usage has stalled at 18 million transactions in both 2002 and 2003, and the value loaded has not changed from 2002 either.

Internet banking, Internet and mobile payments

French use of the Internet is less than the UK (according to Nielsen NetRatings, 30% and 44% respectively of the adult populations during June this year), but this is fully compensated by higher use for banking by active Internet users. Market research published by BVA-Société Générale in March 2004 reported that 27% of over-15s used Internet banking over the previous six months,⁹¹ 94% to check statements and balances, and 64% to initiate transfers. Nonetheless, reported volumes of PC-originated credit transfers are still extremely small, which suggests that these payments are overwhelmingly intra-bank or that reporting is inaccurate.

⁹¹ This can be correlated with the 30% reported by Nielson, because a six-month period is taken rather than one-month.

Various domestic and foreign virtual products have entered the E- and M-payment market, some recently:

- a virtual card, 'E-Carte Bleue', is being widely promoted at present, offering secure Internet transactions with single-use card numbers. This had 85,000 users at the end of June 2003
- Caisse d'Epargne has launched a virtual purse, Moneytronic, where a user's loyalty points or e-money are stored on an Internet server, and credited using credit transfers etc
- w-HA, a subsidiary of France Télécom, has built on its Minitel franchise to provide an m- and e-payment solution, available since 2001
- a mobile telephone operator and five of the main banks are piloting a mobile payment solution, and
- the Swedish PayNova internet payment service for online shopping and P2P was launched in September 2004 (see the Swedish note for details), following PayPal in August, and EasyPS' P2P solution in May.

Electronic Bill Presentment and Payment

The committee responsible for banking developments and standards (CFONB) is studying B2B electronic bill presentation and payment at present, assessing what the level of common banking involvement should be. There are also some initiatives by individual banks. At present there is no industry-wide interest in B2C EBPP.

Public Key Infrastructure

A low level of national public key infrastructure has already been established for electronic direct debits, and the French government is seeking to develop this in conjunction with their goal of electronic civic IDs by 2007.

APPENDIX 1: TIMING OF PAYMENT CLEARING, SETTLEMENT AND CUSTOMER ACCOUNTING FOR INTER-BANK SIT TRANSACTIONS

The debiting and crediting of customer accounts for funds availability and for interest is a commercial matter for each bank. The table records the typical or most common timings for personal and SME customers. Bills of Exchange have been excluded from the table as these are business-to-business transactions. D is settlement day and timings (+ 1, -4 etc) are working days.

Payment Method	Customer input deadline to bank	Latest deadline for bank Input to SIT	Output to banks from SIT ⁹²	Settlement at Banque de France	Customer Debit – funds	Customer Credit – funds availability	Customer Debit – interest	Customer Credit – interest ⁹³	Customer Credit – finality (other)	Customer Credit – finality (fraud)
<i>Credit transfers</i>	File/ Internet: D else: D-1	D 1:30pm	n/a	D 3.15pm- 3.40 pm	Customer input deadline	D + 1, at the latest	D	Funds availability + 1 (i.e. up to D + 2)	D	D + 2 months
<i>Direct Debit (ordinary)</i>	D-5	D-4 7:30 pm ⁹⁴	n/a	D 3.15pm- 3.40 pm	D	D	D	D	D + 2 months	D + 2 months
<i>DD variants: TIP, Télé-règlements</i>	D-1 early morning (at processing centre, by mail)	D-1 6:00pm								
<i>Cheques</i>	D-1	D-1 6:00 pm	n/a	D 3.15pm- 3.40 pm	D-1	D + 1, at the latest ⁹⁵	D	Funds availability + 1 to + 3	D + 9	D + 2 months
<i>Cards</i>	D-1 (to acquirer)	D 1:30pm	n/a	D 3.15pm- 3.40 pm	D – D + 4	Competitive	As for funds	Competitive		Not defined

⁹² This column is kept for comparison with other countries but output to banks through SIT is direct bilaterally and continuously.

⁹³ Payment accounts in France do not bear interest, so this is of relevance for overdraft interest only

⁹⁴ D-2 for an expedited item, with an appropriate charge

⁹⁵ Exceptionally, a credit risk may be taken by the receiving bank and funds given on the day the cheque is input by the payee, according to the credit quality of the both payer and payee.

APPENDIX 2: PAYMENT METHODS IN FRANCE – OTHER CUSTOMER FACING CHARACTERISTICS

Payment methods in France – other customer facing characteristics

Payment Method	Availability to personal customers and reach	Channels	Payer can stop or revoke payment?	Payee Guarantee
<i>Debit cards/ Deferred debit</i>	A single scheme run by Cartes Bancaires. Most cards are Visa or MasterCard. Held by almost 90% of French adults.	Point-of-sale terminals, ATMs and remote channels	Covered only by legal provision for fraud and lost cards.	Scheme rules
<i>Credit/charge cards</i>	Credit cards are mainly private label and include Visa and MasterCard. Amex and Diners Club cards are also issued. A minority of cards in France are credit/charge cards.	Point-of-sale terminals, ATMs and remote channels	Covered only by legal provision for fraud and lost cards.	Scheme rules
<i>Cheques</i>	Nearly all current accounts come with a cheque book.	By post or own branches. Bulk data entry to bank by Business payees, but must be supported by physical cheques later.	Only if lost or stolen. As such, they are covered by provision for unpaid/fraud.	Cheque guarantee up to €15
<i>Direct debits, TIPs</i>	All current accounts will allow direct debits.	Bulk data entry to bank by originators.	Must be notified of payment in advance and has 7 days in which to reject it. Biller cannot retract payment once it has entered SIT.	No guarantee
<i>Credit transfers</i>	Personal customers can initiate credit transfers to any current account. All current accounts will receive credit transfers.	Bulk entry to bank by corporates. Can be originated through remote banking or branches by personal customers.	Cannot retract payment once it has entered SIT.	No guarantee

SIT History

Figure 4.: Key dates for automated payments and SIT

Year	Event
1967	Direct debits
followed by	RIBs, automatic transfers
1973	Electronic bills of exchange (LCRs) [Salaries paid into an account, by law]
1983	GSIT formed in order to create SIT Dematerialised exchange of low-value cheques at regional level (CREIC)
1988	Introduction of TIPs – direct debits with payer authorisation on each payment SIT pre-network pilot systems with 'blank' exchanges and accounting
1990	SIT pilot network put in place, with first real exchanges between a handful of establishments
1991	Comprehensive SIT exchanges and clearing begin
1992	SIT fully live, exchanging direct debits, automatic transfers and electronic bills of exchange
1994	SIT replaced all previous clearing computers (except for bank cards)
1994-8	Gradual dematerialisation of bills of exchange and inter-bank fund transfers
1995-7	Settlement of bank card payments gradually shifted to SIT
1997	Telerèglements (electronically authorised direct debits) set up in SIT SIT settled in TBF
2002	Truncated cheque exchange in SIT
Feb 2004	SIT migrated to Internet protocol (IP)

Technical details

Cheques

Cheques must be backed by funds for 1 year + 8 days after issuing. They must be crossed, but can be to the bearer.

Cheque truncation

In practice, paper processing is often outsourced (there are about 3-4 suppliers in France that offer this service), though the current trend is to bring this back in-house.

Items that are still exchanged physically are unpaids, items over €5,000, some items that need to be checked for integrity or are considered suspicious by the remitter bank, items that need to be returned to customers, non-standard items, and others randomly selected.

SIT hosts the remaining physical exchange of cheques in its CEPC centre.

Some customers scan the cheque data themselves, e.g. large retailers at the point of sale; though the collecting bank should receive the originals and reconcile them before exchanging the data through SIT.

Finality depends on fraud status and on the need of the paying bank:

- eight working days after exchange, if the paying bank can return the cheque without seeing the cheque itself
- 10 working days after exchange, if the paying bank needs the original cheque or the account is blocked, and
- 60 days for fraudulent and out-dated items.

Direct Debits

Direct debit billers must obtain a National Issuer Number (NNE in French) from the Banque de France. Only signed paper mandates or electronic ones supported by digital certificate are allowed. There are two mandates: one from the payer to the payee, the other one from the payer to his bank. The mandate from the

payer to his bank (sent by the payee) must be lodged with the paying bank 1-2 weeks before first payment.

Customers are generally invoiced a few weeks before settlement.

Thereafter, direct debits are sent to the collecting bank according to the latter's deadlines, typically up to midnight on 5th day in advance of settlement (and can be up to several weeks in advance, stored at the bank).

The cut-off time in SIT for message exchange to the direct participant for the paying bank is 7.30 pm on the 4th day before settlement (6.00 pm on the day before the settlement for téléchèques). The following days are used for customer notification (fax, email, file transfer or Internet banking) and checks on paying customer accounts for availability of funds. The debtor's bank must also check the mandate at each payment. There is an option for an expedited direct debit (charged at a small premium), which cuts 2 days off this cycle.

Rejects (i.e. for technical reasons) must be notified back to the receiving bank by 1.30 pm on the day before settlement, however the paying bank has 7 working days after settlement to return unpaid items and can also reject items in this period. Customers can also request their bank to return items up to 2 months later for a number of reasons, including a dispute on the amount.

Billers will be notified of unpaids by fax, email, file transfer or Internet banking, and if these items have already been credited to their account they are then debited. Billers are warned by their banks to reserve funds on their accounts to cover these later debits. About 3% of payments are returned or rejected in practice.

TIPs

TIPs are processed like direct debits, with the following exceptions.

When the customer is sent the invoice with an attached TIP, to authorise payment the customer must sign and post the TIP form with his/her RIB attached, in the envelope supplied by the biller. This is addressed to one of 13 national TIP processing centres, and generally must arrive by early in the morning the day before it is settled. If it arrives by this time on an earlier day, it will be settled the day after arrival. The centre enters the information into SIT,

through a SIT direct participant. The cut-off time in SIT for the message exchange to the direct participant for the paying bank is 6.00 pm on the day before the settlement. The centre also archives the authorisations on behalf of the banks.

SIT processes

All payments must be routed via a bank and cannot be entered directly by bank customers into SIT (which as a decentralised system, has no central portal anyway).

Corporates use the domestic ETEBAC standard to send bulk items to their banks (using the Internet, direct file transfer links or magnetic media), with a choice of open or encrypted formats. 2,200 corporate customers have adopted encryption. If the bank is an indirect participant, it will then forward its traffic to its direct participant, who will handle any items for their other indirect participants within the bank, without passing them over SIT.

Transactions in SIT may be forward transactions, exchanged up to six days prior to their settlement.

The exchanges between direct participants in SIT are bilateral, between their 'stations', in the decentralised architecture, using national message formats. Stations must be approved by the GSIT. Each direct participant has one or more access points to the stations. The system is spread out over 23 geographical locations and had 69 connected stations at the end of September 2004, while the network is designed to support 250 stations. Currently there is no remote access to the SIT system from outside France, though this is technically feasible. SIT is also technically capable of processing other currencies as well, but currently only the euro is handled

Transactions are recorded in the accounts on an ongoing basis depending on the exchange deadlines for each instrument. The issuing bank batches similar transactions by category and settlement date. Its SIT station checks the message format and routes them to the receiving bank's station. The receiving bank acknowledges receipt and time-stamps the exchange. The issuing bank's station then sends a summarised accounting message, without banking data, to SIT's accounting system.

At the close of every SIT business day, SIT produces a financial statement covering all transactions. This is checked for a zero sum, and then settled as a single debit/credit for each direct participant over TBF between 3.15pm - 3.40 pm. Settlement may be first attempted at 3.15pm and must be completed by 3.40pm.

5 NORWEGIAN PAYMENT SYSTEMS

Introduction

This Section sets out the results from the analysis of payment systems in Norway. It is based upon desk research and from information gathered in four meetings held by APACS and the OFT with the Norges Bank (the Norwegian Central Bank), DnB NOR (the largest bank in Norway), the Norwegian Savings Banks Association and BBS (the operator of the main Norwegian payment system).

The Norwegian banking sector

The Norwegian retail banking market consists of commercial banks and savings banks. Commercial banks have tended to operate in the urban areas and the savings banks are typically mutual organisations which have traditionally provided banking services within an urban or rural locality. However, the introduction of Internet banking has been a factor enabling the savings banks to extend their reach, both in retaining customers who move to another locality and in offering banking services to a wider geographical base. In total there are around 150 credit institutions, 20 commercial banks and 127 savings banks. In terms of payment volumes, the market is divided roughly equally between the commercial banks and the savings banks. Concentration in the Norwegian retail banking market is similar to that in other Scandinavian countries and is high by European standards, the largest five banks account for over 80% of payment traffic.

One important recent development was the merger of Den Norske Bank (DnB) and Gjensidige NOR Sparbank to create DnB NOR, a bank which now commands a share of around 40% of the retail market. Another has been a number of the takeovers by international banking groups. After DnB NOR, the next largest commercial banks in Norway are all parts of Scandinavian banking groups. In view of the relatively small size of their domestic markets, banks from different Nordic countries have joined forces or created cross-country alliances. Traditionally the banks in Norway have looked to develop domestic solutions and systems, the international dimension is now of increasing importance for banks when making strategic decisions regarding their payment services.

Another driver of structural change in the market has been the entry of Internet-only banks; launching services that are largely free to customers.

Money transmission accounts and methods

The main personal account products available in Norway with money transmission facilities are current accounts; these will typically provide a debit/ATM card to customers, will allow standing orders and direct debits and provide access via telephone and Internet banking. Initially there were three debit card schemes in Norway, but by 1995 these had merged to a single scheme (see section 7 for more details). Cheque books are not automatically issued by banks, due to the low demand and high cost (see sections 5 and 8 below), but are available on request. Only a tiny minority of adults in Norway do not have a current account.

Historically, banks have offered overdraft facilities on current accounts rather than credit cards and retail finance, fixed rate loans and mortgage equity withdrawal have provided additional sources of consumer credit. Banks have only in recent years actively begun to issue credit cards, and credit card holding and use is much less widespread than with debit cards. More details on the customer-facing characteristics of payment methods are given in Appendix 1.

Competition in the retail banking market in Norway has resulted in a number of adults opening new current accounts. However, customers have tended to retain their old accounts rather than closing them down.

The legal and regulatory environment

The Norges Bank has the statutory responsibility to promote robust and efficient payment systems, and has a special responsibility for the authorisation and supervision of inter-bank clearing and settlement systems. It considers that the most important factors in achieving an efficient payment system are an infrastructure that facilitates economies of scale, prices that reflect production costs, and effective competition on the supply side. The Norges Bank publishes an Annual Report on Payment Systems which includes an update on trends and prices in the payment system, and a description of infrastructure and regulatory developments. The Norges Bank also publishes articles in its Economic Bulletin and Working Papers which examine aspects of the efficiency of the payment

system. The Annual Report, Economic Bulletin and the Working Papers are one channel through which the Norges Bank can exercise 'moral suasion' over the banking industry. Speeches are another channel for stating opinions and exercising moral suasion.

The Norwegian Competition Authority deals with payment system issues relating to competition law, for instance the rules and regulations of the payment system. Banking supervision is carried out by the Norwegian Financial Supervisory Authority.

A Banking Law Commission was established in the late 1980s, to make recommendations to the Minister of Finance regarding legislation in the banking area. The Commission is chaired by an academic and includes representatives from government, consumers associations, banks, banking organisations and the central bank. The Commission examined payment systems, leading to two acts of legislation: the 1999 Payment System Act and the 2000 Financial Contracts Act. The Payment System Act legislated for greater clarity of responsibility for payment system operation and incorporated the EU Settlement Finality Directive into Norwegian Law. The Financial Contracts Act, amongst other topics, legislated for the removal of float within the payment system. The Financial Contracts Act deals with a range of topics which are included within the Draft EU Directive for a New Legal Framework for Payments in the Internal Market. In due course the EU and the EFTA countries (Norway, Iceland and Liechtenstein) will consider whether the directive is EEA relevant, if so each of these countries will incorporate the Directive within domestic legislation.

Customer pricing

Current account banking in Norway was introduced as a free service to personal customers. This was a quid pro quo originally agreed with the Unions in the 1960s when companies and banks began paying wages directly into current accounts rather than by cash. Cash withdrawals over branch counters are still largely free.

In 1986 banks began to introduce charges for low value cheques. More general charging for payment services was introduced in the early 1990s after the Norwegian banking crisis, when there was a recognised need to enhance the stability of the banking system. Interest rate margins in Norway have historically

been amongst the lowest in Europe and there has been strong consumer resistance to the float income earned by banks on payments.

The current environment is one in which banks will typically levy item charges for all transaction types. The Norges Bank calculates weighted average transaction prices from data provided by 26 banks. In January 2004, the average prices to make a card payment, an electronic giro credit payment via PC/Internet or telebanking, and a direct debit were all around 2 NOK (16p). The cost of making a paper giro payment in a branch was around 42 NOK (£3.50) if paid in cash, and 30 NOK (£2.50) if paid by account debit. Paper giros sent through the post are cheaper, at 6.5 NOK (54p). Cheques cost 20 NOK (£1.66). Typically, ATM withdrawals from one's own banks machines are free during business hours. Outside of business hours there is a charge that averages 3.89 NOK (32p). Withdrawals from other bank's ATMs outside business hours have an average price of 5.49 NOK (46p). There are no non-bank ATMs in Norway.

It is also normal for banks to charge annual fees for debit and credit cards. The Norges bank has estimated average annual fees for combined debit cards (i.e. those with domestic and international functionality) at 252 NOK (£21) in 2004. Credit cards have higher annual fees, typically in the range 300 to 500 NOK (£25 to £42). The number of banks charging start-up or annual fees for Internet banking has been falling, reflecting competition in the current account market. The average annual fee for the 15 banks charging in the Norges Bank survey was 158 NOK (£13.20).

Some customer groups receive discounted charges, in particular the young and the elderly. Another recent development has been the increased marketing of bundled/loyalty services to customers where for a fixed fee customers receive a number of facilities and transactions at no cost such as card payments or Internet banking. The package may also include other financial products such as insurance or a credit card. Customers still have to pay for paper and branch transactions, including cheques and paper giro credits.

The Norges Bank's position is that cost-related pricing is required to give the right signals to customers in order to encourage use of more efficient payment methods and to realise an efficient payment system. It has recently expressed concerns about the lack of transparency with bundled services, however these still incentivise customers to use electronic rather than paper payment methods.

Payment system infrastructure and governance

Most payment services provided by Norwegian banks are based upon a common infrastructure, allowing the banks to provide co-ordinated services whilst competing on price and delivery. This infrastructure, which is owned by the banks in common through the banking associations, includes:

- a set of multilateral rules and contracts, governing the rights and responsibilities of banks towards each other, in service provision
- technical standards, governing data communications and security issues
- common operations, including the Norwegian Interbank Clearing System (NICS), and
- an organisational framework and associated rules and policies governing administration and developments to the common infrastructure.

NICS is the main payment system in Norway. It includes a clearing for all retail payments, processing debit card payments, cheques, paper giro credits, electronic giro credits and direct debits. It also includes a service for high-value payments. All banks providing retail payment services are participants in the retail system and there are 26 direct participants. NICS processes over 90% of domestic retail payments in Norway.

The 1999 Payment System Act states that all systemically important payment systems are subject to a licence granted by the central bank. One of the requirements to obtain a licence is that an interbank system shall have an operator that is responsible for the system. This led the banks to establish a legal entity, the NICS Operating Office, to be responsible for NICS. The banks, through the Operating Office, own the NICS clearing system. The system is operated under contract by BBS. BBS, a private not-for-profit bank-owned company, provides common infrastructure services such as NICS to the banking community, and products to individual banks such as paper credit processing, which banks may or may not utilise. The banks' ownership stakes in BBS are not a direct function of their transaction volumes, but are a historical allocation based upon the size of the banks at that time. In addition, there was a re-

allocation of shareholding following the merger of DNB and Union Bank of Norway when the merged bank was required to reduce its stake in BBS to 40%. As of 31 December 2003, there were 134 shareholders in BBS.

The NICS Operating Office has mandated responsibility for certain areas relating to the operation of NICS. Strategic decisions relating to NICS are made through the Banking and Payment System Board of the Financial Services Association (the association for commercial banks) and the Board of the Savings Banks Association.

The membership criteria and wholesale fees for the payment system are agreed through the two associations and are published in a document which is publicly available and registered with the Competition Authorities.

Visa credit and charge card transactions in Norway are cleared and settled domestically and MasterCard transactions via that company's systems. Domestic Visa issuers and acquirers have an indirect membership of Visa International through a group membership. A new body, the Norwegian MasterCard Member Forum, has recently been created as an informal body complying with MasterCard's international rules and regulations. Membership in the forum is open to issuers and acquirers.

Payment system developments

The Norwegian inter-bank clearing system

The recent history in Norway has been one of consolidation of payment systems. The Norwegian banks decided to establish a national clearing house to be operated by BBS both for high value and retail transactions in 1988 (BBS had been operating a clearing house from the early 70s). This took place after a small bank was unable to meet its obligations in one of the clearing systems in operation at that time and payments in the system had to be unwound. Regulatory pressure from the central bank was a major driver of the change.

Although the development of the NICS system was then slowed by the Norwegian banking crisis, it began operation in 1993 based on a set of interim regulations set by the Norges Bank. In 1995 debit card clearing was integrated into NICS, and at the same time the three domestic debit card schemes merged to produce a single national scheme – Bank-Axcept. Bank-Axcept cards are

magnetic-stripe based and all point-of-sale transactions require customers to enter their PIN. Two of the old schemes were magnetic stripe based and the third used chip cards. The Norges Bank was instrumental in facilitating the merger of the three schemes, as the banks were unable to reach agreement amongst themselves.

During the same period, negotiations between the banks and the Norges Bank started on how to comply with the BIS rules and principles for payment systems. One consequence was that the Norges Bank settlement system, NBO, was migrated to RTGS in 1997. The NICS rules were also changed to require banks to send all SWIFT transactions of value over 100 million NOK one by one as RTGS transactions (the limit was lowered to 25 million NOK in May 2003) and for all banks to have the necessary funds on their settlement accounts with the Norges Bank for the multilateral net retail clearing. If a bank has insufficient funds upon its account and the NICS settlement is delayed as a consequence, then the bank is fined by the Norges Bank. NICS provides its members with a liquidity management tool giving banks a real-time overview of their status in the NICS clearings as well as the status of their settlement accounts with the Norges Bank.

NICS is a fully electronic centralised service; all paper credits and cheques are truncated at the receiving bank or processor. Initially, both the high value and retail systems were settled on a daily multilateral net basis, with retail settlement at 4.00 pm at the Norges Bank. The retail settlement was subsequently changed in 2000 to two daily settlements at 6am, prior to bank opening, and 3pm. The introduction of the two settlements was driven by risk and liquidity considerations, for instance banks had been crediting customer accounts for funds availability prior to settlement.

Technology modernisation is also an important current concern in Norway. BBS is in the process of introducing a new 'payments engine', initially for Internet banking applications and then extending to other payment types. The architecture will be modular and scalable, based upon web and server technologies and will include enhancements to a number of message formats.

There is discussion between the banks on the future of the Norwegian payment system, including top-down consideration of what would be the 'optimal clearing system'. These considerations are being driven primarily by the needs to

reduce cost and risk. For instance, one strategic goal is that the choice of payment system to be used for a particular transaction should be based upon the appropriate balance between value and risk on the one side and cost and technology on the other. There are some high value payments made by the retail system which may be more appropriately made by NICS SWIFT and correspondingly NICS SWIFT processes a number of low value non-urgent cross-border items.

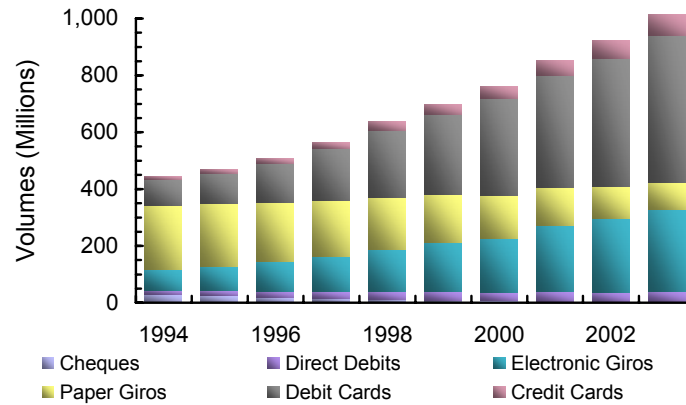
Other payment systems

In 1999 the Government sold the Norwegian Postbank to (what was then) Den Norske Bank (DnB). The Postbank provided a post giro payment system to consumers and businesses which was established before, and later became an alternative to, the bank giro system. DnB is in the process of merging the post giro system with its bank giro offering. The regulators did not oppose the merger on the grounds that it would deliver economies of scale and hence reduce the costs of payment processing.

The recent merger to create DnB NOR has also resulted in payment system consolidation as these two banks were the only licensed providers of payment services to indirect participants in NICS. Around 105 smaller banks use the settlement services of DnB NOR rather than being direct participants. The systems are still kept as separate technical and operational systems with two licences. Although there were some regulatory concerns regarding the competition aspects of the merger and regarding operational risk and contingency, these were outweighed by the expected economies of scale. In addition, some level of competition remained in the marketplace as direct participants in NICS can apply for a licence if they want to start a competing settlement system. Providers can be granted exemption from the licensing regime if they only provide payment services to a small number of indirect participants and that service is only a small part of their business. A number of the smaller savings banks now have their retail settlement handled by Swedbank.

Payment methods and trends

Non-cash payment volumes in Norway



Source: Norges Bank

Cheques

Cheques were popular payment methods in Norway with both personal customers and businesses in the 1970s and 1980s. They were used fairly extensively to make payments at the point of sale and for transactions such as person-to-person payments. However, due to the differential pricing of cheques by banks, and wider use of cards and electronic giro credits, cheque volumes have declined to a residual level where their use is primarily confined to high-value transactions with immediate settlement between individuals. There were 1.5 million cheque transactions in Norway in 2003, or four for every ten adults.

Direct debits

Direct debits have not been widely used in Norway, only around 20% of adults use them to pay bills. Unlike the UK, direct debits are not covered by a guarantee, which may be one factor that has subdued growth. However, this proportion is growing as customers can now sign up and cancel direct debits via their Internet banking service, as well as changing the amount due. Direct debit volumes rose by around 10% in 2003, and are double what they were 10 years ago. There were 34.7 million direct debit payments in Norway in 2003, or 10 per adult.

Electronic and paper giro credits

The principal trends in giro credit payments have been the rapid growth in overall volumes and the move away from paper giros to electronic initiation of the payment. Giro payments are the most popular method of paying bills and invoices in Norway, including business-to-business payments, and are used for account-to-account transactions such as salaries, state benefits and payments between individuals. Electronic giro volumes have grown four-fold over the last ten years, and paper giro volumes have declined by around 40%. The higher charges for paper-based giros and increased ease of use of electronic facilities are the main reasons for the decline. There has been rapid uptake and use of Internet banking and approaching 60% of adults in Norway now use Internet banking to pay some or all of their bills. Internet banking has largely overtaken telephone banking, and only 13% of adults now use the latter to pay bills. Paper credits remain popular with a significant but shrinking minority of adults, typically older customers. Around 23% of adults use a paper giro sent through the post to pay bills and 13% still use a bank branch.

The Norwegian national payment infrastructure also include services for corporates who can contract with a bank to receive remittance details along with their payment information. There are two competing services, one operated by BBS and another by a bank data centre provider.

Plastic cards

Norwegians are among Europe's heaviest users of plastic cards for purchases. In 2003, each Norwegian adult made 165 card payments to a total volume of 592 million transactions (compared, for instance, to 107 per adult in the UK). As can be seen from Figure 5.1, the volume of card transactions has increased more than four-fold over the last ten years. Wider card acceptance is one reason why card use has grown, the number of payment terminals has increased three-fold during the same period and Bank-Axcept is now accepted by the vast majority of retailers and also quite widely in the service sector. Card transactions are predominantly on Bank-Axcept debit cards. However, credit and charge card spending has been growing at double-digit rates and accounted for 15% of the value of card payments in 2003.

Cash acquisition and use

Data from the Norges Bank is that the total amount of cash withdrawn from bank accounts has been stable in recent years. Within that overall total, debit card cashback has been growing, ATM use has been stable and withdrawals at counters have been falling. One of the main reasons is that ATM withdrawals are often charged for (see section 5) whereas cashback is effectively free as the customer is only charged once for the purchase/cashback transactions. Reflecting this trend, the total number of ATMs in Norway peaked in 2002, and fell last year.

The total number of plastic card cash withdrawals at ATMs, in bank branches and via cashback in 2003 was 271 million, or 75 per adult. The total amount of cash acquired per adult was 65,000 NOK (£6,400). This compares to 58 card cash acquisition transactions per adult in the UK to a value of £3,700. However it should be noted that in the UK there is still substantial direct receipt of cash via state benefits paid in post offices and significant levels of cash acquired via wages, passbooks and encashment of cheques in bank branches. Total cash acquisition per adult in the UK in 2003 was £5,900.

There is only limited information available on the levels of use of cash in Norway. An analysis by the Norges Bank found that in 1999 cash accounted for around 50% of all point-of-sale spending. This compares to around 40% in the UK in the same year.

Float

Historically, as mentioned above, banks benefited from float income on payment transactions. For instance, as far as interest calculations were concerned Bank-Axcept debit card transactions would typically be backdated to the day on which the purchase was made, and cheques would be backdated to the date on the cheque.

The 2000 Financial Contracts Act outlawed the taking of float from payments; pressure for the legislation came from a number of sources including consumer groups and the Norges Bank, who are of the view that float income does not encourage transparency or efficiency. Debits and credits to accounts for interest are now made on the same day (see next section). The banks were aware that

the legislation was in process and made the necessary changes to their systems well in advance of it becoming law. The removal of float did not require any modifications to the NICS payment system; only changes to internal bank systems were needed as the banks had the information anyway. Float income has been one factor taken into consideration by banks when developing their pricing policies.

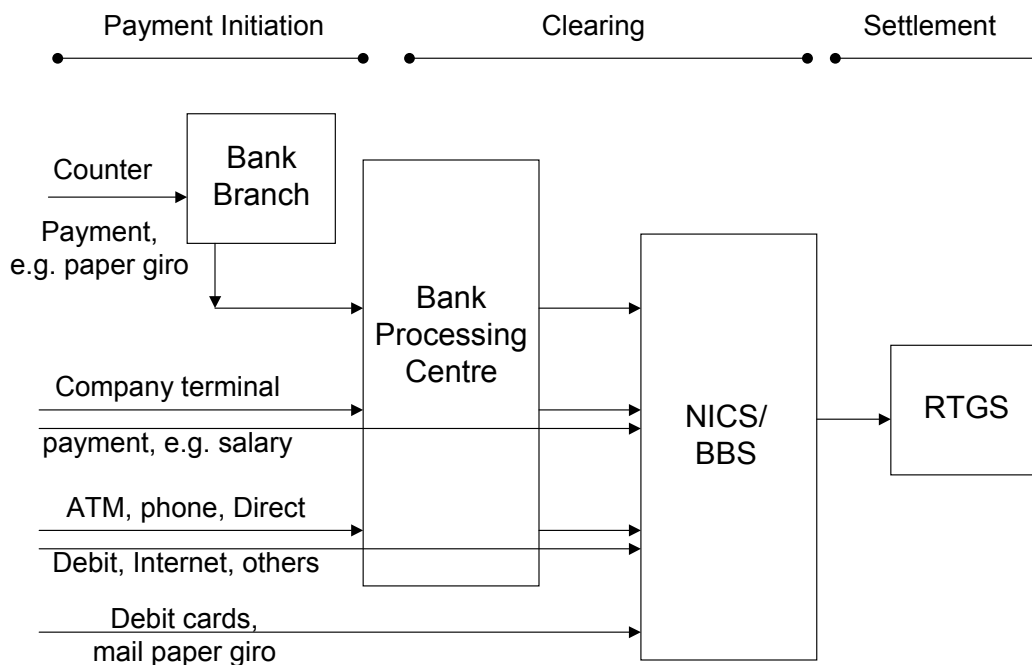
Payment clearing, settlement and accounting

As can be seen from Figure 5.2, payments initiated by companies using their banking terminals, direct debits and electronic giros initiated by Internet or telephone banking can be sent directly to BBS for entry into NICS or indirectly via banks' processing centres. Payment card transactions will be delivered by retailers directly to BBS, and paper giros used to pay bills and other invoices through the post are sent direct to BBS for processing and entry into the NICS retail clearing. Payments at bank counters such as paper giro bill payment and cheque deposits are sent to banks' processing centres and then to NICS. There is no facility to recall or revoke a NICS transaction once it has entered the system. Incorrect transactions can be corrected; this is done by sending a cancelling transaction through the system within three days of the original.

Before payments are entered into the NICS retail clearing system, automated checks are made on paying customer accounts to ensure that the funds are available; this is effected by BBS sending batches of requests to the paying customers' banks. There is a value-added service provided by BBS to its bank customers which will re-check a payment for the next three netting cycles if funds are not initially available.

Paying banks are typically contacted regarding funds availability for cheques which are being deposited. However, they are the only items which may be returned unpaid; and are returned one or two days after settlement. Fraudulent cheques must be returned within 20 days of settlement.

Figure 5.2: NICS retail payment initiation, clearing and settlement



Source: Norges Bank (adapted)

The NICS retail clearing system has four netting cycles during the course of the day and will send partial settlement figures to the Norges Bank after each cycle. As discussed above, the retail system is settled twice a day across the settlement accounts held by direct participants with the Norges Bank, once at 6am and once at 3pm. The debits and credits to customer accounts are applied on the day on which the transaction is settled. Credited funds will be available to be withdrawn, and debits and credits are included within interest calculations.

From the customer perspective, the main end-to-end inter-bank payment processes as follows; more details are given in Appendix 2 to this Section:

- for Internet and telephone giro credits initiated before, typically, around 1pm, credits and debits are made later that day for value and for fate to customer accounts (the actual cut-off time may vary from bank to bank). The cut-off is required to allow payment processing and checking of funds availability before 3pm settlement at the Norges Bank. The banks' common rules for payment services state

that the payee's bank shall credit the payee's account without undue delay after settlement and receiving the relevant information. Internet and telephone giro credit instructions can be forward-dated up to one year in advance

- for Internet and telephone giro credits initiated after the cut-off, credits and debits are posted to customer accounts the next day for funds availability. For risk reasons, credits for funds availability are made after the 6am settlement
- for Bank-Axcept debit card payments, transactions are input by the end of the day by the retailer direct to BBS for clearing, and the debit to the card holder accounts are made the next day. Crediting the retailer for funds is a commercial matter between the merchant and their acquirer
- for direct debits, the debit to the customer account and the credit to the billers account are both made on the day set out in the direct debit agreement. Direct debit files submitted by corporates are forward-dated. In particular the Financial Contracts Act states that, unless otherwise agreed, customers have to be informed at least seven working days in advance by their bank of the amount to be debited and of the payee name (this service may also be delivered by the payee). Mandates are checked centrally by BBS for each transaction, along with certain additional parameters that can be set by the customer as part of the agreement such as the maximum value of any one debit. Checking of direct debit mandates is not prescribed in the NICS rules
- for postal paper credits, the timing is dependent upon the postal delivery service and the volumes to be processed. Items received early by BBS may be credited and debited to customer accounts that day if processed in time, otherwise credits and debits take place the next day. There is therefore an element of uncertainty from the customer perspective as to when a paper giro credit will be debited from their account

- cheques and counter credit transactions in branches are sent physically to the bank's processor where the data is extracted and sent to BBS for entry into the NICS clearing, and
- for bulk electronic credits input by businesses for transactions such as salary and trade payments, items can be pre-dated up to one year in advance and submitted to banks or BBS. In practice, supplier payments are often input up to one month in advance, whereas salary payments are input one or two days before the value date. Both the debits and credits to customer accounts will be made on the stated value date. Standing orders are processed similarly to bulk electronic credits.

There are no significant changes to the above timings if either the paying or payer customer's bank is not a direct participant in the NICS retail system.

There are on-going discussions between the banks and the Norges Bank regarding the introduction of a third daily settlement cycle for NICS masse. So far the decision is not to introduce a third settlement. The question is a trade-off between the need for liquidity for banks during the day versus the need for rapid posting of incoming transactions.

Other payments and related developments

E-Purse

The Norwegian banks, unlike those in the rest of Scandinavia and several other European countries, did not pursue the co-operative development and launch of an electronic purse as they did not perceive that there was a business case in a market where debit cards are widely-accepted and are used for very low value payments. There are six non-bank pre-paid products in the Norwegian market which can be used for a variety of purposes such as lottery payments and purchases over the Internet or at kiosks.

Internet and mobile payment solutions

There have been a number of Internet and mobile payment solutions launched in recent years, by banks and non-banks. Some banks have also launched electronic marketplaces for merchants and personal customers with the bank,

where payments are made direct between the bank accounts. These are competing solutions, are not inter-operable and none has managed yet to make a significant impact. Discussions are also ongoing regarding the development of an inter-bank Internet payment service whereby with one click at a retailer the customer is taken to their Internet banking site to initiate the payment. One non-bank development is a mobile payment service which includes an e-money account. Customers can also register a debit or credit card with the service and then make individual payments with the selected card.

PKI

There are divided views regarding the long-term prospects for e- and m-payments and what may be required to achieve success. One enabling technology may be a banking industry public key infrastructure service for authentication and digital signatures, BANKID, which is being developed by the banks and BBS.

Banks will introduce BANKID as the customer authentication service for Internet banking starting in late 2004 and continuing into 2005 and 2006. The current target is that by the end of 2005 nearly one million customers with over 100 banks will be using BANKID in their communications with their banks.

The banks and BBS have also been exploring how to use BANKID for other services, including discussions with government. During 2004 there have been a number of pilot projects with local authorities use BANKID to authenticate citizens to local government e-services such as requesting child care and for use by government staff, for example in e-procurement.

Another PKI service, called Zesign, is offered by the Norwegian Post and is used by one e-money operator.

EBPP

In 2000, the Norwegian banks launched a domestic electronic bill presentation and payment service branded eFaktura where personal customers can view and pay bills electronically through their Internet banking service. The potential for a co-operative service was initially investigated by BBS working with a number of banks. This was not delivered to the boards of the banking associations for approval to progress until it was a fully developed proposal. Although up-take

was initially low, there are signs that use is now starting to grow rapidly. The service has been made more user-friendly and many of the major billers and central and local government have now signed up to the service. Over 1 million invoices were processed electronically through the service in 2003.

Investigation of a B2B EBPP solution is now underway.

Chip and PIN

The banks in Norway have committed to the introduction of chip cards based around the EMV standard. It has been decided to retain PIN checking by the issuer bank and not to have local PIN checking using the chip. The reason for this decision was to minimise the changes to transaction times, which are expected to increase with chip. As the Bank-Axcept card is already PIN-based it is not expected that there will be any major customer education issues. One savings bank group migrated its cards in 2004, and the main implementation should be complete by 2006.

APPENDIX 1: PAYMENT METHODS IN NORWAY – CUSTOMER FACING CHARACTERISTICS

Payment Method	Availability to personal customers and reach	Channels	Payer can stop or revoke payment?	Payee Guarantee
<i>Debit cards</i>	All banks issue cards from the domestic debit card scheme Bank-Axcept. Available to virtually all current account holders	Point-of-sale terminals and remote channels	Yes, if scheme rules have not been followed	Scheme rules
<i>Credit/charge cards</i>	Most banks in Norway issue credit cards to personal customers.	Point-of-sale terminals and remote channels	Yes, if scheme rules have not been followed	Scheme rules
<i>Cheques</i>	Cheques and bankers drafts are available to current account holders on request	Paid in at branches	It is against the law in Norway to stop a cheque	Cheques are guaranteed up to 2,500 NOK. Can use bankers' drafts for higher values
<i>Direct debits</i>	All current accounts will accept direct debits.	Bulk data entry to bank processor or BBS by originators	Cannot be revoked once they have entered the payment system	No direct debit guarantee
<i>Credit transfers</i>	Personal customers can initiate credit transfers to any current account, all current accounts will receive credit transfers.	Bulk entry to bank processor or BBS by corporates. One-off transactions can be originated through remote banking.	Cannot be revoked once they have entered the payment system	n/a

Appendix 2: End-to-End Accounting and Clearing Timetable for Inter-Bank NICS MasseTransactions

Where timings are a competitive matter between banks and their customers, this table records the typical or most common timings. D is settlement day.

Payment Method	Customer Input Timings to Bank or its processor	Latest deadline for input to NICS	Output to banks from NICS received by	Settlement through NBO	Customer Debit – funds deducted	Customer Credit – funds availability ⁹⁶	Customer Debit - interest	Customer Credit - interest
Personal/ Business one-off electronic giro Credits	from 1.30am to 1.15 pm D	1.30 pm	3.30pm	3pm D	D	D	D	D
	from 1.15pm D-1 to 1.30am D	5.30 am	7.15am	6am D	D	D	D	D
Bulk electronic Giro Credits/ standing orders	as above, with some variations	as above	as above	as above	as above	as above	as above	as above
Postal Paper Credit transfers	If arrives at processor or BBS before noon then is included in 3pm NBO settlement that day, and customer debits and credits follow row 1. If later then is included in the 6am NBO settlement on the next day, and customer debits and credits follow row 2.							
Direct debits - Personal ⁹⁷	D - 7	as above	as above	as above	as above	as above	as above	as above
Cheques and Branch paper credits	Paper branch items are sent physically to the bank processor and the data input to the NICS system. Once the item has arrived at the processor the timings are as for paper credits sent through the post.							
Debit cards	as above	as above	as above	as above	as above	as above	as above	as above

⁹⁶ funds will typically be made available immediately upon receipt of the output from NICS by the bank and posting to the account

⁹⁷ there is a business-to-business direct debit product in Norway. The D – 7 deadline only applies to direct debits taken from consumers' accounts, due to statutory requirements, for business-to-business products the timings are the same as for bulk electronic credits.

6 SWEDISH PAYMENT SYSTEMS

Introduction

The country report on Sweden is based upon desk research and from information gathered in meetings held by APACS and the OFT in meetings with:

- the Riksbank (the Swedish Central Bank)
- the Swedish competition authority
- the Swedish financial supervisory authority
- BankGiroCentralen (BGC, responsible for the Bankgirot payment system, and with other payment-related business)
- the Swedish Bankers Association (owner of the Data Clearing payment system)
- Nordea (owner of the old postal giro payment system), and
- FöreningsSparbanken (a large retail bank, also known as Swedbank).

The Swedish banking sector

There are two main sectors of the banking market in Sweden: the commercial banks, and mutually-owned savings banks. The retail banking market is dominated by the commercial banks, as the major savings banks and co-operative banks have merged and/or become commercial banks. Data from the Bank for International Settlements shows that at the end of 2003 there were 46 commercial banks and 75 savings banks, the former accounting for 94% of account balances. The retail banking sector is also highly concentrated with the four largest commercial banks accounting for more than 90% of payment activity, in a survey of payment costs and revenues by the Riksbank.

After progressive deregulation from the early 1980s onward, niche banks (lately including Internet-only banks) and other organisations entered the market with banking services, for instance the food retailer ICA and IKEA recently established bank subsidiaries. This has resulted in greater diversity in the

Swedish banking market. There has also been consolidation and internationalisation in the Swedish banking market, with Nordea and Danske bank both active in the Swedish market. The bank monopoly on deposits was removed earlier this year, and a number of finance houses have entered the savings market. However, customers have a strong tendency to stick with one bank for their current account service other than, possibly, when taking out a new mortgage. This is despite easy switching of direct debits being available since their introduction around 1990.

In Sweden, the state-owned Postgirot Bank had customer relations with households, companies, private-sector banks and government. It was originally created in the 1920s for government to pay benefits and receive taxes. It ran the Postgirot payment system which handled a range of transactions, including low value payments to and from households and high value government payments. In 1999 the Government decided to sell the Postgirot Bank, and after the competition authority had ruled against a merger with Bankgirot, it was sold to Nordea in 2001 and it is due to be re-branded as PlusGiro in 2005.

The Swedish Post Office Group provides a range of banking services such as bank deposits/withdrawals and bill payment at post offices. By law it also provides basic cashier services to all citizens, including those without bank accounts or no access to a bank. The future of these basic cashier services has recently been the subject of a government enquiry. It recommended that basic payment services are in the public interest and that a mix of public and private provision was required.

Money transmission accounts and methods

The main account type available to personal customers in Sweden with money transmission facilities are current accounts, some paying interest. These will typically come with a debit or ATM card, will accept credit transfers, standing orders and direct debits, and provide access via telephone and Internet banking. There are some proprietary bank debit cards in Sweden, however the bulk of debit cards are internationally branded. Debit and credit card payments are PIN-based in larger retailers; smaller retailers (restaurants, small shops, taxi etc.) require a signature with some extra form of identification (e.g. ID Card, Drivers licence). There are two ATM networks in Sweden, Minuten and Bankomat, which are interoperable for cash withdrawals.

There are three main types of electronic credits, the branded Bankgirot and Postgirot solutions, and unbranded account-to-account transfers made via the Data Clearing (see Section 7.7). The branded solutions will be typically used for regular payments to businesses such as utility bills, whereas the Data Clearing processes payments to individuals and one-off transactions (see Section 7.7 for more details). The Swedish RTGS system is available to personal customers via their branch. Some banks no longer issue cheques to their customers; the remainder issue them only on request. Customers can also obtain bankers' drafts made out to a specific payee for one-off high value transactions.

Most of the main retail banks in Sweden issue international credit and charge cards to personal and business customers. In addition to their private-label cards, a number of major retailers and oil companies issue international credit cards or debit cards. American Express and Diners Club also have a significant presence in the charge card market.

The legal and regulatory environment

The Riksbank's overall responsibility, as set out in law, is to promote a safe and efficient payment system. In that regard it has two separate roles, an oversight role and an operational role, and was re-organised in 2000 to make the division between these roles clearer.⁹⁸ The Riksbank's oversight function involves the assessment of both functionality and risk according to the core principles for systemically important payment systems. It has designated Bankgirot as such a system. It also carries out studies of payment system risk and efficiency, developing an interest in cost-related charging in recent years, similar to the Norwegian central bank. The Riksbank holds regular meetings with the banks and the payment system companies and, inter alia, will use these to follow up on issues such as innovation and governance. The Riksbank also liaises with other central banks in the region due to the increasing presence of international banks in Sweden which raises issues of regulatory scope of the purely national authorities. The Riksbank is not an owner or board member of any retail payment system as this would create divided responsibilities.

⁹⁸ There was an accidental inter-regnum for some years where the Riksbank had no formal regulatory powers at all, these having been forgotten in the 1998 Act defining its role.

The Swedish financial supervisory authority, the 'Finansinspektionen' (FI), is responsible for the supervision and licensing of companies operating in the insurance, credit and securities market. In addition to banks and other credit institutions, the FI also supervises BankGiroCentralen. Whereas the Riksbank is responsible for overall systemic risk across the financial industry, the FI regulates individual markets and clearing companies.

There is a vocal press and consumer lobby in Sweden, and the Finance Minister (until October 2004) expressed his concerns regarding the speed and security of retail payments. He pressed for further reductions in Sweden's settlement times, even though most payment methods already have multiple cycles per day.

Customer pricing

The main pricing model in the retail banking market in Sweden is for personal customers to pay fixed periodic fees with additional per-item charges for cheques and branch transactions. The Riksbank has recently published an analysis of bank payment-related costs and revenues, in which it has calculated average customer fees from banks' published tariffs weighted by their share of transaction volumes. This indicates the following personal customer transaction charges (data relates to 2002):

- branch credit transfer: 42 SEK (£3)
- cheque payment: 25 SEK (£2), and
- no per-item charge for the following: card payments, electronic or postal giro transfers, direct debits, Data Clearing payments and ATM withdrawals. In particular, personal customers are not charged for same-day payments, except for urgent payments after the same-day deadline for the retail systems, if the RTGS system is used instead.

The Riksbank report does not split fixed charges between business and personal customers. Desk research indicates that typical published charges for personal customers are as follows:

- cheque deposit: around 25 SEK (£2)
- debit card annual fee: around 250 SEK (£19) for Visa Debit and 150 SEK to 200 SEK for Maestro (£12 to £15)
- credit card annual fee: 300 to 400 SEK (£23 to £31), and
- Internet banking annual fee: around 150 SEK (£12).

In Sweden, changes in prices must be notified to customers in advance.

Payment system governance

There are three bulk retail systems in Sweden. Bankgirot and Postgirot compete in product design and delivery. On behalf of its members, Bankgirot also competes with Nordea (i.e. Postgirot) in developing products for the market for payments to or from businesses and government. The Data Clearing was originally set up in the 1970s for truncated cheques and other interbank transfers, such as standing orders, salaries and state benefits, and now carries electronic P2P transfers as well.

Bankgirot is owned by BankGiroCentralen (BGC) as scheme and operator. Although BGC is owned by only 8 of its 19 members, all members are treated equally under the Bankgirot Rules and Regulations. However, some adjustments have had to be made to accommodate Nordea's ownership of the competing Postgirot system. Membership is open to banks that are eligible for the Swedish RTGS system, and satisfy an equity requirement of 50 million SEK (£4 million) to cover liability for damages. Its Bank Working Group decides on product development issues and recommends amendments to the Bankgirot Rules and Regulations to the BGC Board of Directors. Indirect clearing participants in the system settle through a direct member and have a direct relationship with BGC; other banks, without membership or any relationship with BGC, are similar in status and operations to corporate users, but must provide the service to their customers defined in the Bankgirot products, e.g. end-customer credit time.

BGC has a settlement role for several other instruments, including cash, cards and the Minuten and Bankomat ATM transactions (though these are not cleared through BGC, see below), submitting the net bilateral obligations for settlement in the RTGS system. The company also has a small but growing business

information division, which develops invoice, PKI, treasury and payment solutions for corporates on behalf of its members. BGC has a close working relationship with its business users (including outsourced technical support from the banks). It used to have a commercial relationship, but this ceased in 1994 after intervention by the competition authorities and these relationships were transferred to the banks. There was no abuse of the BGC's market position; but the competitive principle was applied because there was a wider choice of banks than giro systems.

Postgirot is now an in-house payments service, since payments are between accounts held at Nordea. Nordea also has a close relationship with business customers; including specialisation in payroll solutions (building on Postgirot's historic role in paper giros, which used to be the Swedish pay packet) and data handling of invoices and payments.

The Data Clearing is owned by the Swedish Bankers' Association (SBA), and operated by BGC. SBA's membership includes 15 domestic and 10 foreign banks as well as other financial institutions. There are 20 members of Data Clearing, which is open to all credit institutions, subject to a minimal volume threshold and a commitment to send as well as receive payments. The SBA's Steering Group for Payments/Rules covers the scheme rules and liaison with external bodies; its Steering Group for Clearing handles operations and routine development. The bank-customer relationship is entirely outside the rules of the payment scheme, for instance banks agree bilaterally outside the scheme on how quickly customers should be credited (see Section 7.9), to comply with competition regulations.

The Minuten and Bankomat ATM networks are owned by the savings and commercial banks respectively. Swedbank clears ATM transactions for Minuten, and settles these for many of the savings banks. The vast majority of the savings banks use Swedbank as their settlement bank in other payment systems too and outsource some of their banking operations to them. CEKAB (owned by three of the four major banks in Sweden: Nordea, Handelsbanken, and FöreningsSparbanken, with a minority stake by Danske Bank) clears Bankomat ATM transactions, and provides other ATM support services. Even though the networks are technically interoperable, there has to be a bilateral business agreement between banks for each to offer the use of their ATMs to the other's customers, for competition reasons.

CEKAB also collects and authorises cards transactions from the retailers and provides support and other customer services to banks and retailers. Plastic cards are cleared through the international card schemes, over their European networks.

Payment system developments

Innovation is generally held to be more straightforward in small countries such as Sweden. However the small population was reported to be an impediment to innovation in some areas, particularly considering the even smaller pool of 'early adopters' of innovative products.

The presence of strong competition in the two Swedish giro systems has encouraged speedy development of effective products to meet business users' needs in the payments, cash management and accounting areas. The giro systems focus on delivering speed of information as much as speed of settlement. The view of some staff at banks and the payment systems themselves in Sweden, however, was that the advantages of innovation that competition brought in were finely balanced by the operational inefficiencies of duplication and imperfect connections between systems.

The main retail system development is the major redevelopment of the BGC architecture, which was first implemented in 1999 and is still under work. This has enabled the other developments described in this section: reduced clearing and settlement cycles, including multiple cycles per day for some channels, in Bankgirot and Data Clearing, and current upgrading of the Data Clearing message standard. Figure 6.1 shows the timetable for all these changes.

Figure 6.1: Key dates for BGC new architecture

Year	Event
1994	Riksbank's risk reduction programme launched with a deadline of 1999
1996	BGC decision on a new system platform
1999	New platform live Sequence of debit-settlement-credit on Day 2
2000	Bankgirot Internet credits cleared and settled same-day (3 times per day)
2002	Data Clearing migrated to the new platform: first 2, then 4 clearing and settlement cycles per day Bankgirot internet credits cleared and settled 4 times per day
2005	Data Clearing's new message standard
Planned	Extension of same-day settlement to Bankgirot bulk supplier payments (3 cycles per day)
2006	End of migration to new system

BGC platform redesign

The redesign of BGC's architecture was partly service-driven: to increase the number of clearing and settlement cycles per day and to introduce other services, but the most important driver was pressure from the Riksbank in the mid 1990s in response to the Lamfalussy report. Among other risk reduction measures, it required a shorter cycle from the existing 3 days because banks were crediting customers on Day 2 or early on Day 3 (after customer input on Day 1) before they were receiving the funds themselves in settlement on Day 3. This created credit risk, which was a very sensitive issue in Sweden in the mid 1990s, because one large bank had been very close to failure in the early 1990s.

BGC's own strategic aims for the new architecture were to reduce costs and charges to their members, to improve quality and security in their processes and to cope with larger volumes. Systems changes were needed for Y2K and the euro (in the mid 1990s Sweden was as uncertain over adoption as the UK).

They also wanted to be able to offer better payment products in the giro market and to develop new products faster for their members.

A flexible architecture was chosen that would allow new payment products to be designed by combining pre-programmed modules (setting customised parameters for each payment type). The base system was bought from Interpay in the Netherlands and tailored for BGC's needs. The original platform cost 120 million SEK (about £9 million), and further substantial costs were incurred in customisation and migration from the old system, and separately by the banks in adapting their own systems. Migrating the corporate users also formed a significant part of the upgrade project.

Once the new system was available, BGC was able to take over settlement of other clearings, and now handles 28 settlements per day for its own and other systems. As these are settled bilaterally, this results in about 1,000 settlement transfers daily over the RTGS system.

Recent developments have built on the new architecture in the areas of:

- invoicing and other business services
- secure transactions, including BankID (see Section 7.10.4 below), and
- electronic transfers, including information management, i.e. to feed into corporate accounting and resource planning systems, and for smaller companies as well.

Bankgirot and data clearing and settlement cycle improvements

As a result of the technical upgrade to the system, Bankgirot was able to handle a reduced clearing and settlement cycle for most of its products. This was implemented in 1999, and three cycles per day were introduced in 2002 for individual Internet-initiated transfers. However bulk supplier payments, such as direct debits and bulk credits, are still on a overnight cycle because of the high volumes (for Sweden: the historic daily peak was 6.3 million direct debits, compared to a 55 million daily peak in the UK), where the main constraint is the processing needed at the banks. These payments will move to three cycles per day in due course.

The Data Clearing migrated onto the new platform in 2002 and the number of cycles per day was gradually increased from one to the current four cycles. This was not a substantial exercise, as the architecture was designed for easy implementation of new payment products.

Data clearing – improved message standard

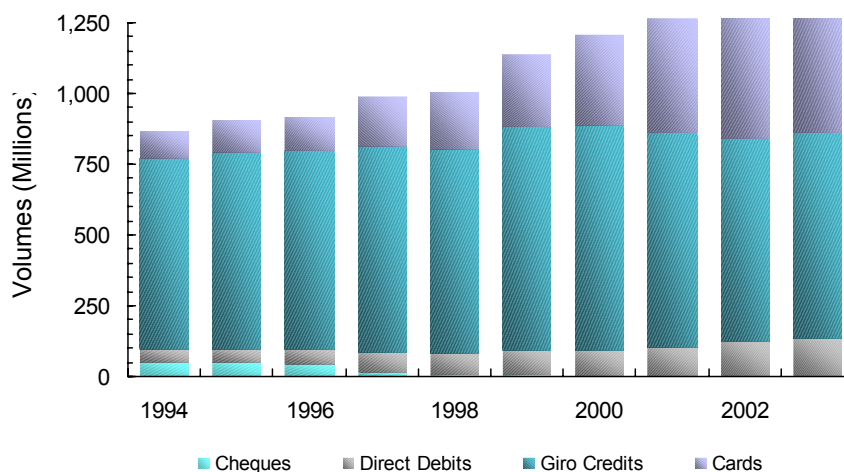
The current message formats for the Data Clearing date from the 1970s, and were designed for simple interbank transfers, such as truncated cheques. It is an 80 character standard with only 12 characters for any text to be added by the customer to inform the payee (the name of the sender is not sent with the message, so the text must include this too, if desired). More complex messaging for payments to businesses is processed by the two giro systems.

The Swedish Bankers' Association has a project at present to extend the message to 240 characters, including 50 characters for customer information (the giro systems being more appropriate for longer messages). This was driven by personal customers' and SME's demands for a longer information field, and also responds to the pressure from the Finance Ministry for fast and secure payments, by improving the functionality (in terms of any necessary extra information) of an existing transfer that meets these requirements. The SBA are also improving their management information by including fields to track the type of payment being made: internet banking, standing order etc.

The new message standard is planned to be implemented in 2005.

Payment methods and trends

Figure 6.2: Non-cash payment volumes in Sweden



Source: Bank for International Settlements (BIS)

Note: the giro credit figures for 2002 and 2003 include estimates for total transactions processed by Postgirot as these are no longer included in the BIS totals.

Cheques

The banks in Sweden have adopted a clear policy of reducing the number of cheque payments, primarily driven by the desire to reduce costs. As a giro-based payment market the main uses of cheques had historically been by personal customers in retailers or to draw cash in bank branches, rather than bill payment. Transaction pricing for cheques was introduced in the mid 1990s by one of the major retail banks. It was well aware of the adverse public reaction which the introduction of charges might create. Charges were therefore introduced in a phased fashion, coordinated with careful publicity and dialogue with customers, and over an extended period the bank gradually reduced the number of free cheques a customer was allowed until charges were made for all items. This allowed personal customers to migrate their transactions to other methods. Very few customers were lost to other banks, even though debit card acceptance was far from universal at that stage.

The other retail banks then followed suit, with all charging by the late 1990s. In 1994, there were 49 million cheques issued in Sweden, or just under 7 per adult, in 1997 volumes were 18 million and in 2003 0.2 million. APACS was informed that on one day in January 2004 only two inter-bank cheques were processed by the Data Clearing. Cheque use is now largely confined to bankers' drafts which are used for high value transactions such as car purchase. They are generally no longer accepted in shops.

Paper and electronic giro credits

As a giro-based payment markets, credits are used extensively in Sweden for the payment of household bills, for business-to-business transactions and for salaries, state benefits and other payments to individuals. In 2003 nearly 60% of all non-cash payment in Sweden were giro credit transfers. As mentioned above, payments with a business as payee and with an associated invoice will be paid through one of the two giro systems. In addition to the payment itself, corporate demands also relate to the timely receipt of related information such as remittance advice for internal reconciliation purposes. Both giro systems provide such products and services. In Bankgirot in 2003, there were 81 million payments with associated remittance information (OCR), 22% of all Bankgirot transactions.

Payments to individuals, account-to-account transfers such as standing orders, and retail payments requiring same-day value transfer (up to a customer cut-off of 12:00 to 14:00) will go through the Data Clearing. After the cut-off a personal customer wishing to make a same-day transfer is restricted to making an RTGS payment. Typically, personal customers demands for same-day transactions relate to inter-account transfers such as funding a savings account. The Data Clearing processed 15% of inter-account transfers in 2003, with Postgirot accounting for around 50% and the remainder processed by Bankgirot.

The giro credit market in Sweden is very mature and appears to be near saturation. After growing modestly through the late 1990s, the total volume of giro credits has fallen in Sweden in the last three years. One possible explanation could be growth in the use of direct debits (see below); another could be the recent slowdown in the domestic economy.

Within that overall total, paper giro credit volumes have been falling slowly whereas the number of Internet-bank initiated payments has started to take off. Paper credits still constitute the majority of Postgirot credit volumes and around 30% of Bankgirot credit volumes. Internet banking was first launched in Sweden in 1995 and is now offered by all of the larger banks to their customers. PC ownership is widespread in Sweden, partly due to longstanding government tax subsidies for consumers leasing PCs from their companies, and Internet banking is a very popular application. In 2003, data from the Swedish Bankers Association is that there were 4.2 million Internet banking users, or 60% of the adult population (compared to 26% of the UK population). The Bankgirot system processed around 60 million Internet banking payments in 2003, although this total will include one-off Internet payments initiated by businesses. In comparison, BACS processed 67 million inter-bank remote banking payments in 2003.

Direct debits

Direct debits, called autogiro in Sweden, were first launched in 1990 by both Postgirot and Bankgirot and still account for a limited share of all non-cash transactions – around 9% in 2003, compared to 21% in the UK. However, their importance is growing and volumes rose by 10% in 2003 to 131 million, or 18 per adult. There is no direct debit guarantee in Sweden with either of the payment systems, as the view was taken that this was a matter between billers and their customers, and personal customers have tended to use them for regular fixed recurring payments such as rent or insurance premiums. Some billers such as mobile phone operators now promote direct debits, providing price incentives for customers to pay that way.

Debit and credit cards

As can be seen from Figure 6.2, most of the growth in payment volumes in Sweden over the last ten years has come from increased use of plastic cards, in particular debit cards. Debit card payments have grown rapidly in recent years, with volumes of 686 million transactions in 2003, more than double those in 2001. Both the number of cards in issue and the number of card-accepting terminals have been rising, with widespread card acceptance in all retail sectors. Debit cards are also being used more intensively, probably mainly through more lower value payments as the average value of a payment has been falling. The

largest food retailer in Sweden (ICA) has recently launched a range of financial services products, including a debit card; which may be another reason for the accelerated growth in the last two years.

General purpose credit cards are less popular in Sweden than debit cards. Although consumer credit is very widely used in Sweden, most consumers choose to borrow through store finance, overdrafts or fixed-rate bank loans. Use of credit cards has changed little in recent years, with 25 million payments in 2003.

Altogether, each adult in Sweden made an average of 107 debit, credit or charge card payments in 2003. This is less than in Norway, is identical to the use per adult in the UK and slightly higher than that in France.

Cash

Cash payments still account for a substantial share of personal payments in Sweden, especially in the retail environment, and this is higher than in the rest of Scandinavia. It has been estimated by the Riksbank that nearly 300 billion SEK (£23 billion) was used in VAT-registered cash transactions in 1999, a comparable per capita figure to the UK in that year.

Access to cash through ATMs is free to all customers and cashback is available in retailers. A further factor which may have sustained cash use is that the number of debit cards in issue has historically been low compared to many other countries. In 2002, there were only two debit cards in issue for every three adults, compared to five cards in issue for every four adults in the UK or Norway. For a significant number of current account holders in Sweden, their sole bank card is an ATM-only card.

Historically, many salary giro's were cashed immediately rather than being paid into an account, but this is no longer popular.

Payment clearing, settlement and accounting

Summary tables in Appendices A and B compare the details of timing and other customer features. 'Settlement' in the text below means interbank settlement, and the customer is credited on the same day as settlement in Sweden (though not necessarily within business hours). For most payment methods, banks that

are not direct participants of the payment system are not bound by the system rules on timing of customer credit, but there is little difference in practice between them and direct participants. The sub-sections below cover the end-to-end process for each ACH, with a description of the ability to make transfers between the ACHs in the last sub-section.

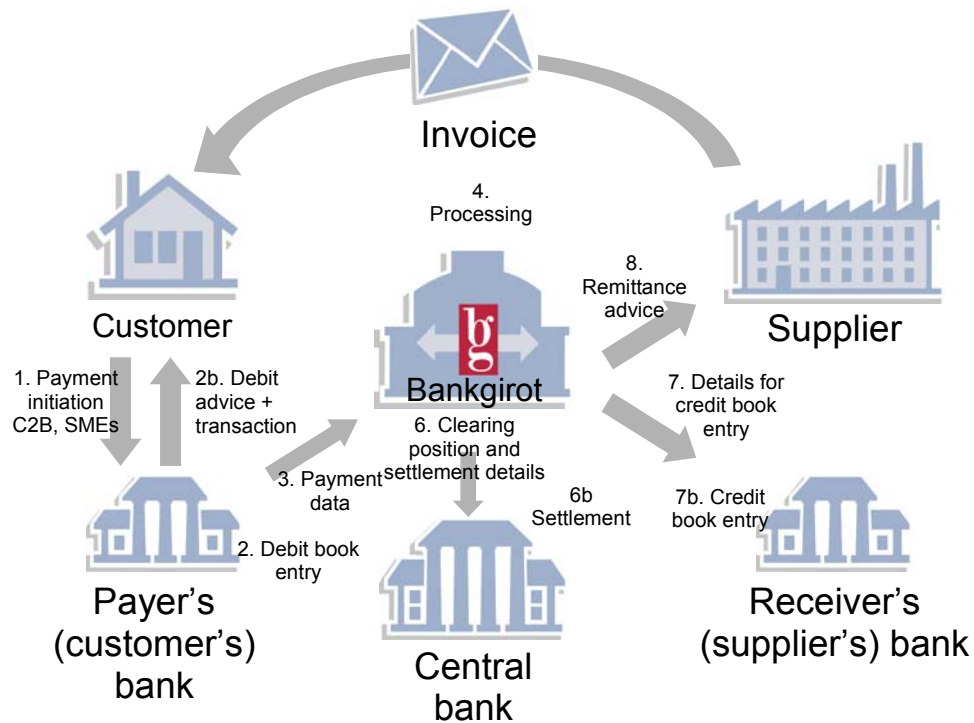
At the insistence of the Riksbank, in Bankgirot and the Data Clearing, the customer debit must be taken before settlement and the credit afterwards. This is for funds availability, and float is calculated separately. Float and the timing of customer debits pre-settlement are a competitive matter for each bank.

There are some variants on float, but for retail customers the typical arrangement is for one day's interest to be taken by the debit bank and one day by the credit bank, ie two day's float in total. Exceptions are salary payments and government benefits through the Data Clearing, where interest is paid from the settlement day. Float was measured in the Swedish FSA's November 2002 financial inspection report. For personal customers this was 19 SEK (under £2) each per annum.

Bankgirot

The Bankgirot ID number is key to making payments in Bankgirot, as payments can only be addressed to a Bankgirot number. The ID number is used as a link to the bank account, and is portable between accounts. It can only be used for the receipt of payments and the linked account cannot be debited, which makes it resilient to fraud, so businesses circulate their Bankgirot numbers freely. Only businesses can hold Bankgirot numbers, they are not available to personal customers, thus Bankgirot cannot be used for payments to individuals. The number was designed in order to give businesses independence from their banks (Swedish businesses have traditionally been multi-banked), and there are very few similar examples in other countries. However, there may be compatibility problems with the growing European use of the International Bank Account Number (IBAN) system.

Figure 6.3: Personal/SME internet bill payment process in Bankgirot



Source: BankGiroCentralen (adapted)

Another identifier used in Sweden is the OCR reference number, which is an optional unique number for each invoice, entered by the payer with the other details of payment. This is used for reconciliation of the payment with the bill and feeds through into accounting software at the biller.

Corporates can initiate bulk or individual payments over Bankgirot either directly or via their bank. Similarly, credit information (and other invoice reconciliation information) can be received directly from BGC or via their bank. Other customers can initiate payments by Internet (including on-line sign up of direct debits) or telephone banking, sending paper credits through the post directly to BGC ('envelope giro') or over the counter at banks. Figure 6.3 shows the process for a transaction conducted through the bank, for example using Internet banking to pay a bill.

Bulk input from corporates (credits and direct debits) is processed by BGC overnight, the paying banks have four and a half hours to reject payments the following morning, and settlement for both is at 11:25. A single daily

aggregated amount is paid to the account linked to the Bankgirot number (a single debit will also be taken by the corporate's bank for bulk credits). Other customers are debited or credited for each individual item.

Direct debit mandates are held centrally in a database at Bankgirot and are checked automatically for each debit – that a valid mandate is in force and that this particular payment is not in dispute. This can be done centrally because the volumes of bulk payments are sufficiently low to make this economically feasible. The historic daily peak in Sweden was 6.3 million direct debits, compared to a 55 million daily peak in the UK. Internet banking customers can view their mandates held at BGC, and initiate or cancel them online, through their banking package. The mandate must be lodged at BGC at least 8 days before the first payment. Cancellation has to be made at the latest on the day before payment.

Within BGC's systems, each paying customer has a unique personal ID, held with details of the paying account, which makes switching bank accounts very simple – the new bank notifies BGC of the new account details and other details to identify the payer, and all his/her direct debits are updated with a single change to the database.

Paper credits posted directly to BGC are processed on the day after they are sent (they arrive by 10:00) and settled (inter-bank, see below for the customer timings after settlement) the following day. Bank giro credits paid in at branches must also reach BGC by 10:00, but are settled on the same day. Generally the deadline for branch customers is the end of the previous day, however. A branch customer wishing to make a same-day payment for a bill (as invoiced with a bank giro) will be advised to use remote banking or directed to an RTGS payment.

End-to-end payment by Internet or telephone banking on the same day is possible: the deadline for bank input for the last cycle of the day is 14:00 (customer cut-off will be earlier, the timing varying in different banks). After 14:00, payments input by customers by 23:00 will settle in the first cycle of the following day, and in fact 90% of Internet banking payments in Bankgirot are settled on this cycle.

After inter-bank settlement, BGC notifies the credit amounts to the banks by a fixed deadline, typically within 90 minutes of settlement. Customer credits must be made within 150 minutes after this.

Banks can monitor their gross bilateral credit positions in real time with each counterpart (though they cannot set limits on each other) via a web interface. Settlement at the Riksbank (over the RTGS system) is net bilateral and the facility exists to settle gross bilaterally or to unwind the clearing in the case of failed settlement. There is a technical facility within the system for indirect clearing participants to change their chosen settlement bank during the day, designed to handle settlement bank failure, as this information is kept on a simple lookup table in the system.

Unpaid items for most of Bankgirot's products can be re-submitted according to the corporate user's specifications, with a limit of 8 re-tries. It is not possible to return credits that cannot be applied to accounts (for example because the account has been closed), because the payer may have submitted them in bulk with a single debit, so these must always be repaired or repaid in a separate credit.

Postgirot

Postgirot has a virtually identical range of payment products as Bankgirot, though all electronic processing and accounting is internal to Nordea's books, between the Postgirot accounts held at the bank.

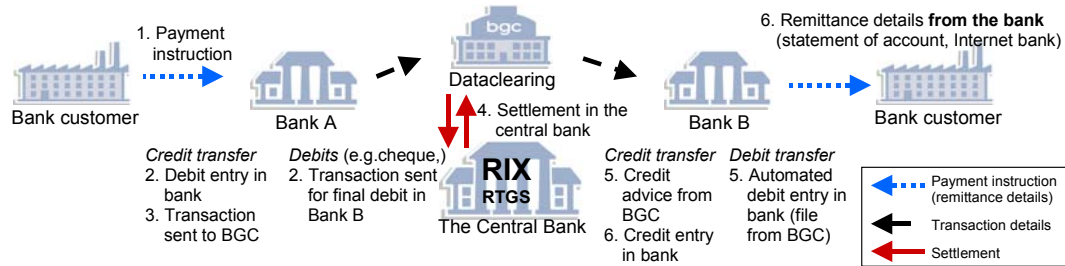
Customer cut-off for same-day end-to-end payment in Postgirot is just before 13:00 for direct credits with extra invoice reconciliation data (OCR reference number), other payments by 16:00 (allowing a short period for processing before this deadline). Processing is done in batches, with several per day, though the big batches are after the last ones each day just after the cut-off times. Funds are available to the payee in Postgirot very shortly after each batch of payments has been processed.

Data Clearing

All payments via the Data Clearing are entered via the banks; there is no direct input. Payments are very simple account to account transfers in the Data

Clearing, with little associated information or processing for business reconciliation.

Figure 6.4: Payment process in data clearing



Source: BankGiroCentralen

The few remaining cheques are truncated by the collecting bank. When necessary, the collecting bank will call the paying bank to check the availability of funds before passing the cheque over the Data Clearing (see Figure 6.4), but this is rarely done now that nearly all cheques are banker's drafts. Legally, cheques are valid only for 20 days from the date on the cheque, but in practice banks may honour them after this.

Payments are processed by the BGC's platform, which also handles the settlement in four cycles per day. Settlement is same day for Internet banking transfers entered by the customer by about 13:00 to 14:00; after this, a transfer initiated before 8:00 the following morning will reach the payee's account by 12:30 on that day. All members of Data Clearing have agreed bilaterally with each other that entries will be credited to accounts within 2 hours of settlement.

Payments between systems

There is some scope to send payments between systems, and this has improved steadily over the last 10 years:

- Nordea is a member of Bankgirot and can receive payments there to forward to its own Postgirot accounts, and
- Postgirot accounts now have full bank account details, so can send and receive payments over the Data Clearing.

In these cases, the clearing takes an extra day and the customer debit will take place on the day before settlement and credit.

For payments made via a bank rather than directly into the giro system, the customer's bank will route the payment into the appropriate system in the first place.

Other payments and related developments

E-purse

In 1998 the Cash e-purse scheme received its commercial launch in Sweden. A joint venture of three major banks, the Cash product was issued as an additional function on debit cards. However, it enjoyed little success with Swedish consumers and retailers. The number of terminals and transactions both peaked in 1999 and subsequently declined. In 2002 there were only 700,000 Cash transactions. In January 2004, the three banks announced that the Cash system would be wound up during the year.

Internet and mobile payments

There have been a limited number of Internet and mobile payment initiatives in Sweden; the wide use of plastic cards and Internet banking may be factors subduing demand for new Internet and mobile payment solutions. Some of the major banks have provided e-marketplace solutions where retailers and personal customers must all have accounts with the bank, payments are then made by transfers between these accounts. One non-bank example is the PayNova service which was launched in 2002. PayNova customers open a virtual account which can be funded from electronic transfers or from a card, and the funds can then be used to pay Internet merchants or be transferred to another PayNova account. Payments can be initiated over the Internet or mobile phones.

EBPP

Sweden was one of the first countries to have EBPP services available to personal customers. Between 1997 and 1999 all of the major retail banks launched EBPP services within two competing schemes e-Giro and e-Faktura. The schemes were not interoperable and there were some initial system issues both for banks and billers, for instance integration of direct debit and e-invoicing

systems. The uptake of the service was limited and in 2002 the two schemes agreed to become inter-operable. This, and improved customer service, for example one bank has introduced prompted 'click-through's from Internet-initiated giro credits to EBPP sign-up, has contributed to increased adoption of EBPP. However EBPP usage is still very low.

Chip and PIN

Banks in Sweden have planned for a migration to the international EMV standard: some banks have started to issue cards with the EMV chip and most ATMs have been upgraded. The replacement of magnetic stripe readers at retailers by chip readers will start soon as the rollout of the supporting infrastructure is complete.

PKI

In 2002, some of the major banks launched PKI-based electronic ID services for their customers. The services can be used with Internet banking and are also used by government and private companies. BGC is developing services in this area for its members, including online submission of tax returns. Its solution, BankID, has around 160,000 registered users. The solutions are not inter-operable and to date there is no uniform Swedish standard governing PKI infrastructures.

Appendix 1: Timing of Payment Clearing, Settlement and Customer Accounting for Inter-Bank Transactions

The debiting and crediting of customer accounts for funds availability and for interest is a commercial matter for each bank. The table records the typical or most common timings for personal and SME customers. Timings are for internal giro and Data Clearing transfers, typically add another day to settlement for transfers that cross between two systems. D = Settlement Day.

Payment Method	Channel	Customer input deadline to bank {or direct into system}	Latest deadline for bank input to system	Output to banks from giro system	Settlement at Riksbank ⁹⁹	Customer Debit – funds	Customer Credit – funds availability	Customer Debit – interest	Customer Credit – interest
<i>Bankgirot Credit transfers</i>	Postal to BGC	Into post: {D-2} arrives: {D-1}	n/a	D 6:00	D 11:25	night of ¹⁰⁰ D-1	D 15:30	D-1	D + 1
	Branch	D-1	D 10:00	n/a	D 15:30	night of ¹⁰¹ D-1	D 21:30	D-1	D + 1
	Bulk file to BGC	{D-1 19:00}	n/a	D 6:00	D 11:25	D	D 15:30	D-1	D + 1
	Internet via bank	D-1 23:00 D 10.45 D 13.45	D 8:00 D 12:30 D 14:45	n/a	D 9:05 D 13:25 D 15:26	D-1/D	D 13:00 D 15:30 D 21:30	D-1	D + 1
<i>Postgirot</i>	OCR reference no. ¹⁰²	D Just before 13:00	n/a	n/a	n/a ¹⁰³	D	Shortly after	D-1	D + 1

⁹⁹ Customer credit finality is reached when interbank settlement has occurred, according to interbank agreement.

¹⁰⁰ "Night of" indicates a late night or early morning debit, varying between banks.

¹⁰¹ "Night of" indicates a late night or early morning debit, varying between banks.

¹⁰² OCR – with invoice information

¹⁰³ Items pass over Nordea's books in several batches per day, the largest being just after the two cut-off times

Payment Method	Channel	Customer input deadline to bank {or direct into system}	Latest deadline for bank input to system	Output to banks from giro system	Settlement at Riksbank ⁹⁹	Customer Debit – funds	Customer Credit – funds availability	Customer Debit – interest	Customer Credit – interest
<i>Credit transfers</i>	Simple	D Just before 16:00	n/a	n/a	n/a	D	settlement on D	D-1	D + 1
<i>Data Clearing</i>	Internet via bank, branch credits. Standing orders on 1 st cycle only	D-1 22.00 D 9.00 D 11.40 D 12:00 - 14:00	D 6.35 D 9.35 D 12.10 D 14:25	n/a	D 7:30 D 10:30 D 13:05 D 15:20	D-1/D	Within 2 hours of settlement	D-1	D + 1
	Bulk input	by arrangement with bank					Within 2 hours of settlement	D-1	D
<i>Bankgirot Direct Debit</i>	File direct to BGC or to bank	{D-1 17:00}	D-1 17:00	D 6:00	D 11:25	D	D 15:30	D-1	D + 1
<i>Postgirot Direct Debit</i>	File direct to Postgirot	D-1	n/a	n/a	n/a	D	Shortly after settlement on D	D-1	D + 1
<i>Cheques</i>	Very low volumes of cheques. Same timing as for Data Clearing's Internet via bank and branch credits.								

Finality: apart from cheques, all payments are final once booked to the customer account. Normally cheques are checked for funds and fraud by telephone before clearing. If however a cheque is rejected for funds later the receiving bank can make a claim to the paying bank within 8 days from when the transaction was booked on the account. The paying bank normally bears the loss for fraud. There is however an agreement between some banks to use a register for blocking forged or lost cheques which may move the responsibility for a loss to the receiving bank.

Appendix 2: Payment Methods in Sweden – Other Customer Facing Characteristics

Payment Method	Availability to personal customers and reach	Channels	Payer can stop or revoke payment?	Payee Guarantee
<i>Debit cards/ Deferred debit</i>	Issued to most personal customers on demand, but only held by about 65% of the adult population.	Point-of-sale terminals and remote channels	Yes, if scheme rules have not been followed	Scheme rules
<i>Credit/charge cards</i>	Credit cards are mainly private label and include Visa and MasterCard. Amex and Diners Club cards are also issued.	Point-of-sale terminals and remote channels	Yes, if scheme rules have not been followed	Scheme rules
<i>Cheques</i>	Cheques only issued at request (some banks only), and very rarely used. Nearly all remaining volumes are bankers' drafts.	By post to own bank or over the counter at own bank branches.	At banks' discretion until entry into system (which could be immediately after receipt)	Telephone confirmation on funds availability
<i>Direct debits</i>	All current accounts will allow direct debits.	Bulk data entry to bank or giro system by originators.	Only in advance of payment Payee can revoke bank giros up to the deadline for entry of new ones.	No guarantee
<i>Credit transfers</i>	Personal customers can only initiate Bankgirot transfers to a Bankgirot ID, and Postgirot transfers from a Postgirot account, but simple transfers between any bank account (including Postgirot ones) can be made over the Data Clearing. Data Clearing also handles standing orders. There is some ability to transfer payments between the three ACHs.	Bulk entry to bank (or direct to the two giro systems) by corporates. Can be originated through remote banking or branches by personal customers.	Via banks: at banks' discretion until entry into system (which could be immediately after receipt) Direct to Bankgirot: until the deadline for entry of new ones.	No guarantee

7 SPANISH PAYMENT SYSTEMS

Introduction

This chapter sets out the results from the analysis of payment systems in Spain. It is based upon desk research and information gathered in four meetings held by APACS and the OFT with the following:

- Banco de Espana (the Spanish Central Bank)
- Banco Santander Central Hispano ('BSCH', the largest retail credit institution)
- La Caixa (a savings bank and the third largest retail credit institution), and
- CECA (CECA is the Spanish savings bank confederation, it is also a savings bank in its own right and provides clearing, settlement and customer-facing banking services to its members).

The Spanish banking sector

The Spanish banking market sector consists of commercial banks, savings banks, credit co-operatives and specialised credit institutions. Commercial banks are publicly listed, whereas savings banks are non-profit making foundations with strong local roots. Commercial banks, savings banks and credit co-operatives all tend to offer the full range of retail financial services to their personal customers.

A process of consolidation in the Spanish banking sector began in the 1980s and is still continuing. At the end of 2002 there were 361 credit institutions in Spain compared to 391 at the end of 1999. Within that overall total, the number of credit institutions in all categories has been falling with the exception of foreign commercial banks, where a number of retail banks, Internet banks and credit card issuers have entered the market. Two other important trends have been the mergers that gave rise to the large Spanish banking groups, such as BSCH, and the expansion of some of the major savings banks outside of their traditional localities. In terms of current account deposits in 2002, data from Banco de Espana shows that commercial banks accounted for 56.2% of the

total, savings banks for 39.4% and co-ops for 4.4%. The Spanish retail banking market is less concentrated than that in the UK, Banco de Espana data for 2002 shows that the top five credit institutions accounted for 46% of the total banking sector balance sheet (excluding specialised credit institutions).

There is no banking arm to the Spanish Post Office, however it provides financial services at its counters including deposits and withdrawals of cash from bank accounts and bill payment via an arrangement with a commercial bank.

Money transmission accounts and methods

The main types of account available to personal customers in Spain with money transmission facilities are current accounts and credit cards. Current accounts typically come with a cheque book and ATM/debit card, and allow credit transfers and direct debits. All debit cards have international functionality (Visa or Mastercard). Most banks offer telephone or Internet banking services and some provide access via digital TV. The retail payment system works on a two-day cycle (see below); if personal customers wish to make a same-day payment they must typically go into their branch and initiate an RTGS transaction, although some banks do offer the service via Internet banking.

Credit cards in Spain can only be issued by credit institutions. Traditionally they have been charge cards linked to a current account, only in recent years have banks begun issuing revolving credit cards. Consumers in Spain have historically used bank loans or retail finance to meet their borrowing needs.

Appendix 1 has a table setting out some of the main characteristics of the payment methods available to personal customers in Spain.

The legal and regulatory environment

Banking supervision and oversight of payment systems are both the responsibility of the Banco de Espana. Part of the supervisory responsibility is that of verifying and registering the prices of bank services. Each bank is under a legal obligation to draw up a brochure of its charges, detailing the maximum amounts applicable. These must be made available to customers and to the Banco de Espana, which publishes them on its web site. The Banco de Espana

monitors the transparency of these brochures and can reject charges which it considers do not relate to the actual service provided or which are out of line with industry norms. The Banco de Espana also uses more informal methods to encourage efficient pricing of payment services by the banks, for instance through its participation in payment system working groups. The Banco de Espana must also authorise all bank marketing materials and advertising which refer to costs or returns to personal customers.

Customer pricing

There are some bundled accounts for personal customers, for instance linked to professional associations and loyalty schemes, but the usual practice in Spain is not to charge a flat fee for everything. Banks' published charges for personal customers will typically include account maintenance fees, annual fees for debit and credit cards and transaction charges. Published debit card annual fees are typically around €10. ATM withdrawals are free at one's own bank's machines, but there are typically disloyalty charges for using other banks' machines and one bank has recently introduced charges for the use of its non-branch ATMs. There was been little press or public interest on this, as the vast majority of ATM withdrawals are made at branch machines.

Personal customers are typically charged €10 to €20 for a same-day RTGS payment. To make an RTGS payment they must go into their branch, remote initiation of RTGS is not offered by banks to their personal customers.

However, these tariffs are, as mentioned above, the maximum prices applicable to the relevant service. Customers are free to, and indeed do, negotiate with their banks regarding the level of charges on their current accounts and credit cards. For instance, debit card annual fees may be waived.

Analyses of bank charges in Spain based upon published prices will therefore be misleading as regards the real situation. The banks interviewed in the study indicated that the actual prices paid by customers for payment and other services were substantially lower than the published maximum charges.

Payment system governance

The Spanish national clearing system (Sistema Nacional de Compensacion Electronica, or SNCE) was created by Royal Decree in 1987. Under this decree, and subsequent ministerial orders, the Banco de Espana was given responsibility for the administration and management of the system. It sets the rules and operating conditions of each sub-system (including cheques, direct debits, credit transfers and bills of exchange) and provides the central administrative function. There is a formal Advisory Committee on which the banks are represented, and a number of working groups under the Advisory Committee which consider and recommend developments to the system.

The number of direct and indirect participants varies by sub-system. That with the largest number of direct participants had 27 direct participants and 204 indirect participants at the end of 2003. Only credit institutions can be participants in SNCE. The criteria for direct participation in a sub-system specify a certain level of solvency, of technical capability and of system activity. There are no entry fees to a sub-system other than the technology charges, including a licence for the SNCE software, and direct participants are charged a flat fee on an ongoing basis.

The governance of SNCE is due to change next year, when the management and administration of SNCE will move to the private not-for-profit bank-owned company which is currently responsible for SPI. SPI is the Spanish high-value net settlement payment system created initially for ecu transactions, and which now carries cross-border euro-market payments. The volume of transactions processed by SPI has been falling, and the system will close in 2005 when all payments will migrate to SLBE, the Spanish RTGS system owned and operated by the Banco de Espana, and to SNCE for a number of transactions such as payments up to €50,000 made by non-residents. The Banco de Espana will retain its oversight and regulatory responsibilities for SNCE and is considering whether to designate SNCE as a systemically important payment system.

There are three competing domestic debit card schemes/ATM networks in Spain. These networks are inter-operable so any card issued by a member of one of the schemes can be used at any ATM or point-of-sale, and banks can acquire for all of the schemes. Inter-network settlement is carried out via SNCE, where one member bank of each network will act as settlement agent. In the

recent past, two of the networks entered into merger discussions, but decided not to proceed.

Payment system developments and operation

Historically, payment clearing systems in Spain were established on a regional basis. As mentioned above, the decision to consolidate the clearing for all bar card transactions into a single system was taken in 1987. The first SNCE sub-system, for truncated cheque clearing, began operation in 1990. Initially the system ran in parallel with the other clearing systems, which were gradually incorporated in the following years. All of the regional clearings, with the exception of that in Madrid, had ceased operation by 1996. The Madrid clearing continued for the clearing of residual and non-standard items and was fully incorporated into SNCE in 2001. Since then SNCE has been the sole retail payment system in Spain. These and other payment system changes were driven by regulatory and supply-side considerations such as risk and cost reduction and greater process efficiency; we were informed that there were not many demand-side drivers. A key concern for the banks in Spain is to have an efficient payment system on an end-to-end basis, with straight through processing and a minimum of manual intervention.

In technological terms, SNCE has a distributed architecture where all direct participants run the SNCE software on their own hardware and information is directly exchanged on a bilateral basis. Customers provide payment information to their bank, rather than to the payment system itself as is the case in the UK for BACS users, which is then input to the system and sorted for distribution to the receiving banks. This is done in batches transmitted over a high-speed virtual private network. Details of the timings for the operation of the various SNCE sub-systems are given in the table in Appendix 2.

Cheques and bills of exchange are truncated at the collecting bank with the exception of items of value over €50,000 where the physical items or an image must also be exchanged. Interbank cheque image transfer depends on location – the Madrid banks may not use it mutually because physical exchange is easy, but, for instance, La Caixa is based in Barcelona and relies on image transfers with Madrid. In most cases, cheques will be delivered physically to the bank by the payee, which will then read the data from the items to produce the input for SNCE. Some banks also offer a service to their business customers whereby

they can read the cheque data themselves and deliver it to their bank. Fraud on cheques in Spain is low and consideration is being given to raising the value limit for truncation to €250,000. In addition, the possibility of electronic image exchange for items above this threshold is under investigation. All other transactions in SNCE are exclusively electronic.

Other than cheque imaging, no major changes to SNCE are currently under consideration. However, with the governance changes to the system, the new owners can be expected to consider what additional system developments are required, a major influence will be the European context and developments with regard to SEPA. Two changes which has been agreed are firstly that for risk reduction purposes all SNCE payments of value over €50,000 will be settled individually via RTGS with the new system; they will still be cleared via SNCE. Secondly, settlement of the debit card and ATM networks will move to RTGS, again for risk reduction purposes.

Payment clearing, settlement and customer accounting

Appendix 2 has a table setting out the detail of the end-to-end timings for payment clearing, settlement and customer accounting in Spain. We were informed that the end-to-end timings are typically the same if the banks at either end are indirect participants in the payment system.

SNCE operates on a two-day processing cycle, with input to the system on day 1, and output delivered by the early hours of day 2. Settlement in SNCE is multilateral net-net (i.e. net across banks and across sub-system) and takes place on day 2 by RTGS. The rules of the system do not extend to settlement between direct and indirect participants, which is a competitive matter between these institutions. For credit transfers, the end-to-end process is two-day, for direct debits it is two to four day depending upon the bank-customer relationship, which is a competitive matter.

The banks earn float from the SNCE system, typically for transactions passed through the system the value date is one or two days after settlement. There has been some investigation of bringing the value date forward to settlement day. This is technically possible for the banks, but there have been no great concerns from consumers about the float. However, growing use of Internet banking is increasing the demand from customers for real-time services.

As can be seen from the table in Appendix 2, banks run a risk with credit transfers such as salaries as the funds are available to be withdrawn by customers before SNCE has settled. Banks process the credits to customer accounts in advance of settlement because of the volume of transactions that need to be handled. Historically this has always been the case and customers now expect to have access to their funds early in the day their salaries are paid.

Cheques and direct debits are returned unpaid for lack of funds on day 3; this is a fully-automated service. Direct debits can be rejected by the personal customer up to 30 days after the value date within the terms of the direct debit guarantee. There is no checking of direct debit mandates by paying banks; this is left up to the direct debit originator. The levels of fraud with direct debits are insignificant.

Trends in customer pricing of payment methods

Figures 1 and 2 shows total and per-capita payment volumes for Spain in 2002, the most recent year for which complete data is available. However, these figures must be treated with a degree of caution as they are based upon the volumes processed by SNCE, which are known, and sample-based estimates made by the Banco de Espana for intra-bank transactions. Many transactions in Spain are not made through SNCE, for instance all payments to and from government are intra-bank as, for historical reasons, central and local government have accounts with all of the major banks in the relevant locality. These multi-banking arrangements are efficient because payment information to and from government is sent electronically, each bank using the same national message standards which are integrated into the government's SAP platform. The Banco de Espana is investigating how to improve the robustness of its estimates.

Figure 7.1: Non-cash payment volumes in 2002

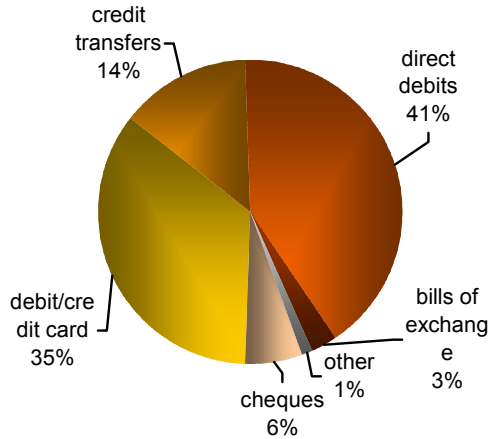
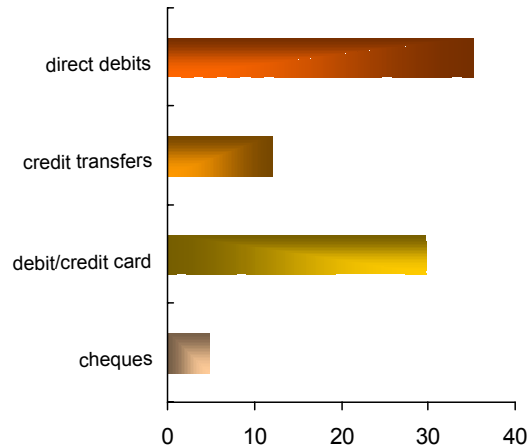


Figure 7.2: Non-cash payments per adult in 2002



Total Volumes in 2002: 2,876 million

Source: Bank for International Settlements

Cheques

As can be seen from figures 1 and 2, cheques and bills of exchange account for fewer than one in ten of all non-cash payments in Spain, this is at a similar level to the UK where cheques account for 16% of non-cash payments. However, this is against a background of lower levels of non-cash payments and so per adult figures are much lower than in the UK, standing at 5 per adult in 2002 compared to 50 per adult in the UK in the same year.

The volume of cheques and bills of exchange processed by SNCE has been falling at around 6.5% per annum in recent years as personal and business customers shift to the use of payment cards, direct debits and credit transfers.

Personal use of cheques includes high value payments, where bankers drafts are typically used, and payments to small businesses. The lack of a cheque guarantee scheme means that retailers are reluctant to accept anything other than cash or payment cards in payment and cheques are not used in shops. Businesses use both cheques and bills of exchange to pay their trading partners.

Direct debits

Direct debits are popular in Spain with personal customers for the payment of their regular bills such as electricity and gas and for other regular household and individual commitments. The existence of a direct debit guarantee has helped to promote their use. The number of direct debits payments per adult is comparable to that in the UK (35 and 47 respectively in 2002). The volume of direct debit transactions processed by SNCE has been growing rapidly in recent years at an average of around 11% per annum.

Credit transfers

Credit transfers are used by both the public and private sectors for payments to individuals such as salaries, state benefits and pensions. They are also used by businesses to pay their trade suppliers and can be used by personal customers to pay their bills via remote banking. Many businesses use Internet and computer banking services, and exchange of payment information between banks and the government is electronic. Personal Internet banking services were first commercially launched in Spain in 1997, and have grown steadily in popularity. Data published by Nielsen NetRatings is that in 2003, 2.8 million adults were users of Internet banking in Spain (8% of adults and 30% of Internet users), and that 47% of Internet banking users made transfers through the service. In the UK, 31% of adults used Internet banking in 2003, representing 43% of Internet users in that year. Some banks have also launched banking services over mobile phones and digital TV. One factor which may have subdued growth in Internet banking in Spain compared to other countries is the widespread availability of ATMs which provide a range of services to customers including balance queries and statement printing. One of the reasons customers start using Internet banking is to be able to view their bank statements and transactions on a regular basis.

The volume of credit transactions processed by SNCE has been growing at a similar rate to direct debits at nearly 12% per annum in recent years.

Payment cards

Card acceptance in Spain is widespread and volumes have been rising. In addition to the larger retailers, a growing number of medium and small sized shops, small businesses, and service companies such as taxis and doctors now

accept cards. Spain has the highest number of point-of-sale terminals per adult of any country in Europe, standing at 26 per 1,000 adults in 2002, compared to 22 in Norway and 17 in the UK. The number of credit or debit cards in issuer per adult is also high at 2.2 in 2002, compared to 2.5 in the UK. However, cash remains the dominant payment method in retailers and card use, although increasing rapidly, is still relatively low at 30 payments per adult in 2002, compared to 94 per adult in the UK.

Cash acquisition and use

Cash is still a very popular payment method in Spain and is dominant in the point-of-sale environment both in volume and value terms. This is partly because of habit, partly because of ease of access as there are many ATMs and partly because of the black economy. There is still significant use of cash for the payment of wages and salaries.

Other payments and related developments

Electronic purse

Since 1996, each of the domestic card schemes in Spain has been responsible for the development and launch of e-purse solutions. However, the e-purse has not taken off with either consumers or merchants and the number of cards in issue has fallen from a peak of 10.5 million in 2000 to 8.8 million at the end of 2002. The number of transactions has been on a downward trend as well, with only 1.2 million payments in 2002.

Internet and mobile payment solutions

The Spanish market has seen a number of Internet and m-payment initiatives. There is a domestic P2P Internet payment solution and there are three main schemes for mobile payment. For instance, a number of banks and mobile operators have been working on Mobipay, a system which will allow debit and credit cardholders to initiate card payments using their mobile phones. Mobipay received its commercial launch in 2003, however the scope of the service is more limited than was originally envisaged. Financial aggregators and e-marketplace providers have also been active in the Spanish market.

EBPP

Investigation of EBPP services by banks is at an early stage in Spain. The relatively low levels of use of Internet banking and the popularity of direct debits mean that demand from personal customers may be limited at present. B2B EBPP is regarded as a more important area, and the banks need to talk to other sectors such as factoring companies as they already have their own standards for exchanging invoice information. The main focus is on agreeing the standards, which form the co-operative base on which the banks can then develop their own competitive services.

Chip and PIN

Migration to EMV in Spain is at an early stage and the liability shift for domestic transactions is scheduled for 1 January 2008. One consequence of the liability shift is that in the event of fraud with an EMV card on a non-EMV terminal (relying on the magnetic stripe), liability will rest with the contract party (bank or credit card company) of the merchant. Some terminal upgrades to process EMV-compliant cards are underway, for instance in tourist areas. To date, there has been no significant issuance of EMV chip and PIN cards.

PKI

The authorities are keen on PKI and are looking at ways of providing e-signatures to citizens. The tax authority is very efficient and innovative and is pushing for greater use of the Internet. Tax forms can be completed on-line and tax refunds can be made direct to bank accounts. There is a digital certificate available for use, which comes with a faster refund. Around 1 million personal customers now fill in tax returns on-line. The banks have also been progressing PKI. However it is currently costly for customers to use electronic signatures, the technology is not easy to manage, and it is hard for both small business and personal customers to get used to using the new system as it is a major cultural change.

Appendix 2: Payment Methods in Spain – Customer Facing Characteristics

Payment Method	Availability to personal customers and reach	Channels	Payer can stop or revoke payment?	Payee Guarantee
Debit cards	3 debit card schemes in Spain: 4B, Servired and Euro 6000. All banks will belong to one or more schemes	Point-of-sale terminals and remote channels	Yes, if scheme rules have not been followed	Scheme rules
Credit/charge cards	Many banks in Spain issue Visa or MasterCard credit or charge cards. Amex and Diners Club cards are also issued.	Point-of-sale terminals and remote channels	Yes, if scheme rules have not been followed	Scheme rules
Cheques	Most current accounts will come with a cheque book.	Branches and data entry from some corporate payees	Can be stopped up to settlement day	No cheque guarantee scheme
Direct debits	All current accounts will allow direct debits.	Bulk data entry to bank by originators	Can revoke payment up to Day 9 in ordinary circumstances and Day 30 in extra-ordinary circumstances, according to direct debit guarantee.	guarantee
Credit transfers	Personal customers can initiate credit transfers to any current account.	Bulk entry to bank by corporates. Can be originated through remote banking by personal customers.		No guarantee

Appendix 2: Timing of Payment Clearing, Settlement and Customer Accounting for Inter-Bank SNCE transactions

The debiting and crediting of customer accounts for funds availability is a commercial matter for each bank. The Banco de Espana sets limits for value dating for debits and credits. The table records the typical or most common timings. Bills of Exchange have been excluded from the table as these are business-to-business transactions.

Payment Method/ SNCE sub-system	Customer Input to Bank	SNCE, final input/ opening times (*1)	SNCE Closing times	Settlement at BdE (*2)	Customer Debit – funds	Customer Credit – funds availability	Customer Debit - interest	Customer Credit - interest
Date (Working days)	Day 1	Day 1 Submission date	Day 1	Day 2 Settlement date				
Credit transfers (including standing orders)	Personal Customer Internet 5 – 8pm Day 1 Bulk files 6 - 7pm Day 1 (*3) Branches 3 pm Day 1	11pm Day 1 (SNCE Session: 7 - 11:30pm)	11.30pm Day 1	11.30 am Day 2	Day 1	from 7am Day 2	Day 1	Day 2 (corporate) Day 3 (personal customer/SME /corporate)
Direct Debit	Bulk Files 2 pm Day 1 (*3)	8:30 pm Day 1 (SNCE Session: 4:30 - 11pm)	11 pm Day 1	11.30 am Day 2	from 7am Day 2	Day 2 to 4	Day 2	Day 3 or 4
Cheques	Bulk files 7 pm Day 1 Branch deposits – personal 2- 3 pm business 5.30pm	11pm Day 1 (SNCE Session: 9 - 11:30pm)	11.30 pm Day 1	11.30 am Day 2	from 7am Day 2	Day 2 (corporate) Day 3 (personal/SME)	Day 2	Day 2 (corporate) Day 3/4 (personal customer/SME /corporate)

Notes:

The timings presented in the table are largely the same for direct and indirect participants in SNCE.

(* 1) Every subsystem in SNCE (for example: cheques, direct debits, credit transfers) has different operating hours for banks to send electronically that type of payment files to SNCE. The times quoted are the normal time frame for each session, when no exceptional situation takes place at the bank's side.

(* 2) SLBE (the Settlement System of the Banco de Espana) settles daily from Mon to Fri. On Sat banks can send their electronic files to SNCE, but settlement only happens on the following Monday. Thus for orders sent to SNCE on Fri or Sat (= Submission date), settlement actually takes place 2 or 3 natural days later.

(* 3) For businesses submitting payments on physical electronic media (magnetic tape/diskette/CD) the input deadline is 5 working days before the payment date. The deadline is 8 working days before payment date for payroll lists submitted by paper.

Returned Items

Cheques are returned by the Payer's bank on the following working day (according to Payer's bank location) after Settlement date (Day 2), for any reason whatsoever.

The maximum period over which cheques can be returned on a fraud basis is 60 days and within 15 days from the issuing of the cheque, the payment can be revoked in the case where the document is stolen or lost.

Direct debits are returned from 2 to 9 working days after Submission date (Day 1), for any reason whatsoever. There may be a partial retention of funds in the payee's account to cover potential returns, this is a risk decision for the bank.

Exceptionally, the Payer can return direct debits of an amount up to 3,000 Euro within 30 days after Submission date (Day 1) when:

- the payer's account has been wrongly debited
- the payer claims that the amount debited is incorrect
- the same direct debit has been duplicated, or
- there is missing data on the direct debit.

G LIST OF BODIES MET/CONSULTED:

Abbey

ABN AMRO

Anglian Water

APACS

Association of Corporate Treasurers

AXA

BACS Payment Systems Limited

Banco De Espana

Bankgirocentralen

Bank of Finland

Banque de France

BNP Paribas

Bottomline Technologies

British Chamber of Commerce

British Retail Consortium

BT Group

BskyB

Caiss D'epargne

Canadian Payments Association

Centrica

CFONB

CCCL

CHAPS

Conseil de la Concurrence

The Co-operative Bank Plc

Creation Financial Services Ltd

Department of Work and Pensions

Direct Line

Dixons

DnB NOR Bank

EDF Energy
Egg
Electronic Data Systems
Ernst and Young

Federation Bancaire Francaise
Federation of Small Businesses
First Data

Grupo Standander

Hampshire County Council
Harvey Nichols
HBOS
H M Paymaster General
HSBC
HSBC - CCF

Ikano Marketing Services Ltd
Inland Revenue

John Ashton, University of East Anglia
JP Morgan Chase

Konkurrensverket
Konsumentverket
Konsumenternas: Bank of Finansbyra

La Caixa
Legal and General
LINK
Lloyds TSB
Local Government Association

Mastercard Europe
MBNA

Natexis Banques Populaires
National Australia Group
NETeller
NEXT
Norges Bank
Northern Rock
Norwegian Savings Bank

PayPal
Postgrijo/Nordea Bank

Reserve Bank of Australia
Riksbank
Royal Bank of Scotland Group
Royal Mail

Sainsbury's
Soci t  G n rale
S2 Card Services (Switch)
Scottish Power PLC
Scottish and Southern Electricity
Shelagh Heffernan, Cass Business School
Shell
Standard Life
Steve Davies, University of East Anglia
Svergies Riksbank
Swedbank
Swedish Bankers' Association

Thames Water
TWIST

UKPIA

Visa
Voca

Which? (formerly Consumers' Association)

Yorkshire Building Society

Organisations represented at the heavy users seminar held at the OFT

Dixons
Next
Yorkshire Building Society
Shell
Royal Mail
HM Paymaster General
Local Government Association
Legal and General
Inland Revenue
EDF Energy
Department of Work and Pensions
BT
Bottomline technologies
SKY
MBNA
Association of Corporate Treasurers
UKPIA
AXA
Standard Life
Direct Line
JPM Chase
Sainsbury's
British Gas Services
Cass Business School

plus attendees from:

RBS
APACS
BPSL
OFT

H FULL BANKS' COSTINGS REPORT: TEXT OF LETTER FROM APACS TO OFT DATED 23 DECEMBER 2004

BACKGROUND

You will recall that Paul Rider wrote to the OFT on 29 October, outlining a basis on which APACS members would provide costs by the end of December 2004 for delivering faster electronic payments than the current BACS service. Three propositions were set out, covering a next-day service; a same-day service; and ELLE (a composite next-day and same-day service). All three propositions were based on the use of the Voca infrastructure. APACS members agreed to cost each proposition within this tight timescale and forward the information to APACS, who would review the data with individual members to check the assumptions were consistent across the various responses. APACS would then consolidate the figures for delivery to the OFT and the broader Task Force community by the end of December 2004.

In the time available, it has not been possible for members to undertake a full analysis of all the cost implications, so these estimates should be treated as indicative of the order of magnitude of costs.

Upon receipt and review of the costing submission it became apparent that there were significant variations in the costs supplied by individual members. There would appear to be good reasons for this, such as differences in the existing functionality of members' payment systems and the amount of development work required to accommodate faster payments, which we have not had an opportunity to investigate fully. It would be extremely useful for all concerned if we could get to the bottom of this and for the practitioners who supplied the information to compare each other's analysis to understand the reasons for the differences that have arisen. As you are aware, we are exploring the potential to hold a practitioners meeting in January, with the OFT present to ensure that there is no infringement of competition law. Members would decide on an individual basis whether or not they wished to participate in the meeting and share their analysis with other members.

COSTS

We are now able to provide an indicative high-level summary of the industry's IT Development costs of providing faster payments, on the basis set out above.

IT Development Costs

The IT development costs are based on information from 11 of the 12 BPSL members, accounting for 99 per cent of output volume, and from Voca. As most members did not identify significant differences in cost between the three service propositions, the costs are those for the ELLE proposition (summarised at Annex A). There are also a number of potential non-Voca solutions, for example using CHAPS or LINK. The feasibility and cost of these solutions have yet to be evaluated.

On this basis, the core industry IT development cost of introducing a Voca-based faster payment service is estimated to be at least £48 million (£38 million for members and £10 million for Voca). This is likely to be understated, as is usually the case with initial estimates for IT projects. For example, not all members were able to consider the cost impact on all their interfacing delivery channels. A range of £48 million to £65 million is likely to be a more realistic estimate of the IT development cost.

Other Costs

In addition to IT development, a number of other factors would need to be taken into account if a faster payment system were to be implemented. Many of these factors could have sizeable cost implications in their own right, although costs have not been estimated at this stage. The first two factors are especially significant.

Fraud and money laundering risks

A same-day irrevocable payment service will increase fraud risks. In particular, the current rapid growth of internet banking fraud has highlighted the potential of fraudsters to exploit fast payment methods. Solutions to mitigate these fraud risks have not yet been evaluated or costed. It is likely that most members would want to impose value thresholds on individual faster payment

transactions and daily limits as a means of limiting fraud exposure. It is also essential that effective anti-money laundering measures be incorporated in any faster payments solution.

Payment volumes using a faster payments service

The costings have been prepared on the basis that faster payments are offered as a separate service from standard BACS direct credits and direct debits, and will account for no more than 7 per cent of existing Voca payment volumes. One member has provided an explicit volume sensitivity. For this member, capacity constraints mean that should faster payments exceed 50 per cent of all Voca credit payments, their estimate of system costs would rise by 90 per cent.

Customer costs

There may be internal costs for some large customers, particularly those who currently submit payments directly to BACS, if they need to change their own procedures to enable access to faster payments. Some elements of customer costs, such as those relating to customer interfaces, are likely to depend on competitive developments by BPSL members.

Agency bank costs

Banks and other financial institutions that access BACS services on an agency basis have not provided estimates of the costs of changing their systems to access payments. In total around 500 financial institutions currently access BACS on an agency basis and will require their own system changes. However, agency banks only account for around 3 per cent of Voca volumes.

Non-IT costs

Costs will be incurred on customer education and staff training relating to any new service proposition. There will also be costs incurred by BPSL in developing the rules and other aspects relating to the set-up of a new payment scheme, including managing the delivery of the infrastructure.

Ongoing costs

The total cost figure is the one-off development cost for introducing a faster payment service. As a general rule of thumb, any IT systems development should normally allow 10 per cent per annum support costs. (Voca have explicitly suggested ongoing costs of this order.) Also customer education, staff training and IT support costs will continue beyond the initial set up, and are likely to be substantial.

IMPLEMENTATION TIMESCALES

Only four members have provided any commentary on the likely implementation timescales. These range from 12 to 22 months from the requirements being fully specified. Presuming a start date around October 2005, implementation across the market is unlikely to be achievable before mid to late 2007. The bank with the longest timescale does not see an opportunity to speed up implementation, even with significant extra resource, because of the complexity of the changes required to their systems.

The Voca-based solutions are crucially dependent on the estimated timetable for NewBACS and the delivery of the new central infrastructure. This has not been taken into account in the timescales set out above.

APPENDIX A DESCRIPTION OF THE ELLE PROPOSITION

The 'ELLE' proposition (Early by Later today, Later by Early tomorrow) combines elements of a same day and next day service proposition:

- Where a payment instruction is before, say, 12 noon then funds are available to the beneficiary before the end of the working day.
- Where a payment instruction is too late for the cut-off in the middle of the day, but is made before, say, 9pm, then funds are available to the beneficiary early on the next working day.

Additionally:

- The ELLE service would sit alongside existing two-day BACS debit and credit clearings.
- Once the instruction is given, the payer could not revoke the transaction.
- To mitigate the fraud risk the service would have a value cap (or a daily limit on transactions by any one customer) of, say, £10,000.
- The price of the service, and the delivery channels customers could use (eg internet banking, telephone banking) are areas where banks would compete individually.

I COST-BENEFIT EVALUATION

INTRODUCTION

This document outlines the economic cost-benefit analysis applied to the introduction of a faster clearing cycle for remotely initiated payments and standing orders.

The analysis looks at the costs and benefits to society as a whole associated with the introduction of a faster clearing service.

Given the limited hard data available and the number of unquantifiable factors, caution should be applied in drawing detailed conclusions from these analyses. The estimates below rest on the assumptions made and attempt only to quantify the broad orders of magnitude involved in each case.

Economic Framework

In economics the demand curve represents people's willingness to pay for a good or service. When a person's willingness to pay for a service is greater than the actual price then the difference represents surplus value to the consumer: money that the consumer would have spent on the service but does not need to and so can spend on other goods. This difference is called Consumer Surplus. As the Consumer Surplus is the difference between willingness to pay and the price, the value of Consumer Surplus will depend on the price charged.

The difference between people's willingness to pay and the cost of producing a service is the Total Surplus. The Total Surplus is made up of the banks' profits (that is, the difference between the cost of producing a service and the price charged¹⁰⁴) plus the Consumer Surplus. The welfare of society is maximised when Total Surplus is maximised. Total Surplus is a measure of potential value and how much value is actually created and who benefits from it (consumers or the banks) will depend on the price charged.

¹⁰⁴ This is also known as Producer Surplus.

Analysing the net benefit to society of a faster clearing service requires us to consider how Total Surplus will change. A faster payment service will increase Total Surplus provided that the extra value people place on the new service (over and above the value of the current slower service) is greater than the costs incurred in introducing the new service.

The NOP market research gives an indication of the economic value people place on a faster clearing service (i.e. what they are willing to pay for such a service). We also have data on the Total Cost incurred in each period from introducing a new service (see Chapter 7). The Total Surplus in each period (the total area under the demand curve consisting of the potential Total Benefit minus the Total Cost) can therefore be calculated.

Though we have information on the demand curve for the faster clearing payments proposition, no equivalent information is available on the demand curve for the current BACS offering. If we think of the new proposition as being a quality improvement to the current service, then the net benefit to society of a change is the shift outward of the old demand curve to the new demand curve, minus any costs incurred.

We have no direct estimate of this old demand curve. However, we can make assumptions about the shape and position of it. We consider three possible approaches to estimating the existing demand curve. Using these estimates we can calculate the Total Benefit associated with the current service. From this we can estimate the Net Present Value (NPV) of the Total Surplus associated with a change to the clearing cycle. That is the size of the increase in Total Surplus associated with the introduction of faster clearing.

Assumptions made

In order to construct a fully specified model it is necessary to make a number of assumptions, particularly about the areas where we have incomplete information. Assumptions have been made about:

- i. *the discount rates used:* Here the costs and benefits are thought of as falling to society as a whole, and so the discount rate of society should be used.

Assumption: a 3.5% risk-free discount rate is applied (as recommended by the Green Book¹⁰⁵);

- ii. *the existing demand curve*: The NOP research provides an estimate of the demand for the faster service. In order to estimate the existing demand curve, a number of assumptions must be made. Three scenarios are used in this analysis;
- iii. *the timeframe for service roll-out and adoption*: We have assumed that the faster payment service will be made available in the middle of 2007¹⁰⁶, and that full take up by consumers and SMEs will occur at the beginning of 2008¹⁰⁷;
- iv. *the growth of demand for the service*: That the demand amongst consumers and SMEs will grow at the projected annual rate of growth of remote banking (as estimated by APACS).
Estimate: 9% per annum growth in the consumer and SME markets
- v. *other costs and benefits incurred*: Where no quantitative data is available, but where qualitative work has suggested that costs or benefits may exist, order of magnitude estimates have been inserted (specific details are given in the following section).

Costs and Revenues Included

The costs included in the Cost-Recovery Case are a mixture of researched costs (coming directly from the APACS cost consultation with BPSL members) and estimated orders of magnitude:

- vi. *Core IT Development*: The costs incurred by BPSL members in upgrading and maintaining their own systems. This estimate of aggregate member costs was obtained from the APACS cost

¹⁰⁵ The Green Book: Appraisal and Evaluation in Central Government, HM Treasury.

¹⁰⁶ During the APACS consultation (see Costs chapter) 18 months was reported as a reasonable estimate for introducing a new system, following agreement on technical specifications.

¹⁰⁷ Given that roughly 40% of those interested in using the new service do not currently have access to internet or telephone banking, a 6 month transition period has been left for full adoption. Our revenue estimates for this transition period (2007) are down-weighted to less than half of what we might expect in a full year (as are benefits in the society case) to reflect this transition (37.5% of full year with full adoption).

consultation with BPSL member banks. An optimism bias has been applied to this estimate.

Estimate: £55m initial expenditure followed by 10% running cost (£5.5m per annum);

- vii. *Delivery Channel/Customer Notification Development*: Any new system may require banks to update their delivery channels and/or their systems for providing payment information to their customers.
Estimate: £5m initial expenditure followed by £0.5m per annum;

- viii. *Staff Training*: The costs to BPSL members of training their staff to operate the new system and dealing with customer queries.
Estimate: £2m initial expenditure followed by £0.5m per annum

- ix. *Customer Education*: The costs to BPSL members of educating their customers about the new system and dealing with customer queries.
Estimate: £5m initial cost falling to £1m per annum

- x. *Increased Fraud Costs*: It is not clear how a faster clearing payment service would impact upon fraud. Such a service could make remote banking fraud easier by facilitating the extraction of funds from compromised accounts. However, the availability of a faster clearing payment service may induce substitution from other payment methods which are susceptible to fraud, such as cheques.
Estimate: £5m per annum following full adoption (£2m in 2007)

- xi. *Voca Infrastructure*: The investment required to the central infrastructure run by Voca to facilitate a new service.
Estimate: £10m initial expenditure followed by 10% running costs (£1m per annum).

- xii. *BPSL Scheme*: The costs incurred to the scheme itself to make the relevant administrative and legal changes to accommodate a new system. An order of magnitude estimate has been applied.
Estimate: £500K up front cost followed by £100K per annum

- xiii. *Agency Banks*: The APACS consultation solicited only the views of BPSL members. It is likely that non-member banks would need to

make similar changes to their systems. An order of magnitude estimate has been applied.

Estimate: £5m initial expenditure followed by £1m per annum

- xiv. *Credit Card Issuers*: During the APACS consultation the cost to credit card issuers was highlighted as potentially significant. The cost is perceived to be that of updating their internal systems to accept payments during the day, and to update the corresponding customer accounts accordingly.

Estimate: £5m initial followed by £1m per annum

- xv. *Customer Costs*: The costs incurred by users of the BACS system in updating any payment systems and/or software. This might include companies like utilities who may wish to accept the new payment method and update their customer accounts in a new way. The new service is expected to be optional.

Estimate: £10m initial followed by £1.5m per annum

The main source of potential revenue estimates is the NOP research, carried out to investigate the willingness to pay for a faster service, of both consumers and SMEs. The benefits included in the analysis are:

- i. *The potential increase in Total Benefit in the consumer market*: The NOP research provides an estimate of the aggregate demand curve of consumers for the faster payment proposition. The potential increase in Total Benefit is estimated by calculating the area underneath this curve and subtracting the estimated area under the existing demand curve.

Estimate: Scenario (A) [£130m] per annum Scenario (B) [£74.3m] per annum Scenario (C) [£105.31m] per annum

- ii. *The potential increase in Total Benefit in the SME market*: The NOP research provides an estimate of the aggregate demand curve of SMEs for the faster payment proposition. The potential increase in Total Benefit is estimated by calculating the area underneath this curve and subtracting the estimated area under the existing demand curve (see Appendix A).

Estimate: Scenario (A) [£34.5m] per annum Scenario (B) [£27.1m] per annum Scenario (C) [£28.33m] per annum

- iii. *The potential increase in Total Benefit in the corporate market:* The NOP research (which had a £35m annual turnover upper limit) does not provide any evidence on the Total Benefit in this market.
Estimate: £3m per annum

Findings

Knowing the change in Total Cost and Total Benefit in each period, we can calculate the cumulative Net Present Value (NPV) of the increase in Total Surplus associated with a faster payment service over a number time periods. The cumulative value of the Total Surplus to society, that is the net benefit to society, is estimated to be in the range of [£748m] to [£1.34bn] ten years after the initial investment. That would constitute an Annual Total Surplus, on average, of between [75m] and [£134m]. The calculation of these figures is explained later.

Factors Not Included

Although our analysis has included as many of the identified factors as possible, it has not been possible to include quantifiable figures or good estimates for every variable. As explained in the cost benefit chapter of the report (Chapter 9), the omission of a number of factors may lead our analysis to underestimate the Total Surplus. These are:

- the Bank of England's estimates of risk reduction;
- the wider benefits of faster clearing such as its impact on straight through processing and a firm's inventory and cash management;
- the efficiency gains from substitution away from less efficient payment methods; and,
- dynamic competition effects.

The omission of these factors does not mean that they are unimportant, just difficult to estimate. The welfare impact of these unquantified factors could be greater than our quantified estimate of the impact on society's welfare presented here.

Sensitivity analysis

In order to evaluate the robustness of our analysis it is important to understand which variables (particularly those where assumptions have been made) impact most on the findings.

The timeframe

In an economic assessment the costs and benefits to society should be estimated until the investment stops yielding benefits (at end time, T). This raises a key question: What determines the asset's productive life (T) (i.e. when should the asset be written off)? There are at least four scenarios that could be used for T:

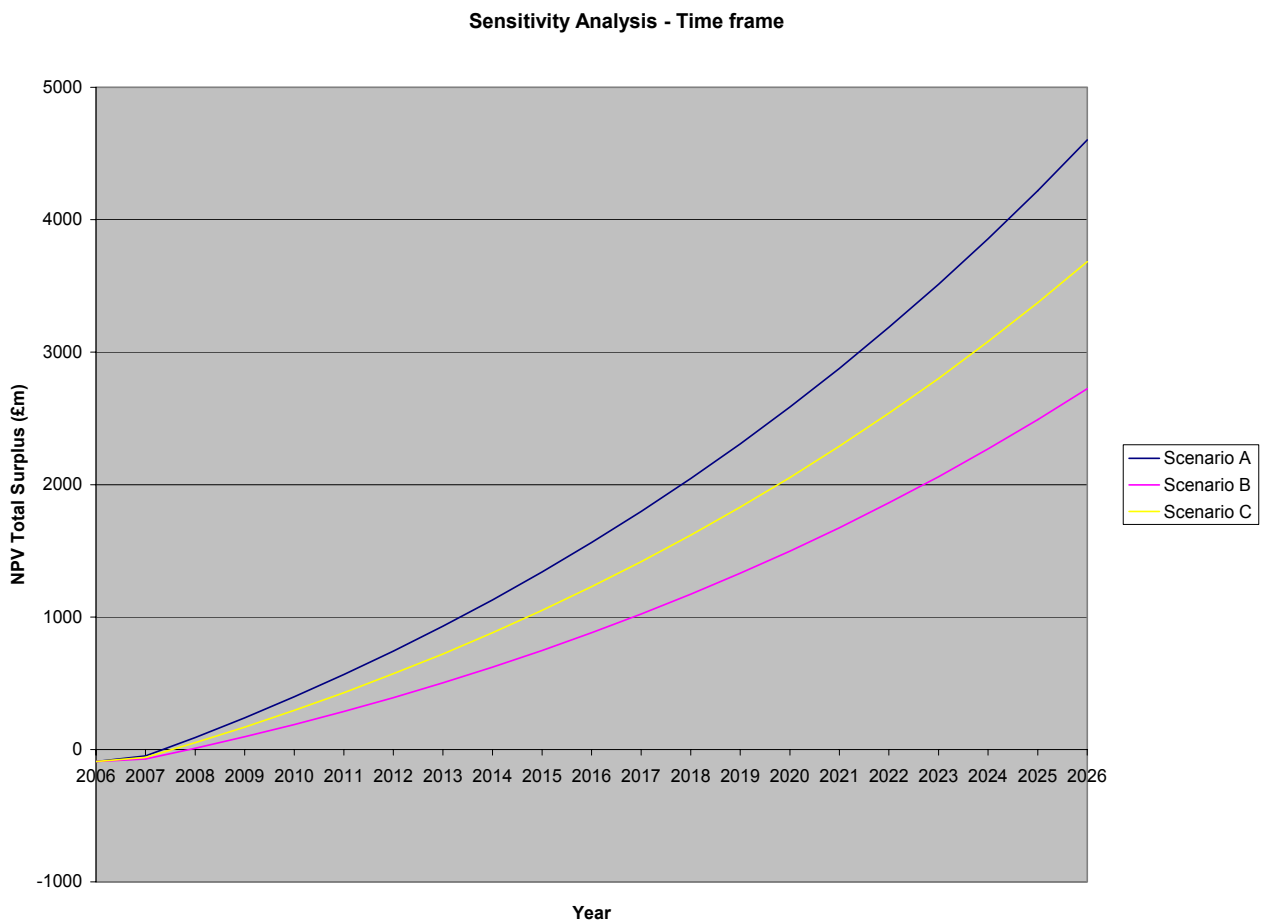
- i. the asset ends its productive life because the risk of it breaking down becomes prohibitive or it becomes technologically obsolete;
- ii. the asset needs to be replaced because volume constraints are reached and new hardware is needed. This might not require the complete writing off of the asset. Also, a steep rise in volumes would also impact on the potential revenue (or total surplus) stream;
- iii. an accounting approach may write off the asset according to rule of thumb accounting techniques which depreciate and write-off IT expenditure in a standard way;
- iv. competition may make the asset obsolete before the end of its natural working life. If a faster clearing payment method for Europe could effectively compete with the service arising from the UK created asset then the surplus generated from the UK asset may be curtailed.

The existing BACS infrastructure is currently being replaced (mainly due to expected capacity constraints). We could use the life of this old infrastructure as an estimate of the working life of the asset. Alternatively, we could use the expected working life of the new infrastructure. Another question which arises

is whether we would expect the lifetime of the central infrastructure to be the same as any hardware or software which the banks need to install individually.

Given these questions it is informative to see how our estimate of the cumulative NPV of Total Surplus changes over time, as illustrated in Chart A below. In the absence of any evidence as to the 'correct' timeframe which should be used, when drawing conclusions a ten year horizon has been used for indicative reasons.

Chart A: Total Surplus over time of different scenarios



The discount rate

We have assumed that the costs and benefits are discounted at 3.5%. The following table shows how our ten year Total Surplus estimate in Scenario B

(£748m, our lower bound estimate) changes as we change the discount rate used. As most of the costs are upfront and the benefits are ongoing, our estimated Total Surplus is sensitive to the discount rate applied.

Table A: Analysis of sensitivity to discount rate (Scenario B)

Discount Rate (%)	Cumulative NPV Total Surplus (£m) 2015
0.0%	933.4
3.5%	748
5.0%	682
10.0%	507.4
15.0%	382.9

Demand Growth

Our analysis uses a 9% estimate for the annual growth of demand in the consumer and SME markets. Though sensitive to the growth rate, the growth rate needs to change significantly to have an impact on our estimate. Table B show how our ten year Total Surplus estimate in Scenario B (£748m, our lower bound estimate) changes as we change the growth rate used.

Table B: Analysis of sensitivity to growth rate (Scenario B)

Growth Rate	Cumulative NPV Total Surplus (£m) 2015
0.0%	507.4
5%	630.8
10%	780.4
15%	961.3
20%	1179.3

The costs and benefits included and their levels

Given the size of the costs and benefits included, most of our estimates would have to be significantly different for our analysis to change. The main drivers behind our analysis are the estimate of the total benefit in the consumer market

and our estimate of industry costs. Since these are both derived from research, we have a certain amount of confidence in their order of magnitude.

Conclusions

The analysis presented here has tried to quantify by how much society might actually gain from the introduction of a faster clearing service. Under a number of assumptions we have estimated the Total Surplus (that is the net benefit to society) associated with such a change. This is estimated to be in the region of £748m to [£1.34bn] over ten years.

Our sensitivity analysis suggests a degree of sensitivity to various factors. However, it appears that the order of magnitude implied (a large positive number) is resilient to these factors.

Given the number of identified factors that have proven unquantifiable and the number of assumptions that have had to be made in doing this, caution should be applied in interpreting the results. However, the analysis indicates that society would probably benefit significantly from the introduction of a faster clearing service.

Calculating the change in Total Benefits in the consumer and SME markets

Introduction

In order to calculate the Total Benefit (the area under the demand curve) in the 'new' market we have used the data from the NOP research. Making various assumptions, we can then estimate the existing ('old') demand curve, and its respective Total Benefit. This appendix describes how we have calculated these Total Benefits, and corresponding changes in Total Benefit that they imply.

The data we have

The NOP research provides estimates of the demand for the new service propositions at differing price levels. Given the similarity between the results for both the same day and next day propositions, average demand for the two

propositions is used as a proxy for demand for a faster clearing service. This can be calculated easily from the data we have.

Making this adjustment gives us an overall demand figure, in terms of millions of payments per year. Tables C and D show the total volume of payments made at each price point.

Table C: Annual volume of payments made by consumers

Price (£)	Volume (M)
0	177.1
0.05	156.5
0.25	100.3
0.5	83.1
1	45.2
2	37.0

Table D: Annual volume of payments made by SMEs

Price (£)	Volume (M)
0	65.5
0.1	36.3
0.25	24.3
0.5	12.6
1	6.9
2	4.2
5	2.4

Total Benefit in the 'new' market

In order to estimate the Total Benefit in each market, it is necessary to calculate the area under each demand curve. Without making any assumptions about the shape of the demand curve between data points (other than that a price rise will not lead to an increase in demand), it is possible to calculate the minimum area under this curve. Imagine the demand chart as a series of rectangular blocks with points determined by the quantity demanded at each price; we can estimate the total area of these blocks.

Table E: Annual Total Benefit estimate in consumer market

Price (£)	Total Benefit (£M)
0	108.2
0.05	108.2
0.25	105.4
0.5	101.1
1	82.1
2	73.9

Table F: Annual Total Benefit estimate in SME market

Price (£)	Total Benefit (£M)
0	25.2
0.05	25.2
0.25	24.0
0.5	21.1
1	18.3
2	15.6
5	12.0

The full area under the graph is revealed by calculating the Total Benefit at a zero price. Therefore we have estimates of Total Benefit of £108.2M and £25.2m in the consumer and SME markets respectively.

The demand curve is generally a continuous line sloping downwards from left to right. The rectangular blocks we have calculated will not capture the full area under the demand curve. We may attempt to calculate these triangular gaps.

Tables G and H calculate the additional areas under the demand curves associated with linear demand between price points. The areas of the demand curves above the £2 mark for consumers and £5 mark for SMEs are not included in our final estimate due to the uncertainty around the highest price that users would be willing to pay¹⁰⁸ (our estimate may therefore underestimate

¹⁰⁸ If a maximum of £25 (the cost of a CHAPS transfer) is taken, as in the tables above, the Total Benefit estimates increase greatly (an additional £424m and £24m in the consumer and SME markets respectively).

the Total Benefit in each market). We therefore estimate that annual Total Benefit of the new service is the addition of £130m and £34.5m for the consumer and SME markets respectively.

Table G: Linear demand curve annual Total Benefit estimate in consumer market

Additional Benefit (£M)	
Triangle 0p to 5p	0.515
Triangle 5p to 25p	5.625
Triangle 25p to 50p	2.15
Triangle 50p to £1	9.475
Triangle £1 to £2	4.1
Triangle £2 to £25	424.925
Aggregate Total Surplus	555.0
(Discounting area above £2)	
Aggregate Potential Total Benefit (£m)	130.0

Table H: Linear demand curve annual Total Benefit estimate in SME market

Additional Benefit (£M)	
Triangle 0p to 10p	1.4575
Triangle 10p to 25p	0.90375
Triangle 25p to 50p	1.45625
Triangle 50p to £1	1.4375
Triangle £1 to £2	1.325
Triangle £2 to £5	2.7
Triangle £2 to £25	24
Aggregate Total Surplus	58.5
(Discounting area above £5)	
Aggregate Potential Total Benefit (£m)	34.5

The Total Benefit in the 'old' market

APACS research indicates that 140m personal remote banking payments were initiated in 2003. This information gives us a point on the 'old' demand curve equivalent to the zero price point on the 'new' demand curve in the consumer market.

In order to estimate the Total Benefit in the 'old' market three scenarios are tested, each resting on different assumptions:

- A. the 'old' demand curve is highly price elastic and analogous to the x-axis;
- B. the 'old' demand curve is a shift inwards of the 'new' demand curve at all price points; and
- C. the 'old' demand curve is a shift inwards of the 'new' curve up to a certain price level, after which it becomes highly price elastic.

Scenario A

One possibility is to assume that the demand curve for the current BACS proposition is relatively flat (i.e. that consumers' demand for remote banking BACS payments are very sensitive to the price). If a charge was introduced for the current BACS service, one might expect a large degree of substitution towards other existing payment methods. This would imply that the demand curve for the current proposition is only marginally different from the x-axis (the volume axis).

Because this demand curve is only marginally different from the x axis the area beneath this curve (the Total Benefit) can be thought of as negligible. As a result, the change in Total Benefit is equivalent to the Total Benefit in the 'new' consumer and SME markets.

Estimate: The annual increase in Total Benefit is £130m in the consumer market and £34.5 in the SME market (a total of £164.5m).

Scenario B

APACS figures indicate that the current volume of remote banking payments initiated by consumers is 140m. It is also known that personal customers in the UK are seldom charged for remote banking transactions. This gives us a parallel point on the 'old' demand curve to the zero price point on the 'new' demand curve (volume of 177.1m). We can then shift all the points of the 'new' curve in by the difference between these parallel points (37.1m). This gives us an estimate of the 'old' demand curve. The Total Benefit of the 'old' curve (the area under this line) can then be calculated in the same way as was done for the 'new' demand curve.

For the SME market an assumption must be made about the level of current demand (there is no information on current SME remote banking transaction volumes).¹⁰⁹ This gives annual Total Benefit estimates for the current service of £55.75m and £7.39m in the consumer and SME markets respectively. We may then take the difference between the Total Benefit arising from the current service and the Total benefit arising from the new service.

Estimate: The increase in Total Benefit is £74.3m in the consumer market and £27.1m in the SME market (a total of £101.4m)

Scenario C

In addition to shifting the 'new' demand curve in we also introduce a high degree of price elasticity above the 25p price point. That is, the curve is the same as in Scenario B up until a price of 25p, after which it is effectively horizontal. The justification for this is that around the price of a stamp, the demand curve will become very sensitive to changes in price as substitution towards cheques becomes ever more attractive. This gives annual Total Benefit estimates of £24.7m and £6.2m in the consumer and SME markets respectively. We may then take the difference between the Total Benefit arising from the current service and the Total benefit arising from the new service.

¹⁰⁹ We have assumed that at the zero price point the existing demand in the SME market is the same proportion of the 'new' demand (65.5m) as in the consumer market (79%).

Estimate: The annual increase in Total Benefit is £105.31m in the consumer market and £28.33m in the SME market (a total of 133.63m)

Discounting

This analysis is a discounted cashflow analysis of society's costs and benefits. Table I, used for estimations, is shown below.

Total costs and benefits are calculated in each period. Applying a discount rate (3.5%) to these costs and benefits transforms them into their Net Present Value (NPV; their equivalent value today). From this the NPV of Total Surplus in each period can be obtained by subtracting Total Costs from Total Benefits. A cumulative value of this NPV Total Surplus is then calculated.

The formula used for the calculation of the cumulative NPV is shown below; where r is the discount rate and R is the increase in Total Benefit in period t (the same formula is used for the costs, where R equals Total Cost). T is the timeframe under consideration.

$$NPV = R_1 + \frac{R_2}{(1+r)} + \frac{R_3}{(1+r)^2} + \dots + \frac{R_t}{(1+r)^{t-1}} + \dots + \frac{R_T}{(1+r)^{T-1}}$$

Inflation

Inflation adjustments have not been made. This is because inflation is not captured in any of the future costs or benefits. For example, our estimates of future benefits are based on the current willingness to pay; it does not make sense to adjust these estimates for inflation if these terms do not include inflation.

Table I: Case Analysis (Scenario B)

Time period	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
COSTS										
Core IT Development	55.0	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Delivery channel/customer notification	5.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Staff Training	0.0	2.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Customer Ed	0.0	5.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Fraud effect	0.0	2.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Other costs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total BPSL members	60.0	15.0	13.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
Voca (infrastructure)	10.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
BPSL (scheme)	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Credit card issuers	5.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Agency banks (inc Building Societies)	5.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Customer costs	10.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Increase in Total Cost	90.5	19.6	18.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1
BENEFITS										
Total Benefit ¹¹⁰ in new market	0	62	165	179	195	213	233	256	276	301
Total Benefit ¹¹¹ in old market	0	24	64	78	74	82	90	100	106	116
Net change in Total Benefit ¹¹²	0	38	101	111	121	131	143	156	170	185
Additional Value ascribed by corporates	0	1	3	3	3	3	3	3	3	3
Increase in Total Benefit	0	39	104	114	124	134	146	159	173	188
NPV Costs	90.5	18.9	16.9	15.4	14.9	14.4	13.9	13.4	13.0	12.5
NPV Benefits	0.0	38	98	102	108	113	119	125	131	138
NPV Total Surplus	-90	19	81	87	93	99	105	112	118	126
Cumulative NPV Total surplus	-90	-72	9	96	189	287	392	504	622	748

¹¹⁰ SME and consumer markets.

¹¹¹ SME and consumer markets.

¹¹² SME and consumer markets.

J EUROPEAN CONSIDERATIONS

In considering possible innovations to the BACS scheme, the Working Group has taken into account the major developments in payment systems that have been, and are, going on in Europe. The paragraphs that follow sum up, briefly, these developments. The implementation group will, of course, take account of these developments in formulating its proposals for implementation of the Task Force's recommendations.

Achievement of an internal market for payment services is one of the European Commission's objectives. The successful creation, by the European System of Central Banks, of the TARGET¹¹³ network of RTGS systems for high-value cross-border transfers means that the new legislation and initiatives have tended to focus on retail payments. Such developments are therefore of particular interest to the BACS scheme.

Legislation

The will to achieve a single payments area within the EU led to the adoption in 1997 of a Directive on cross-border credit transfers¹¹⁴. This specifically aimed to enable, in particular, consumers and SMEs to make credit transfers rapidly, reliably and cheaply from one part of the Community to another. It did this by providing rules relating to transparency of pricing, clarity of timing, who can impose charges, and guarantees for transfers that go astray. After finding that this Directive had little impact on the cost of cross-border payments, or the transparency of charges, the Institutions adopted a Regulation on cross-border payments in Euros on 19 December 2001¹¹⁵. Among other provisions, as of 1 July 2002, the Regulation explicitly prevented any discrimination between charges for cross-border transfers in euros and their domestic equivalents.

¹¹³ Trans European Automated Real-Time Gross Settlement Express Transfer System, which interlinks the national real time gross settlement systems of EU Member States through a central message switch. Operated by the Eurosystem. The Eurosystem has the statutory task of promoting the smooth operation of payment and settlement systems (Article 105.2 of the Treaty establishing the European Community and Article 3 of the Statute of the European System of Central Banks and of the European Central Bank).

¹¹⁴ Directive 97/5/EC on cross-border credit transfers.

¹¹⁵ Regulation (EC) 2560/2001 on cross-border payments in euro.

In December 2003, the European Commission published a consultation document, *Communication on a New Legal Framework for Payments in the Internal Market*¹¹⁶. The United Kingdom responded to this Communication in February 2004. After considering the results of the consultation, the Commission decided to proceed with two separate pieces of legislation – a Directive for payments services, and a Regulation implementing the Financial Action Task Force Special Recommendation 7 (SRVII) – see below.

The aim of the *Directive on Payment Services in the Internal Market* is twofold. First, it aims to facilitate a single market in payments across the European Union (including countries outside the Euro zone). Secondly, it aims to create a new regulatory regime for previously unregulated 'payment institutions' (that is, institutions which neither take deposits nor issue e-money but provide other types of 'payment service'). The directive is currently in its fifth draft. The Commission expects to produce a legislative proposal by the summer of 2005.

The Financial Action Task Force (FATF) agrees international standards to combat terrorist financing and money laundering. In 2001 the FATF agreed a series of measures called the 40 Recommendations. After September 11th, the FATF issued a further eight Special Recommendations. SRVII deals with originator information accompanying transfers. The EU plans to implement this at Community level, by means of a Regulation, in order to ensure common standards across all member states. The aim is to ensure that financial institutions send information on the originator of a payment with the transfer to prevent terrorists and other criminals having unfettered access to move their funds and to assist the authorities in tracing suspicious transactions.

European Central Bank Vision of SEPA

The European Central Bank (ECB) is active in the drive to create a Single Euro Payments Area (SEPA). Since 1999, the ECB has issued a number of reports regarding the establishment of SEPA, including its most recent progress report entitled '*Towards a Single Euro Payments Area*', published on 2 December 2004¹¹⁷. In it the ECB states 'a real SEPA will be achieved [for citizens in the

¹¹⁶ Available at:

www.europa.eu.int/comm/internal_market/payments/framework/communication_en.htm

¹¹⁷ Towards a Single Euro Payments Area – Third Progress Report, 2 December 2004 – see: www.ecb.int/pub/pdf/other/singleeuropaymentsarea200412en.pdf

euro area] when they can make payments throughout the whole area from a single bank account, using a single set of payment instruments, as easily and safely as in the national context today'. It is seeking delivery of a 'SEPA for citizens' by 2008, with cross-border and national use of pan-European instruments.

The progress report indicates that the Eurosystem might offer the support of an ECB Regulation to facilitate the achievement of SEPA if necessary. It should be noted that as the UK is outside of the euro zone, such a regulation would not apply at UK level and there is no compulsion for the UK banking industry to meet the Eurosystem's objectives. However, the ECB's ultimate vision is aligned to the European Commission's goal of a single payments area within the EU and there remains a significant possibility of Commission-led intervention.

European Banking Initiatives

Regulatory intervention has provoked the European banking community to speed up existing initiatives aimed at creating a Single Euro Payment Area (SEPA) and to introduce new proposals. The EBA Clearing Company operates systems to deal with low-value cross-border credit transfers (STEP1 and STEP2) alongside its existing high-value system (EURO1).

In March 2002 a workshop attended by a number of banks and their associations was held to consider ways of making SEPA a reality, the conclusions of which were consolidated into a White Paper '*Euroland: our Single Payment Area!*'. The European Payments Council (EPC) was subsequently established in June 2002 to facilitate the development and implementation of SEPA in line with the industry vision and associated Roadmap as laid out in the White Paper. The EPC has now become the decision-making and coordination body of the European banking industry in relation to payments.

The EPC has recently undergone a restructure and has also reviewed the roadmap. The EPC's primary focus is on delivering SEPA payment schemes for credit transfers and direct debits and ensuring the interoperability of debit (and account-linked) cards, since these instruments will create a set of core pan-European payment instruments to be provided by banks to their consumer and corporate customers. Work is also continuing on cash and other cards issues, such as fraud prevention. The EPC is currently defining a SEPA credit transfer

scheme (known as Credeuro2) and a Pan-European Direct Debit scheme and is also developing a '*SEPA Card Framework*'.

Implications for the UK

The stated priority of the EPC is delivery of SEPA within the eurozone. However, Member States within Europe but outside the eurozone will have 'opportunities to participate in euro payment systems, and communities will be able to adopt SEPA standards and practices'¹¹⁸. The UK is actively involved in all the EPC activities, with UK views coordinated via APACS, which has set up a Member group (known as UK EPC Group) to debate the strategic issues arising from the EPC's SEPA developments.

UK EPC Group has identified and begun to assess a spectrum of strategic scenarios and options pertaining to different levels of engagement as SEPA is gradually delivered. Going forward, there may, for example, be potential to use the new SEPA schemes for domestic UK euro traffic. Additionally, there may also be potential to align UK sterling scheme features (such as message formats, cut-off times, revocation periods, points of finality, guarantees and consumer protection) with the equivalent features in the SEPA schemes. Under a more extreme scenario, it is conceivable that the UK schemes could ultimately become, for all intents and purposes, sterling versions of the SEPA schemes. It is possible that this scenario might also facilitate significant changes to the UK's central ACH infrastructure.

At this stage there is insufficient information available to enable a full assessment of the UK options to take place. Major uncertainties include the fact that the pan-European schemes for credit transfers and direct debits have not yet been defined by the EPC and, at present, there is only one accredited PE-ACH service provider (the EBA's STEP2 service).

If the UK were to enter the Euro zone, use of the pan-European SEPA schemes within the UK (in parallel with existing domestic schemes) becomes effectively mandatory and full rationalisation of UK domestic and SEPA schemes becomes more feasible and probable than otherwise.

¹¹⁸ EPC Roadmap approved December 2004.

K GLOSSARY OF TERMS

The following glossary of terms is not intended to provide precise legal definitions but to assist in reading the report

ACH	Automated Clearing House. An electronic clearing system in which payment orders are exchanged among financial institutions, in the United Kingdom using telecommunications networks, via a data-processing centre. The processing centre may also support settlement processes.
ADDACS	Automated Direct Debit Amendment and Cancellation Service
Agency bank	A non-settlement financial institution that makes an arrangement with a settlement member of a payment system, allowing the agency bank to obtain clearance of items on behalf of itself and its customers.
APACS	Association for Payment Clearing Services, the United Kingdom trade association for payments.
ARUCS	Automated Return of Unapplied Credits - a mechanism by which paying banks return unapplied credits to the originator via the BACS service.
ARUDD	Automated Return of Unpaid Direct Debits. The automated system used by the banks to return unpaid Direct Debit payments. Unpaid Direct Debits are advised to the originator by BACS Payment Schemes using the Automated Unpaid Direct Debit report (AUDD).
AUDDIS	The Automated DDI (Direct Debit instruction) Service, the system for electronically lodging DDIs.
AWACS	Advice of Wrong Account for Automated Credits Service. If a Direct Credit has incorrect account destination details the receiving bank will try to locate the correct account and advise the originating organisation of the details. AWACS is the automated system used by the banks to notify the organisation of

	the correct details to be used for future payments.
B2B	Business to Business
B2C	Business to Consumer
BABS	BACS Approved Bureau Service
BACS	Bankers' Automated Clearing Services (BACS). An automated clearing house (ACH), the system used for bulk clearing of electronic payments between bank accounts in the United Kingdom. It handles all direct debits and direct credits, as well as interbank standing orders and remote banking payments. BACS Ltd was the clearing company for BACS prior to the split into BPSL for the payment scheme and Voca Ltd for payment infrastructure.
BACS Payments	Direct debits, direct credits, and interbank standing orders that are cleared by the BACS payment system. These include interbank telephone and internet banking payments.
BACS processing cycle	The three day cycle (three consecutive English bank working days) comprises: Day 1 (Input day) - receipt of an organisation's payment file for processing. Day 2 (Processing day) - all data accepted is processed by Voca and passed on to the paying banks. Day 3 (Entry day) - payments simultaneously debited and credited to the relevant BPSL Member settlement account. Generally, this is also the day when payment beneficiaries also receive value.
BACSTEL	The telecommunications channel which enables users to submit BACS payment files directly to Voca for processing. This service is being phased out in 2005 and superseded by BACSTEL-IP.
BACSTEL- IP	The upgraded BACSTEL service, a key deliverable of the NewBACS renewal programme (see NewBACS), featuring Internet Protocol and Public Key Infrastructure security.

Banking code	A voluntary code of practice which is owned by its subscribers. Changes are organised through the sponsors – BBA, APACS, BSA.
BPSL	BACS Payment Schemes Limited: a membership based industry body whose role is to develop, enhance and preserve the integrity of automated payment and payment-related services. It is the scheme company within the BACS payment system. BPSL sets the business rules that govern the operation of the direct debit and direct credit payment schemes. It also manages and has responsibility for the operation of these schemes.
CHAPS	Clearing House Automated Payments System (CHAPS). The United Kingdom's Real Time Gross Settlement (see RTGS) system. Sterling and euro payments processed through the CHAPS systems are individually and continuously settled during the day in real time.
Clearing cycle	Broadly speaking the clearing cycle is the timetable for payments to be transferred between settlement members. While the definition varies from system to system, it usually runs from the time of input into the payment system to the receiving settlement member posting to customers' accounts or deciding to return the item. See the main report for detailed descriptions of the clearing cycle for each payment system.
Direct credit	An electronic credit to a customer's account initiated directly by the payer. Direct credits consist primarily of business-to-individual payments for wages, salaries, pensions, state benefits and tax credits, payments initiated by businesses to pay their trading partners and by individuals to pay bills.
Direct debit	Direct debit enables a beneficiary (i.e. a direct debit originator) to request payment from the payer's bank account by automated means. The payer gives prior authority for his/her account to be debited by completing a Direct Debit Instruction (DDI). The 'direct

	debit guarantee' provides comprehensive consumer safeguards.
DDI	Direct Debit Instruction: the authority signed by the a payer allowing the direct debit originator to collect amounts from the payer's account.
Direct member	See Settlement member.
DNS	Deferred Net Settlement. In deferred net settlement systems details of payments are released to the receiving bank prior to inter-bank net settlement.
EBA	Euro Banking Association. A discussion forum for payments practitioners and a developer of European payment infrastructures. EBA Clearing owns the EURO1, STEP1 and STEP2 payment systems.
EBPP	Electronic Bill Presentation and Payment. A service that enables billers to generate and deliver bills and statements to final customers online and enables payment, for instance via the banks' online banking applications.
ECB	European Central Bank
ELLE	Early by Later today, Late by Early tomorrow. A conceptual new payment clearing service.
EPC	European Payments Council. The decision-making and coordination body of the European banking industry in relation to payments.
EURO1	High value payment system for cross-border transactions in euro, operated by EBA.
FATF	The Financial Action Task Force. Group with an international remit to identify measures to prevent and identify money-laundering activity.

Float	For some transaction types, the payment value is debited from the payer's account prior to the day on which interbank settlement occurs. In such circumstances, the paying bank may be able to earn interest on the money for a period before interbank settlement. It can also be the case that the beneficiary customer's bank receives funds through interbank settlement one or more days before giving value to the beneficiary and earns interest in the interim. In both cases the interest earned is referred to as float.
FSA	The Financial Services Authority (FSA) is an independent non-governmental body, given statutory powers by the Financial Services and Markets Act 2000 and which has the over aim to promote efficient, orderly and fair markets and to help retail consumers achieve a fair deal (<i>source: FSA website, www.fsa.gov.uk</i>)
IBDE	The Inter Bank Data Exchange network that enables cheque codeline details to be passed electronically between the cheque clearing banks in England, Wales and Scotland. The cheque clearing banks are members of the Cheque and Credit Clearing Company; they clear and settle cheques for their customers and for agency banks.
Internet banking payments	Direct credit payments initiated by the payer through the use of Internet banking.
ISCD	Industry Sorting Code Directory. The common payment routing database used by BPSL, Cheque and Credit Clearing Company Ltd and CHAPS Clearing Company Ltd.
Modulus checking	Calculation to check account and sort code details are valid. In the United Kingdom, most combinations of account number and sorting code can be checked for validity using a mathematical

	'modulus checking' routine. Such checks are performed using dedicated bank processes or software packages.
MSC	Merchant Service Charge. The fee paid by the merchant to the acquirer in a card scheme.
New legal framework	New Legal Framework for Payments in the European Internal Market. Intended to establish a modern and comprehensive set of rules applicable to all payment services in the European Union, with the removal of legal obstacles to a Single Payment Area.
NewBACS	The BACS technological renewal programme.
NOP	A leading market research organisation. NOP was commissioned by the Payment Systems Task Force to conduct market research into the demands for faster automated payments.
OFT	Office of Fair Trading
Originator	An organisation sponsored by a BACS Member to originate requests for collection by Direct Debit payments and/or make Direct Credit payments.
Payment infrastructure	The body responsible for the network and switching capability within a payment system.
Payment scheme	A payment system requires: agreed technical standards for the payment messages to be exchanged between members, an agreed means of settling the claims between members, and a set of common operating procedures and rules. A payment scheme is the body responsible for these aspects of a payment system.
Payment system	An arrangement which allows the users of that system to transfer money. It facilitates funds transfer between the members of the system and consists of the network which links them, the switches for routing payment messages and the rules and procedures for the use of this infrastructure.
Payment Systems	The group established by H M Treasury in 2004, to identify,

Task Force	consider and seek to resolve competition, efficiency and incentive issues relating to payment systems over four years, particularly looking at network effects of the existing payment mechanisms. Where appropriate, issues affecting consumers which derive from, or are associated with, features of payments systems are also considered.
PKI	Public Key Infrastructure (PKI). A PKI allows organisations, such as a bank, to validate the digital credentials of people and organisations that need to trust each others' electronic transactions. Each person/organization has a pair of keys: a private key that it keeps very securely, which it uses to electronically sign information, and a public key which is certified through the PKI as being the exact pair to the private key. The recipient of the signed information can then validate the signature with the originator's public key and validate the public key is authentic through the PKI.
Price transparency	Price transparency relates to the cost for the buyer of discovering the price of the goods or services they wish to purchase. The lower the cost the more transparent the price.
Recalled payment	In BACS, direct credit originators can arrange with their account-holding bank/building society (shortened to banks hereon) to revoke/recall a payment that has been processed by the BACS service, but is due to be credited to the recipient's account. The payment must be recalled by Day 2 of the processing cycle, which is one banking day prior to the credit of the funds.
Recredit	Refund of a recalled payment. Recrediting is the process of refunding a recalled payment.
Reference fields	Dedicated fields in a payment instruction or message, intended to assist the banks in the payment chain and/or the payer and/or the payee with reconciliation.
Remit	The extended remittance service available for users of the BACS direct credit scheme. Enables electronic business to business supplier payments to be accompanied by extended remittance

	data, received either electronically or by fax.
Revoked payment	This is not a formally defined term in BACS rules, but it is used informally for a recalled payment or a payment disputed after the event (for example, a DD collection disputed by the payer).
RTGS	Real Time Gross Settlement. RTGS, as a settlement process, minimizes settlement risks by settling individual payments in real time in the books of account held at the Central Bank. Under RTGS, the practically instant settlement ensures fast, secure, final and irrevocable settlement of payment transactions.
SEPA	Single Euro Payment Area. The intention of the EPC is to create a single domestic payments market for the euro area in which citizens and economic actors will be able to make payments as easily and inexpensively as in their hometown. <i>[based on the aim on the EPC's home page]</i>
Settlement member	A member of an operational clearing which settles (makes or receives payment) for the value of its clearings over its account at the Bank of England. In some payment systems, a direct or settlement member may sponsor other financial institutions as agency banks and fulfil settlement obligations on their behalf.
Settlement risk	In the context of payment systems, settlement risk relates to the risk that settlement of a payment system will not take place as expected. It comprises two types of risk: liquidity risk is the risk that a settlement member (or more than one) that owes funds will not be able to meet its full settlement obligation on time; credit risk is the risk that this obligation will never be met in full or at all. Settlement risk can also arise as a result of operational risk.
SME	Small or medium sized enterprise
Sponsor/sponsoring bank	BPSL member authorising organisations and bureaux to submit data for processing. Though the term sponsoring bank is often used, this actually refers to banks and building societies.

Standing Order	An instruction from a customer to his/her bank or building society to make regular automated payments of a specified amount to a named beneficiary. The term is also used to refer to individual payments arising from the instruction.
STEP1 system	STEP1, operated by the EBA Clearing, is a low-value payment system designed to process single cross-border payments in euro. The system enables banks that operate in the European Union to exchange commercial payments with the other STEP1 participants - currently 119 - as well as the entire community of the EBA Clearing EURO1 service.
STEP2 system	STEP2, operated by EBA Clearing, is the first pan-European clearing system for bulk payments in euro. The system processes retail payments of up to 12,500 euro per transaction. Currently, 86 direct participants and more than 1,500 indirect participants send on average 150,000 transactions per day through the system.
Straight through processing (STP)	The process of seamlessly passing information without the need for manual handling to all parties involved in the transaction process around the exchange of payment for goods and services.
SWIFT	Society for Worldwide Interbank Financial Telecommunication. SWIFT is the financial industry-owned co-operative supplying secure, standardised messaging services and interface software to 7,650 financial institutions in over 200 countries. SWIFT's worldwide community includes banks, broker/dealers and investment managers, as well as their market infrastructures in payments, securities, treasury and trade.
Systemic risk	The danger that problems in a single financial institution might spread and, in extreme situations, such contagion could disrupt the normal functioning of the entire financial system.

TARGET	Trans-European Automated Real-Time Gross Express Transfer System (TARGET). The RTGS system for the euro created by the eurosystem of national central banks, interconnecting national euro real-time gross settlement (RTGS) systems and the ECB interlinking mechanism. TARGET is used for the settlement of central bank operations, large-value euro interbank transfers as well as other euro payments. It provides real-time processing, settlement in central bank money and immediate finality.
Telephone banking payments	Direct credit payments initiated by the payer through the use of telephone banking.
ToDDaSO	Transfer of Direct Debits and Standing Orders
UPIC	Universal Payment Identification Code used in the United States. Permanent and secure bank account identifiers, which allow companies to receive electronic credit payments without divulging their sensitive banking information.
Voca	Voca Limited (known as BACS Limited prior to 12 October 2004). A company which provides processing and related services in the United Kingdom for direct debit, direct credit and standing order transactions, originated either by Settlement Members of BPSL or by others sponsored by them to use the service.
XML format	eXtensible Markup Language, XML. A system for defining complex data structures in such a way that it becomes easier to manage and exchange between applications
Some other terms used in the report	
Acquirer	An acquirer (or merchant acquirer). A bank having a business relationship with merchants, retailers and other service providers to process their plastic card transactions. Acquirers obtain financial settlement from the card issuers, typically via the card schemes which maintain the clearing systems, and pay the proceeds to the merchant, charging a fee.

Card issuer	A bank or building society issuing payment cards, ATM cards or cheque guarantee cards to its customers. For payment and ATM-only cards, the card issuer undertakes responsibility to settle transactions made with the card (except in some cases where fraud is present).
Card scheme	Card schemes set the business rules that govern the issue of the payment cards that carry their logo. Typically, these rules apply throughout the world to ensure interoperability of cards. In many countries, domestic schemes also operate. The schemes operate the clearing and settlement of payment card transactions. In the United Kingdom, banks and building societies must be members of the appropriate scheme to issue cards and acquire card transactions. Examples of international card schemes in the United Kingdom are Visa, MasterCard, American Express and Diners Club.
Merchant acquirer	See Acquirer.
Remote banking	A generic description for any type of service enabling users to access banking facilities remotely, e.g. by phone, Internet or mobile phone.
APACS	Association for Payment Clearing Services
BPSL	BACS Payment Schemes Limited
BBA	British Bankers' Association
BRC	British Retail Consortium
CHAPS	CHAPS Clearing Company Limited
C&CCCL	Cheque and Credit Clearing Company Limited

FSB	Federation of Small Businesses
NCC	National Consumer Council