

UK payment systems

An OFT market study of clearing systems and review of plastic card networks.

May 2003

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FOREWORD

22 May 2003

The aim of this report is to provide an updated factual assessment of competition issues in UK payment systems, which are essential to virtually all economic activity.

There have been important developments in the three years since the Cruickshank report on competition in UK banking. The supply of banking services to SMEs was investigated by the Competition Commission and its recommended remedies to competition problems have been implemented. Card networks have come under Competition Act scrutiny by the OFT. And there have been changes in the operation of clearing systems; these have been subject of an OFT study in recent months.

The Government intends to introduce new powers to promote effective competition in payment systems. This report does not make policy recommendations but we hope that its findings and analysis assist policy debate.

We are most grateful to all those who have assisted the work of the OFT team that produced this report.

John Vickers

Chairman

1 EXECUTIVE SUMMARY

Introduction

1.1 This report contains

- a market study covering the UK's money transmission clearing schemes (direct debits, standing orders, direct credits, cheques, paper credits and instantaneous payments), and
- a review of the Office of Fair Trading's (the OFT) work on debit, credit, and ATM card networks over the last three years

1.2 Collectively, these schemes are often described as payment systems. The report does not cover any retail issues which fall distinctly outside payment systems.

1.3 The OFT's ultimate concern is whether these systems serve final customers¹ well and enable effective retail competition between the providers of payment services. The full terms of reference published by the OFT on 31 January 2003 can be found at annexe B.

The context of OFT's work in the banking industry

1.4 The OFT has examined a number of competition issues in connection with the supply of banking services since the wide-ranging review of UK banking which resulted in publication of the Cruickshank Report in March 2000.² That report identified potential concerns over:³

- money transmission services (or payment systems)
- retail services to personal customers, and
- the supply of banking services to the small and medium-sized enterprises (SME) sector.

Payment Systems

1.5 The Cruickshank Report concluded that there were profound competition problems and inefficiencies associated with payment systems in the UK. The report found that the underlying economic characteristics of the systems did not deliver price transparency,⁴ good governance,⁵ non-discriminatory access,⁶

¹ Final customers refers to consumers of banking services. These may be individuals (personal customers) or businesses.

² *Competition in UK Banking: A Report to the Chancellor of the Exchequer*, Don Cruickshank, March 2000 (The Cruickshank Report).

³ See Paragraph 8 of Overview of the Cruickshank Report, page viii.

⁴ Paragraphs 3.136 to 3.147

⁵ Paragraphs 3.53 to 3.66

efficient wholesale pricing⁷ and innovation.⁸ It also concluded that the existing framework of competition law was not sufficient to deal with these problems.⁹ The Government proposes to legislate to give OFT powers as a specialist regulator of payment systems.¹⁰

- 1.6 The OFT decided, therefore, to examine and review in this report how the payment systems markets stand in 2003 with respect to their ability to deliver open access, innovation, and efficient and transparent charges.

Other continuing OFT work: SME sector

- 1.7 While the Cruickshank Report concluded that there were some encouraging signs of increasing competition in retail services to personal consumers, it pointed to little prospect of effective competition in the SME sector.
- 1.8 As a result, the Competition Commission (CC) was asked by the Secretary of State for Trade and Industry and the Chancellor of the Exchequer to investigate banking services to SMEs on 20 March 2000. In March 2002, the Government published the CC report into this area of the banking industry.
- 1.9 The report found the main clearing groups (Barclays, HSBC, Lloyds/TSB and the Royal Bank of Scotland Group) to be charging excessive prices and therefore making excessive profits, with adverse effects on their SME customers. The CC identified other adverse effects on choice and the level of information available to SMEs from the practices of the four main clearing groups and of the other main clearing groups in Scotland and Northern Ireland (the National Australia Bank group, Bank of Scotland, Bank of Ireland and the Allied Irish Bank group). The Government accepted the CC's findings and recommendations in full.
- 1.10 The CC made a number of recommendations to remedy these adverse effects which have been agreed by the OFT and the banks in the form of undertakings. Details of these undertakings, and how the OFT will monitor them can be found at <http://www.of.gov.uk/Business/Monopolies/banks>.

⁶ Paragraphs 3.67 to 3.94

⁷ Paragraphs 3.95 to 3.123

⁸ Paragraphs 3.124 to 3.145

⁹ Paragraphs 3.148 to 3.161

¹⁰ 'The Government looks forward to seeing the findings of the OFT's ongoing study of recent payment system developments, and will introduce legislation to give the OFT new powers to promote effective competition in payment systems as soon as parliamentary time allows.' Budget Report - April 2003, Chapter 3; paragraph 3.25.

What are payment systems?

- 1.11 A payment system is the **shared** part of an end-to-end process that offers an account-based transfer service between two final customers - and between two different banks. Payment systems sit at the heart of what is often referred to as the banking system. Transfers can occur between personal customers, between businesses, or between personal and business customers.
- 1.12 Payment systems are vital to the UK economy. In 2002 clearing systems processed over 5 billion clearing transactions, corresponding to a value of £86,025 billion.¹¹ Failure or disruption of a payment system could de-stabilise the financial markets and cause wider economic disruption.¹²
- 1.13 Payment systems can be broadly divided into clearing schemes and plastic card networks. In terms of clearing schemes:
- direct debits, direct credits and standing orders are cleared using Bankers' Automated Clearing Services (BACS)
 - cheques and paper credits are cleared via the Cheque and Credit Clearing Company (CCCL), and
 - real time gross settlement (RTGS) is cleared by the Clearing House Automated Payment Scheme (CHAPS).

Plastic card networks cover debit, credit and ATM cards.

How should payment systems be assessed?

- 1.14 All payment systems generate network effects. These arise when the value to a participant of accessing a network depends on the number of other users with access to the same network. The value to a bank from joining or accessing a network that offers its members the ability to supply direct credits to each other will only be high if there are a number of other members in the scheme or network. Similarly, the reason that so many people are willing to carry branded credit cards is that so many retailers accept them (and vice versa).
- 1.15 Networks require a degree of cooperation between the banks and other participants. This is unavoidable and inevitable for the payment system to function effectively. But at the same time, network effects mean that the competitive pressure payment systems face from alternative systems, or the threat of new networks forming may be limited. Once a network is established, it can be extremely difficult for a new network to gain the critical mass needed to function effectively, even if the investment needed is not itself prohibitive.

¹¹ Total figures include BACS, CCCL and CHAPS. See annexe L for annual volumes and values 1991 – 2002. Source: APACS www.apacs.org.uk

¹² Bank of England 'Oversight of payment systems'. www.bankofengland.co.uk/fiancialstabilty/paymentsystems/oversight.htm

The alternative network would simply be less attractive because of the smaller number of members.

- 1.16 So, while the combination of cooperation and a tendency for there to be a limited number of networks is necessary to yield network effects and economic benefits, these very features have the *potential* also to lead to persistent inefficiencies and distorted incentives due to the resulting lack of competitive pressure. Any such inefficiencies may ultimately affect final customers in the form of higher prices, distorted choices and less innovative products and services at the retail level than would occur with the spur of competition.

Key changes since March 2000

- 1.17 Since the publication of the Cruickshank Report, the owners of the UK payment systems have undertaken a number of self-regulatory actions and reforms, and major changes have already resulted from the introduction of the Competition Act 1998.¹³ Table 1.1 at the end of the summary outlines the main actions concerning payment systems since March 2000.
- 1.18 The OFT has issued a decision (following a notification) in relation to the LINK ATM network, and is considering the notification by MasterCard UK Members Forum of its multilateral interchange fee and other agreements (its domestic rules). Much of the analysis of the OFT in these cases is likely to be applicable also to other plastic card schemes.
- 1.19 The main changes with the clearing systems have involved self-initiated industry system developments and governance changes. BACS has initiated a technological renewal programme which will eventually enable greater functionality, including reduced clearing cycles and the automated direct debit transfer. Technical changes to the CHAPS platform mean that the cost of accessing the scheme as a settlement member are less prohibitive than used to be the case.
- 1.20 The three clearing systems have become legal entities separate from the umbrella body, APACS¹⁴ (although each is still a member of APACS). BACS also plans to separate the scheme membership from the ownership of its current infrastructure.

The evidence examined by the OFT

- 1.21 Many of the key changes since March 2000, such as action under the Competition Act, system improvements and changes to scheme governance, are a matter of public record. In producing this report the OFT has also worked closely with the various schemes' representatives and individual banks to

¹³ The Competition Act came into full force in March 2000, i.e., it was not in force when the Cruickshank Report was being compiled.

¹⁴ Association for Payment Clearing Services (APACS).

understand and analyse confidential information on tariffs, cost drivers and technical change.

1.22 The OFT sought to understand the dynamic consequences of the underlying incentives within payment systems. We therefore issued detailed questionnaires to member banks, their scheme representatives and other institutions within the various payment schemes, and held follow-up meetings with a large number of them. The questionnaires aimed to understand:

- how open and equitable the schemes are
- whether the costs of the scheme affect competition for final customers of payment services
- how good a deal indirect users of the schemes get, and
- whether the pace of innovation at scheme level suits all competitors in the market.

1.23 All players in the market were encouraged to describe openly how any feature of the various payment systems disadvantaged them or did not adequately meet their requirements for competing effectively in the provision of payment services.

1.24 The OFT also looked at recent and imminent developments at the European level and undertook a short case study on Finland's payment systems.¹⁵

The OFT's findings

Short term consumer costs: the float

1.25 The OFT examined how much the banking industry costs consumers from the float in the clearing systems. This is an issue often raised by consumers and consumer groups.¹⁶ Float occurs when the money reaches the beneficiary customer's account some time after it leaves the paying customer's account (i.e. through non-simultaneous transfer).

1.26 In the narrowest sense, neither the clearing times of the systems, nor indeed the agreements and standards underpinning the schemes, are responsible for any float benefits/costs. With the exception of CHAPS,¹⁷ the paying bank and receiving bank accounts at the Bank of England are debited and credited at the same time: on the second day after the cut-off time for submitting transactions into the clearing. It is, strictly speaking, an issue for individual banks in deciding

¹⁵ Finland's banking industry is often perceived as being highly innovative and characterised by a wide array of payment instruments for consumers.

¹⁶ For example, this was raised as an important issue when the OFT met with the consumer groups National Consumer Council, Consumers' Association Financial Services Consumer Panel.

¹⁷ For payments through CHAPS, settlement occurs in real time and hence no float arises.

when to debit the payer's and credit the beneficiary's accounts at their own banks.

Standing orders

- 1.27 In the case of standing orders, internet and telephone banking payments, however, it is normal practice to make sure before passing the payment on to BACS that the paying customer will definitely have the funds to pay it. Banks do this by freezing the amount on its final customer's account until the BACS process is complete, or much more commonly, by deducting it at the start of the process. In the latter case the individual bank benefits from the float that is generated for up to a period of 2 working days between the time the paying customer's account is debited and the time the beneficiary customer's account is credited.¹⁸ The cost to consumers (and benefit to the banks) of this float depends on how consumers' deposit or savings accounts and/or debts would differ in the absence of the float. It also depends on the degree, if any, to which banks offer better terms to final customers in other respects because of their profit from the float. Assuming for illustrative purpose that the relevant interest rate was five per cent, the OFT estimates that, other things being equal, this practice would generate interest income of around £30m a year.¹⁹ This amount would halve if next-day clearing is introduced as planned in 2005.²⁰

Cheques

- 1.28 The value of float generated with respect to cheques is not generally related to the length of the clearing cycle.²¹ When a final customer pays a cheque into his account interest on the funds paid normally begins from the third day, when the bank receives the funds from the payer's bank (when the payer's account is also debited). In other words, while there is a gap between depositing a cheque and having funds credited, there need not be a gap between the credit to the recipient's account and the debit to that of the sender.
- 1.29 However, the day on which the money is available to be drawn, and the exact

¹⁸ A two working day delay translates into 2.8 calendar days, on average, once weekends are included.

¹⁹ Total estimated annual value of inter-bank standing orders = approximately £50bn, and of inter-bank remote banking transactions = approximately 25bn. At an annual interest rate of five per cent, float income generated = five per cent x 2.8/365 days x £75bn = approximately £30m. The Bank of England base rate has ranged between 3.75 per cent and six per cent over the past four years. The five per cent illustrative rate is well within this range. Full details are contained in chapter 7.

²⁰ Based on a constant value of standing orders and remote banking payments. However if, as expected, the volume of remote banking payments increases three-fold, the total income generated from float may decrease by less than this.

²¹ When the paying customer submits a cheque payment via their own branch, in some cases this will be deducted from their account immediately but will not reach the recipient's account until the end of the standard clearing cycle.

day on which interest is awarded, varies according to each individual bank's commercial policy. For cheque clearings, float occurs when individual institutions apply value and/or interest rates later than day three. This tends to happen with some building societies, but there is enormous variation between different types of account. As to the cost to consumers of value being given later than 'necessary', by way of illustrative example, a final customer could lose approximately 38p on average on a £1000 deposit if the interest rate is five per cent and the clearing time is two working days later than day three.²²

Competition and dynamics: access and pricing

- 1.30 To provide payment services to final customers, a bank or building society can access the various clearing systems in one of two ways:
- **directly** - by becoming a settlement member of the clearing scheme, or
 - **indirectly** - by establishing an agency relationship with a settlement member.
- 1.31 Clearing systems can be thought of as a wholesale service. An important aspect of these systems is that settlement members not only use the scheme that they co-own to provide a retail service to their final customers; but they also provide the wholesale service to indirect members (participating banks) with whom they compete at the retail level. In these circumstances there might be the incentive and opportunity for the scheme owners to operate clearing systems anti-competitively to the detriment of other banks and customers.
- 1.32 To assess whether settlement members in fact exercise any scope to distort competition, the OFT examined:
- whether the schemes' costs - and their recovery through scheme tariffs - distort retail competition
 - whether the schemes' charges for direct access unfairly discriminate against smaller players
 - whether access criteria are unnecessarily restrictive, and
 - whether agency tariffs have prevented non-settlement indirect members from offering competitive payment services to end users.
- 1.33 Total clearing scheme charges amount to approximately £60m per annum. While the market power held by mutually governed schemes arguably does not lead to strong incentives for minimizing underlying costs, these charges account for less than four per cent of the total cost of providing end-to-end payment services in the UK. The bulk of the costs incurred in providing payment services to final customers lie with the individual banks and not the shared schemes. The impact of the level and structure of scheme charges on retail competition is therefore likely to be relatively small. Moreover, since such a high proportion of

²² (2.8 days/365 days)x0.05x£1000.

cost lies outside of the shared system, each individual member has incentives to reduce costs and increase efficiencies.

- 1.34 These factors also suggest that clearing scheme tariffs structures are unlikely to contribute significantly to any coordination between banks at the retail level.
- 1.35 The costs of becoming a full settlement member of the clearing schemes are not trivial. However, the decentralised (fixed) costs associated with a member's own infrastructure requirements are perhaps the most substantial barriers to direct access. Nevertheless, the requirement that these decentralised systems are made compatible with the legacy systems of existing members increases the costs of new membership, potentially discouraging entry.
- 1.36 While volume-independent elements in clearing scheme tariffs do impose a greater unit burden on smaller players, a significant proportion of the costs associated with a bank's scheme membership are also likely to be fixed. In this context, the structure of tariffs does not appear to unfairly discriminate against smaller players.
- 1.37 The justification for preventing non-financial institutions from joining the clearing schemes, at least as recipients of payments, do not appear strong.
- 1.38 The OFT's analysis of confidential tariffing information collected during the study did not uncover any serious concerns. Moreover, to the extent that indirect members offer similar payment services to final customers, they appear to be able to offer comparable tariff terms.

Competition and dynamics: innovation

- 1.39 Innovation in clearing systems can achieve new and improved methods of payment transfer and lower costs. Whether initiated from existing competitors or new entrants, innovation is a key part of retail competition and delivering the best outcome for final customers. But members who want particular types of system innovation to compete more effectively at the retail level are dependent on the limited number of clearing systems available.
- 1.40 The OFT looked at whether features of the clearing schemes - and in particular, the need for consensus among the majority of banks - unduly hindered the pace of innovation. Banks were asked specifically whether any obstacles to innovation prevented them from competing more effectively at the retail level of payment services (and perhaps addressing niche markets). The OFT's initial concern was that the cost of updating larger banks' individual 'legacy' systems²³ to accommodate innovative changes to the schemes' central infrastructure might be prohibitive to the extent that **all** members would suffer from inertia.

²³ Mainly software and interfacing capability, but also includes internal management planning and staff training.

- 1.41 The OFT identified two levels of innovation:
- **collective innovation.** Cooperative innovation in the actual clearing system that can deliver improvements for all members, and
 - **retail innovation.** The resulting level of 'end process' payment service innovation that allows members to offer differentiated products. The flexibility to do this can depend on the level of collective innovation.
- 1.42 We found that the pace of collective payment system innovation had, to some degree, reflected some of the disincentives arising from the need to cooperate and the interdependency of decisions on investment. But there had been significant progress in some areas. Next day clearing for direct debit, direct credits and standing orders is planned for 2005, while the development of fully automated direct debit transfer is likely to enhance downstream retail competition by enabling final customers to switch between banks more easily.
- 1.43 In particular, all large and small (and potential) competitors were satisfied that the recent and forthcoming level of collective innovation provided them with the flexibility to add differentiated features at the retail level. Electronic bill presentment and payment (EBPP), person-to-person email payments and mobile payments are cited examples of competitive innovations that can use the existing clearing systems - and may become mass market products in the near future.

Prospects for the future of clearing systems

- 1.44 While there may currently be elements that blunt investment incentives, their impact will reduce if the level of inter-system competition increases. The current limited level of inter-system competition is likely to improve in the medium term. Clearing systems and plastic card networks are already developing new payment products (e.g. internet banking). The proposed separation of scheme and infrastructure with BACS might facilitate inter-system competition, and in particular, plastic card networks might be able to use their infrastructure to offer competing clearing systems. However, such separation seems unlikely to have much impact on inter-system competition in the short term when the ownership profile of scheme and infrastructure will remain similar.
- 1.45 In addition, domestic UK systems might, at the margins, face some increasing competitive pressure from developing pan-European schemes. CHAPS already faces direct competition for payments in Euros from other domestic RTGS systems around Europe, and from the EBA's pan-European EURO1 system. The extent and precise nature of further European competition for both CHAPS and BACS depends on when and whether the UK joins the Euro area. Until that time, the direct impact of evolving pan-European systems on the UK is likely to be limited, but may have some influence on the level and nature of investment in the UK schemes.

Payment card systems

- 1.46 The OFT has considered the rules of LINK and is considering the rules of MasterCard UK Members Forum under the Competition Act. The level of the multilateral interchange fee (MIF) has been the matter of greatest concern to the OFT. In a credit or debit card transaction the MIF, which applies to the large majority of transactions, is paid by the retailer's acquiring bank to the cardholder's issuing bank. In an ATM transaction the fee is payable by the card issuer to the ATM provider. The existence of an agreed multilateral interchange fee means that there is little or no competition exerted on the level of the interchange fee.
- 1.47 The **existence** of a MIF agreement is potentially beneficial as, in the absence of such an agreement, the requirement to negotiate bilateral fees with all existing members may deter new entrants, and hence limit competition. However, if the MIF is set at **too high a level** there may be undue adverse effects. For credit and debit card systems a higher MIF is likely to result in higher retail prices for all final customers and distorted competition. The OFT's preliminary conclusion on the MasterCard UK Members Forum MIF agreement is that it restricts competition and does not meet the criteria necessary to qualify for exemption under the Competition Act at its current level.²⁴ The OFT found, in its LINK Competition Act decision, that the LINK MIF agreement had the effect of restricting competition between LINK members, but that the criteria for exemption were met.²⁵
- 1.48 As part of the study for this report, we have considered the rules governing access to the card schemes. As they are currently constituted, the rules of the credit and debit card schemes limit the ability of non-bank organizations to enter into the merchant acquiring side of payment schemes. Merchant acquiring is also affected by the MIF, which effectively sets a floor for the merchant service charge that acquirers charge to retailers. There are relatively few players in merchant acquiring: the three biggest acquirers accounted for over 85 per cent of all merchants acquired in the UK in 1997 and 1998,²⁶ and data collected for this study confirm that the position is still broadly the same.
- 1.49 It is important for competition and innovation that new entry should not be prevented. However, large retailers as well as existing merchant acquirers have told the OFT that they consider merchant acquiring to be competitive, reporting significant rates of switching between suppliers as evidence of this. While large

²⁴ A short paper explaining these preliminary conclusions can be found at: [http://www.offt.gov.uk/Business/Competition + Act/Notifications/Mastercard + and + Europay + UK + Ltd.htm](http://www.offt.gov.uk/Business/Competition%20Act/Notifications/Mastercard%20and%20Europay%20UK%20Ltd.htm)

²⁵ LINK significantly altered its interchange fee structure shortly before the Competition Act came into force in March 2000.

²⁶ The Cruickshank Report, D2.3

retailers may be able to exert sufficient buyer power to obtain competitive rates, small retailers may not be in the same position.

- 1.50 Participants have told the OFT that the continued existence of restrictions on access to card schemes is justified by the need to safeguard the security of the schemes. It is not clear, however, that the current restrictions place requirements on new members commensurate with the risks that those members would place on the schemes. We therefore view the continued existence of the restrictions to be a concern.

TABLE 1.1: SUMMARY OF ACTION SINCE MARCH 2000

Issue	Main Concern	Action Since 2000	Next Steps
The supply of banking services to SMEs	Lack of effective competition	1. Government published CC Report, and recommended remedies (March 2002), accepting both the findings and recommendations in full. 2. Undertakings agreed by OFT and banks (with effect from January 2003).	OFT to monitor undertakings. Transitional remedies to be reviewed by OFT in 2005.
Credit card networks	Multi-lateral interchange fee level.	OFT reviewing MasterCard UK Members Forum (MMF) Notification of its agreements (domestic rules) under CA98.	OFT expected to conclude review and publish Decision in Summer 2003.
ATM networks	Multi-lateral interchange fee level.	Revised LINK agreement granted CA98 exemption by OFT (October 2001).	Exemption lasts five years. OFT has power to reconsider the exemption in accordance with section 5 of CA98. In particular, it may do so where it has reasonable grounds for believing there has been a material change of circumstances.
Debit card networks	Multi-lateral interchange fee	No major changes.	OFT to review under CA98 in the light of outcome on credit card networks.
Governance of payment systems	Lack of innovation; Inefficient pricing	(a) Key Industry developments: 1. BACS & CHAPS technological improvements: planned BACS developments include reduced clearing cycle and automated direct debit transfers; cost of access to CHAPS less prohibitive than used to be the case 2. Clearing systems have become independent of APACS 3. Planned separation of BACS scheme and infrastructure.	No further action for the OFT at this stage pending legislation.
Restrictions on access - clearing systems	Scheme pricing and other membership criteria may restrict direct access to clearing schemes	(b) Current OFT Report	

Restrictions on access – card networks	Scheme rules may restrict new entry in merchant acquiring	Various VISA rules were found, by a European Commission decision of August 2001, not to infringe Article 81. An appeal from the Commission’s decision is pending before the European Court of First Instance.	No action by the OFT, pending the outcome of the appeal from the Commission’s decision.
The float	Cost to consumers of (i) money reaching beneficiary account some time after it leaves the payor’s account; or (ii) the beneficiary not be able to withdraw, or earn interest on fund, immediately after the clearing cycle.	(a) Banking Services Consumer Code Review Group, May 2001 (Julius Review) established independent review process for Banking Code (b) Banking Code now states explicitly that final customers should be informed about the clearing cycle. (c) Current OFT Report	OFT to discuss effectiveness of Code with sponsors and consumer bodies separately.

PART I: INTRODUCTION AND OVERVIEW

2 THE AIM OF THE REPORT

- 2.1 This report examines how recent developments have affected the competition, efficiency and incentive issues relating to payment systems. The OFT's ultimate concern is whether these systems serve final customers²⁷ well by not hindering effective retail competition between the providers of payment services.
- 2.2 The report contains
- a market study covering the UK's money transmission clearing schemes (direct debits, standing orders, direct credits, cheques, paper credits and instantaneous payments), and
 - a review of the OFT's work on debit, credit, and ATM card networks over the last three years.
- 2.3 Collectively, these schemes are often described as payment systems. The report does not cover any retail issues which fall distinctly outside payment systems.
- 2.4 The Cruickshank Report²⁸ concluded that there were profound competition problems and inefficiencies associated with payment systems in the UK. The report found that the underlying economic characteristics of the systems did not deliver price transparency,²⁹ good governance,³⁰ non-discriminatory access,³¹ efficient wholesale pricing³² and innovation.³³ It also concluded that the existing framework of competition law was not sufficient to deal with these problems.³⁴

²⁷ Final customers refers to consumers of banking services. These may be individuals (personal customers) or businesses.

²⁸ *Competition in UK Banking: A Report to the Chancellor of the Exchequer*, Don Cruickshank, March 2000 (The Cruickshank Report).

²⁹ Paragraphs 3.136 to 3.147

³⁰ Paragraphs 3.53 to 3.66

³¹ Paragraphs 3.67 to 3.94

³² Paragraphs 3.95 to 3.123

³³ Paragraphs 3.124 to 3.145

³⁴ Paragraphs 3.148 to 3.161

The Government proposes to legislate to give OFT powers as a specialist regulator of payment systems.³⁵

- 2.5 Since the publication of the Cruickshank Report, the owners of the UK payment systems have undertaken a number of self-regulatory actions and reforms, and major changes have already resulted from the introduction of the Competition Act 1998. The OFT has issued a decision (following a notification) in relation to the LINK ATM network, and is considering the notification by MasterCard UK members forum of its multilateral interchange fee and other agreements (its domestic rules). Much of the analysis of the OFT in these cases is likely to be applicable also to other plastic card schemes.
- 2.6 The OFT decided, therefore, to examine and review in this report how the payment systems markets stand in 2003 with respect to their ability to deliver open access, innovation, and efficient and transparent charges.
- 2.7 The presence of money transmission networks, the need for cooperation and competitors' investment interdependency, (see paragraphs 9.126 to 9.131) mean that the OFT has necessarily adopted a similar economic framework to the Cruickshank Report for analysing payment system markets. This study, however, does not attempt to take a strictly incremental approach to updating the conclusions of the Cruickshank Report. Instead the study documents the key recent developments, and takes a new look at how the payment system markets stand in 2003 with respect to their ability and incentives to deliver openness, innovation, and efficient and transparent charges.
- 2.8 It is not the remit of this study to make an assessment of the actual level of retail competition in respect of payment services or to review the level of competition in retail banking services generally. Rather, the concern of the study has been to assess where **characteristics of payment systems** have led or are likely to lead the distortion of retail competition. Many perceived problems with retail banking services do not stem from failures with the underlying payment system.

Structure of the report

- 2.9 Chapter 3 and 4 of the report takes a broad approach by examining why different payment systems exist and describes the economic characteristics of all payment systems. The report then focuses on the three clearing systems, BACS, CHAPS and CCCL.³⁶ An initial description of the systems is provided in

³⁵ 'The Government looks forward to seeing the findings of the OFT's ongoing study of recent payment system developments, and will introduce legislation to give the OFT new powers to promote effective competition in payment systems as soon as parliamentary time allows.' Budget Report - April 2003, chapter 3; paragraph 3.25.

³⁶ Bankers' Automated Clearing Services (BACS), Cheque and Credit Clearing Company (CCCL) and Clearing House Automated Payment Scheme (CHAPS).

Chapter 6. Float income is analysed in Chapter 7, with recent system and governance developments examined in Chapter 8. (A detailed analysis is provided in annexes I to L). The ability and incentives to deliver openness, innovation, and efficient and transparent charges are analysed in Chapter 9 along with a case study of Finland. There is also an analysis of whether European developments influence inter-system competition in Chapter 10.

- 2.10 The following section, Chapter 11 concentrates on credit and debit card networks. Again, there is an initial description of the four party schemes, governance rules, multilateral interchange fees and access rules. Providing analysis of merchant acquisition, inter-system competition and innovation.
- 2.11 ATM networks are the final payment system considered in Chapter 12.

3 WHY DIFFERENT SYSTEMS EXIST

- 3.1 In their simplest form, payment systems offer an account-based transfer service between two final customers. Transfers can occur between personal customers, between businesses or between personal and business customers.
- 3.2 Not only is the underlying service simple, but the majority of final customers tend not to think of payment instruments as commodities in their own right. Yet the features of different payment instruments are varied and give rise to a number of different qualities which customers can choose between according to their general needs or their need for a particular transaction. Moreover, customers often have to accept trade-off between some features.
- 3.3 The key features of payment services are:
- certainty for the payee in terms of when the payment will be forthcoming
 - the reliability of the payment service
 - the time taken for the payment instruction to clear
 - the security of the payment instrument from theft, loss or fraud
 - the convenience and cost of making a payment
 - the guarantees provided by the payment system provider
 - the documentation required to make a payment, and
 - whether the payment instrument incorporates a flexible credit facility to address irregularity in cash flow.
- 3.4 By way of example, cash offers certainty, timeliness and convenience, but scores low on security, cash flow flexibility and documentation. These would be positive features for buying a newspaper but poor features for making high, important and regular payments, such as re-paying a loan. Credit cards offer cash flow flexibility, certainty and a strong guarantee but offer little convenience for small value transactions. Changing lifestyles and technology will also mean that the demand for, and the emphasis placed on, particular features (or possibly new features) will constantly evolve.
- 3.5 The high number of these features combined with the differing needs of final customers means that it is natural for a number of alternative systems or schemes to exist. The actual number of payment instruments depends not just on the features demanded by final customers but also the scale economics of providing an effective network (see chapter 4). But it is not the case that a separate payment network or even scheme is required for each type of payment instrument. Indeed, a crucial question outlined in chapter 9, paragraphs 9.124 to 9.168, is whether the existing schemes are incentivised into adapting their

network to allow innovative payment instruments such as instantaneous person to person payments, mobile payments and internet micropayments.

4 THE ECONOMIC CHARACTERISTICS OF PAYMENT SYSTEMS

- 4.1 All payment systems covered in this report share in common the important characteristic of **network effects**. Network effects arise when the value to a participant of access to a network depends on the number of other users with access to the same network. For example, the value to a bank from joining or accessing a network or scheme that offers its members the ability to apply direct credits³⁷ to each other will only be high if there are a number of other members in the scheme. This is because a member bank's final customers will not be able to send direct credits to the final customers of non-member banks, nor will they be able to receive direct credits from them. Similarly, the reason that so many people are willing to carry branded credit cards is that the high majority of retailers accept them (and vice versa).
- 4.2 Network effects have important implications for the provision of payment systems, and indeed, the way in which the OFT has assessed them in this report. For money to flow as smoothly as possible around the economy, it is important that the links between payer and payee, i.e. the payment system networks, operate efficiently. This need for a network necessarily means that a degree of cooperation between the banks and other members is unavoidable. At the very least, a network's members must agree on the methods and standards for exchanging information, forming inter-bank settlements and covering network costs.
- 4.3 But at the same time, network effects mean that the competitive pressure that existing payment systems face from alternative systems, or the threat of new networks forming, is limited. Once a network is established, it is extremely difficult for a new competing network to gain the critical mass needed to function effectively on a standalone basis, even if the level of investment needed is not viewed as prohibitive.³⁸
- 4.4 For example, an individual bank deciding on whether to switch to an alternative to BACS will obviously face 'normal' switching costs, such as software development and interfacing costs. Over and above this, however, network effects will make the new system less attractive because of the smaller number of members to and from whom payments can be made and received.

³⁷ Refer to footnote 40 for the definition of a direct credit.

³⁸ It should be noted that here we are discussing the potential entry of a competing standalone system. This is different from the situation where a new entrant is able to provide a service that is compatible with the existing system (i.e. connects to it in some way), but offers lower costs/improved service levels. In this second situation, the members of the new entrant's system do not lose access to final customers of the members of the existing system.

- 4.5 A key problem arises because, whilst the combination of cooperation and a limited number of systems is necessary to yield network effects and the associated economic benefits, these very features have the potential to reduce competitive pressure. This, in turn, can lead to persistent inefficiencies and distorted incentives, with systems arguably under less pressure to drive down costs or to meet the needs of individual members. Any such inefficiencies are likely to ultimately affect final customers in the form of higher prices and less innovative products and services at the retail level.
- 4.6 To serve final customers well downstream, competition in the retail provision of payment transfers must deliver downward pressure on prices and costs, and through innovation, improve the quality of the services provided. Key to the intensity of retail competition is the ability of institutions with new offerings to enter the market by accessing the payment system easily and fairly. Retail competition is therefore dependent on the payment system and its ability to deliver efficient and transparent charges for access and use, and innovation and cost reductions. The incentives for delivering these are, in turn, affected by the features of the networks - cooperation and limited inter-system competition.
- 4.7 The specific arrangements of the governance of the scheme's network infrastructure may dampen incentives for payment systems to make changes that could improve this situation or facilitate greater retail competition.

5 METHODOLOGY

- 5.1 In addition to meeting representatives of APACS, BACS, CHAPS and CCCL, the OFT sent questionnaires to a number of settlement members, indirect members, and other industry participants (see annexe C). Information was requested on costs and tariffs, organisation structures, innovation and membership criteria. The four questionnaires sent out were:³⁹
- Tariffs and costs: Settlement members
 - Tariffs and costs: Indirect members
 - Innovation
 - Merchant acquirers
- 5.2 The underlying aim of the questionnaires was to obtain respondents' views on the main aspects of payment systems. The questionnaire covering tariffs and costs asked about the prices, costs and resources required to provide payment services, about aspects of differentiation in those services, and the perceived advantages and disadvantages of being a full settlement member of the clearing schemes. The innovation questionnaire requested views on the investment and innovation record of each clearing system, how they might benefit from recent and forthcoming system developments, what further payment systems innovations they require to address their own retail business model, and whether they are likely to occur. The OFT also asked about any underlying disincentives to innovate within the schemes, the nature of any barriers and how these barriers might be negated. Finally, the merchant acquirers questionnaire followed similar lines requesting information on the scope of activities, nature of activity, competitive strategy and pricing structure.
- 5.3 The response rates were relatively successful. An 86 per cent response rate was achieved for the Tariffs and costs: Settlement members questionnaire, 50 per cent for the Tariffs and costs: Indirect members questionnaire, 64 per cent in connection to Innovation and 82 per cent for Merchant Acquirers.
- 5.4 The OFT also followed up the completed questionnaires by meeting a sample of indirect and settlement members to discuss their perspectives in more depth. In addition, meeting were held with organisations such as LINK, Visa and Switch to incorporate their views on the card networks. See annexe C for a list of meetings held.

³⁹ The questionnaires distributed are provided in annexes D to G.

PART II: CLEARING SYSTEMS

6 THE CLEARING SYSTEMS AND RECENT TRENDS

The generic structure of clearing systems

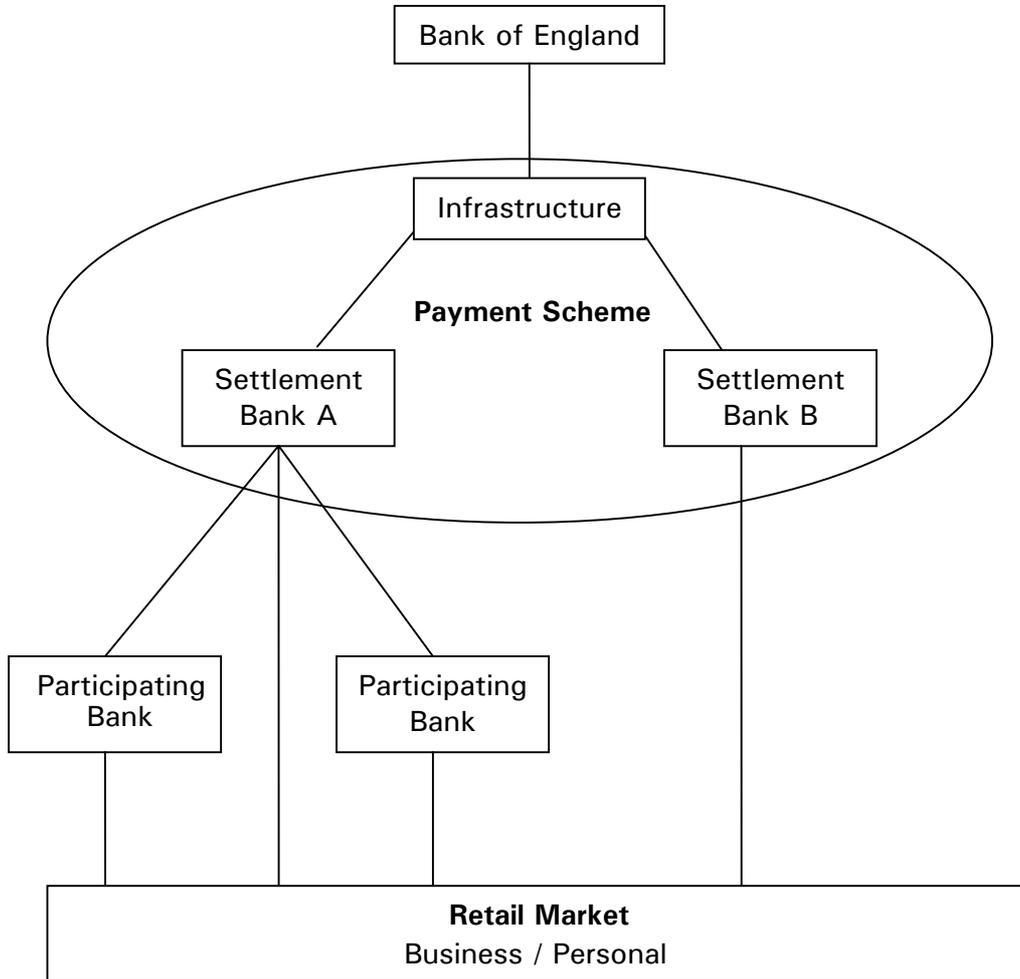
- 6.1 A clearing system is a system by which banks, building societies and other institutions exchange payments on behalf of their final customers through a central clearing member without using cash. The payments instruments relying on a clearing system considered within this section are direct debits, direct credits, standing orders, cheques and real time gross exchange.⁴⁰ New payment instruments may evolve in the future. Direct debits, direct credits and standing orders are cleared using BACS, cheques and paper credits via CCCL and real time gross settlement payment by CHAPS. Even though different schemes offer different services, the clearing process, i.e. the transmission and settlement of payments, can be characterised in the way shown in diagram 6.1.
- 6.2 Clearing systems are not dissimilar to the telecommunications market in that the features of the network and its infrastructure (see chapter 4) means that just a few competing wholesale markets create the potential for a wide array of retail service provision. But like telecoms, the wholesale and retail markets are closely inter-twined. Clearing systems are not currently independent of the banks and institutions who use them on behalf of their final customers. The settlement members cooperatively govern all areas, including rules on entry, operational procedure and pricing policies through the use of small secretariats in BACS, CHAPS and CCCL (although the governance arrangements are slowly changing - see paragraphs 8.11 to 8.21).⁴¹ There are currently 14 settlement members in BACS and in regard to CCCL there are 12. With CHAPS, membership is

⁴⁰ A direct debit is pre-authorised debit on the payer's account initiated by the payee. Amounts may be variable. This is known as a pull payment. A direct credit is a credit made to a customer's account initiated directly by the payer. Examples include wages, pensions and government benefits. This is a push payment. A standing order is an instruction from a final customer to his bank or building society to make payments of a specified amount to a named creditor. This is also a push payment. A real time gross settlement (RTGS) payment is a process where an individual payment is settled in real time across member settlement accounts at the Bank of England. Source: www.apacs.org.uk

⁴¹ Diagram 6.1 depicts the payment scheme as the group of settlement members (settlement banks) (and their standards and rule etc) and the infrastructure itself. This scheme model is often referred to as a 'captive infrastructure' model. However, there is no reason why the infrastructure provider cannot be independent of the scheme. In such a scenario, the relationship between settlement members and indirect members (participating banks) remains the same - and the wholesale/retail telecoms analogy also remains valid.

separated between CHAPS Sterling and CHAPS Euro, with 13 and 20 settlement members respectively, see annexe H for a complete list.

DIAGRAM 6.1



- 6.3 The technology underpinning the three clearing systems differ, but, essentially, they are all communication networks for the settlement members in combination with a mechanism for inter-bank settlement (at the Bank of England⁴²).
- 6.4 A settlement member must satisfy access criteria decided by the existing members. The payment scheme charges scheme tariffs to all settlement members and this may take the form of an annual fee and volume-related charge (see paragraphs 9.44 to 9.67). The Bank of England also levies a fee to all members for its role in the settlement process, as do other organisations who facilitate communications links within schemes.

⁴² All members of a payment scheme must hold an account at the Bank of England. Inter-bank settlement takes place here.

- 6.5 The settlement members offer a link to indirect members that want to access the payment scheme indirectly in order to provide a retail service to their own final customers. It is the responsibility of the settlement members to negotiate independently of the payment scheme and each other the charges to be levied against 'indirect' members as a result of using a payment scheme. These charges should vary amongst the 'indirect' members involved and will be dissimilar to the fees charged to settlement members of a payment scheme.
- 6.6 The most important aspect to the above clearing system structure is that the settlement members provide wholesale functionality to indirect members with whom they also compete at the retail level. This is similar to a vertically integrated company providing inputs to itself and its downstream rivals. As a settlement member and co-owner of a payment scheme, settlement members have an influential role over the operation of the scheme (including who is allowed to enter the scheme as a settlement member) but also negotiate tariffs for indirect access. In other words, there is large scope for settlement members to distort competition at the retail level, in a number of ways.
- 6.7 Even though BACS, CHAPS and CCCL can all be modelled using the generic framework illustrated in diagram 6.1, the specific characteristics of the individual systems are described in paragraphs 6.9 to 6.28 and annexes I to K in more detail.
- 6.8 The Association for Payment Clearing Services (APACS) acts as an umbrella body at the heart of the UK payments industry. It provides the forum for banks and building societies to discuss non-competitive issues relating to money transmission and represent the industry to media and government departments. Recent governance changes have altered APACS responsibilities and these changes are discussed in chapter 8, paragraphs 8.11 to 8.21.

Bankers' Automated Clearing Services (BACS)

- 6.9 BACS is an automated clearing house, responsible for bulk clearing of electronic payments between bank accounts. It is the sole processor of the United Kingdom's direct debit, direct credit and standing order payments.⁴³
- 6.10 There is a two-tier structure to BACS, comprising of direct and 'indirect' members.⁴⁴ Many settlement members can provide access to indirect members by a sponsoring relationship, but not all settlement members provide this service. Indirect members include a multitude of financial institutions, utility

⁴³ See footnote 40: definitions for direct debits, direct credits and standing orders.

⁴⁴ See annexe H for a list of BACS members.

companies, local councils and supermarkets to name a few. There are in the region of 60,000 users who submit instructions via a settlement member.⁴⁵

- 6.11 All payments are transmitted via the BACS system. Settlement members or indirect members transmit their data of daily retail debits, credits and standing orders, to the BACS infrastructure. Indirect users are allocated a BACS user number by their sponsor and are able to submit payment instructions directly to the system or via the sponsor. The data from the debits and credits are processed by BACS and transmitted back to the relevant settlement member, either as a receiver of funds or payer of funds. The net values of all transactions are transmitted to the Bank of England for settlement. It is the responsibility of the sponsoring settlement member to settle all netted transactions for indirect access, even in relation to indirect members having their own accounts at the Bank of England. This whole process is completed within a three day cycle. See annexe I for detail of the structure and operation of BACS Ltd. The annexe includes detail of membership criteria and a full explanation of the processing cycle.

Recent Trends

- 6.12 The use of automated services has increased over recent years, with the total number of direct debit, direct credit and standing order payments increasing by 12.6 per cent between 2000 and 2002.⁴⁶ Between January 2000 and December 2002 monthly transactions for debit debits and direct credits have increased by 27 per cent and 21.8 per cent respectively. Final customers are now choosing to use direct debits for utility bill and insurance premium payments, with 455 million and 423 million payments per annum in 2001.⁴⁷ The main growth in direct credits has been the movement towards automated wage transfers, accounting for approximately half of all payments. Within recent years growth has been attributed to remote banking, with 43 million payments in 2001.⁴⁸
- 6.13 The use of standing order payments has remained a relatively popular payment instrument with 273 million payments in 2002.⁴⁹ With increasing use of internet

⁴⁵ Source: Payment and settlement systems in selected countries, (CPSS Publications No. 53) April 2003 United Kingdom, page 410.

⁴⁶ In 2000 the total number of direct debits, credits and standing orders processed was 3,316 million, this increased 3,734 million in 2002. Source: Monthly Clearing Statistics (1991-2002). Annexe L provides comparisons on annual value and volumes for BACS, CHAPS and CCCL.

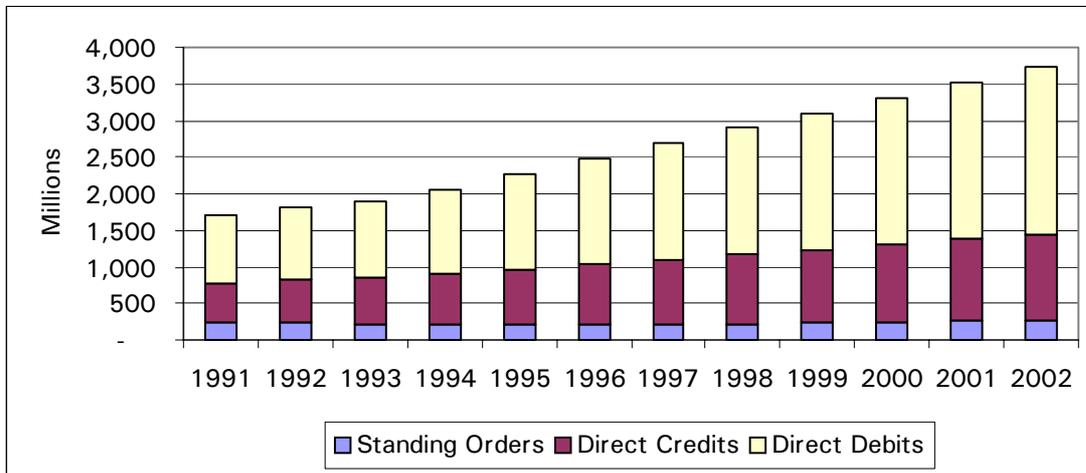
⁴⁷ Source: APACS Payment Market reports 2002 page 11.

⁴⁸ Source: APACS Payment Market reports 2002 page 12. Remote banking is a payment using any of the telephone, TV, PC or other remote banking services. Payments made via remote banking are set up as a one off standing order.

⁴⁹ Source: APACS Monthly clearing statistics (1991 – 2002) www.apacs.org.uk

banking, setting up such transactions is becoming easier. Final customers tend to use the facility for regular payments of a fixed amount such as transfers to saving accounts or charity donations.

DIAGRAM 6.2: BACS ANNUAL CLEARING VOLUMES 1991 – 2002



Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk

- 6.14 BACS predicts automated payment volumes will rise over the coming years.⁵⁰ Direct credit volumes are due to rise with the introduction of automated credit transfers for all benefit payments between 2003 and 2005. This introduction will raise direct credits transactions by 1.2 billion in 2005. Consequently this will alter the composition of payments with benefit payment contributions expecting to account for 38 per cent of all transaction volumes by 2011 compared to its 15 per cent stake at present. Correspondingly payroll payments will have a reduced share, at present accounting for 45 per cent of all credits, reducing to 20 per cent by 2011.
- 6.15 Direct debits are also expected to rise in volume, with a projected level of 3.3 billion by 2011 compared to 2.3 billion at present. Finally, standing order payments are predicted to experience a steady growth with projections of 471 million by 2011. As described above, standing orders are still a popular method for regular payments.

Clearing House Automated Payment System (CHAPS)

- 6.16 CHAPS is the real time gross settlement system (RTGS) for credit transfers.⁵¹ There are two separate clearing systems, one in sterling the other in Euros.

⁵⁰ Forecast sources: APACS Payments Market reports 2002, pages 30 to 33.

⁵¹ A real time gross settlement (RTGS) payment is a process where an individual payment is settled in real time across member settlement accounts at the Bank of England. Source: www.apacs.org.uk

Payments are irrevocable with no restrictions on type or value of transaction handled.⁵²

- 6.17 Both CHAPS systems run on a two-tier membership structure. Settlement members can provide indirect access to additional users via agency agreements. Indirect members can initiate outgoing payments but settlement members are responsible for such activities and settle on their behalf. Presently, there are 425 indirect members connected to the CHAPS Sterling system and a further 100 or so in CHAPS Euro.⁵³
- 6.18 CHAPS payments are all submitted and settled in gross form. Settlement members submit credit payment details to the SWIFT⁵⁴ network. The SWIFT message is intercepted by the Bank of England so that it can verify that the payer has enough funds in its account to honour the payment. Only when this verification takes place and the Bank of England returns a settlement confirmation message is the transfer and settlement complete. The whole process takes less than a minute and is irrevocable. See annexe J for a detailed description of the processing cycle.
- 6.19 This is an extremely high value system: in 2002 the average sterling transaction value was £2.6 million.⁵⁵ With 25 million transactions processed in 2002, this accounted for £51 trillion⁵⁶ passing through in sterling alone. The market is still growing. Payment volumes have increased over recent years, with average monthly transactions having increased by 574,000 between January 2000 and December 2002.⁵⁷

⁵² Source: www.apacs.org.uk.

⁵³ European Central Bank Blue Book June 2001, page 498, 2001 data.

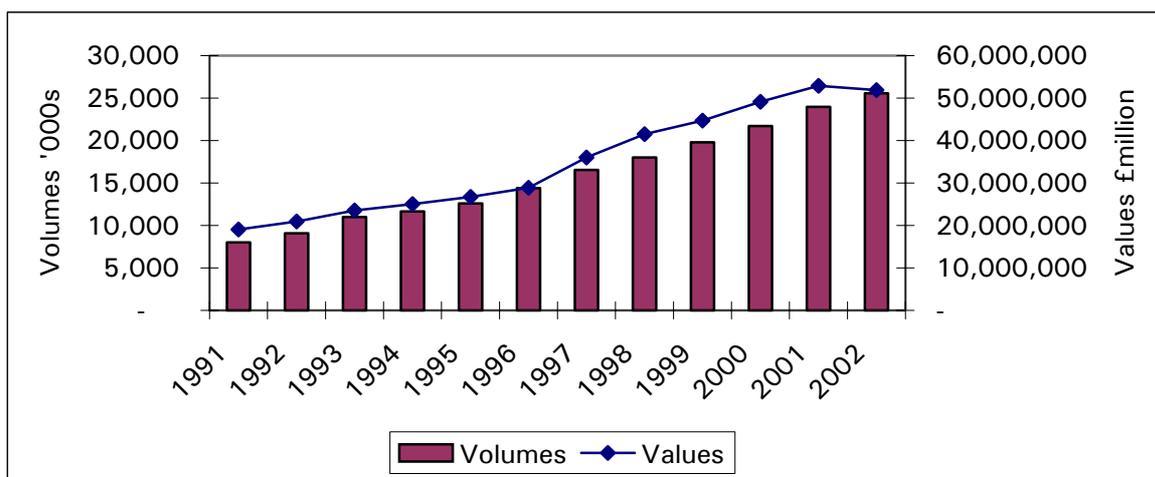
⁵⁴ Society for Worldwide Interbank Financial Telecommunication (SWIFT). See box below for details.

⁵⁵ Source : APACS Payments market report 2002 page 37.

⁵⁶ £51 million million.

⁵⁷ There were 1.6 million transactions in January 2000 which increased to 2.1 million in December 2002. Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk

DIAGRAM 6.3: VOLUME AND VALUES OF CHAPS STERLING TRANSACTIONS 1991-2002



Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk

6.20 CHAPS transactions can be subdivided into retail payments by business and personal customers, housing market payments and financial payments. Financial payments and retail payments by businesses and individuals both accounted for around 40 per cent of volumes processed in 2001. Within recent years it has been retail payments that have been provided the strongest drivers of volume growth.⁵⁸

6.21 CHAPS Euro was established in 1999 to enable its members to make large payments in Euros across the UK. Average values tend to be slightly higher than sterling payments, in 2002 the average value was £3.3 million. Again with 1,237 million domestic payments processed in 2002 this was valued at £4.2 trillion.⁵⁹ CHAPS Euro can facilitate cross-border payments in Euros to the 15 EU banking systems through the TARGET system.

⁵⁸ Source: APACS Payments market report 2002 page v and section 4.

⁵⁹ Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk

TARGET (Trans European Automated Real-Time Gross Settlement Express Transfer System) and SWIFT (Society for Worldwide Interbank Financial Telecommunication).

The **TARGET** system is the real-time gross settlement system for the euro. It is a decentralised system consisting of 15 national RTGS systems (CHAPS for the UK), the ECB payment mechanism (EPM) and the Interlinking system. The Interlinking system is a telecommunications network linking the national RTGS systems and the EPM.

Cross-border TARGET payments are processed via the national RTGS systems and exchanged directly on a bilateral basis between national central banks (NCBs). Given that TARGET incorporates RTGS systems which have been established under local conditions, the payment services offered to the final customers of different national systems are not identical. The Interlinking procedures, however, are the same for all countries.

In order to initiate a cross-border payment, the paying bank sends a payment message to the NCB through its RTGS system. The sending NCB checks the validity of the payment and the availability of sufficient funds. The amount of the payment is then debited irrevocably and instantaneously from the RTGS account of the sending bank and credited to the Interlinking account of the receiving NCB in the ECB.

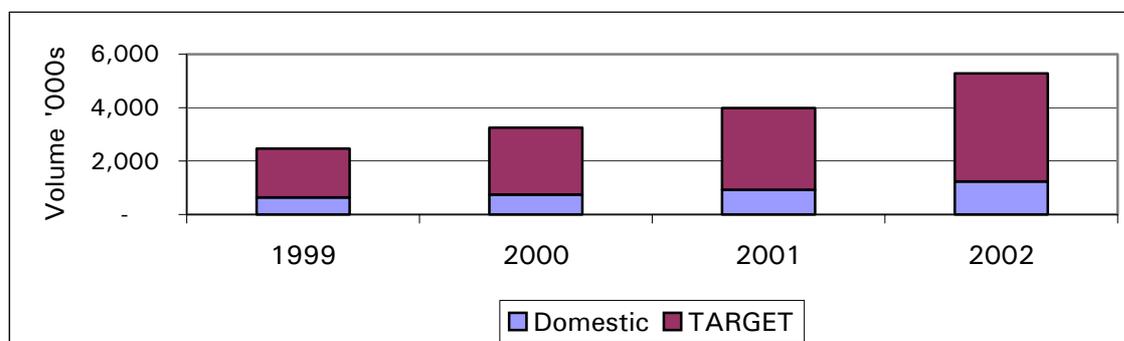
As soon as the receiving NCB receives the payment message, it checks the security features and verifies that the receiving bank is a member in its domestic RTGS system. If so, the receiving NCB converts, where appropriate, the message from the Interlinking standard into the domestic standard. It then credits the receiving RTGS account and delivers a positive acknowledgement to the sending NCB/ECB. Finally, the receiving NCB sends the payment message, through the local RTGS system, to the receiving bank.

All TARGET messages are submitted to the **SWIFT** network. SWIFT is the industry-owned cooperative supplying secure messaging services and interface software to 7,000 financial institutions in 198 countries. Messaging traffic increased by 18.5 per cent in 2002 with 1.8 billion messages transmitted.⁶⁰ Due to the network effects of messaging standards the increased usage has put SWIFT in a strong position for future market growth.

⁶⁰ Data sources: www.swift.com

6.22 The use of the system is continually growing, since the launch in 1999 annual TARGET transactions have increased by 121 per cent, processing £26 trillion.⁶¹ CHAPS is the second largest component of the TARGET system after the German RTGS system, accounting for approximately 18 per cent of traffic.⁶²

DIAGRAM 6.4: VOLUME OF CHAPS EURO TRANSACTIONS 1999-2002



Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk

Cheque and Credit Clearing Company Ltd (CCCL)

6.23 CCCL is responsible for cheque and paper credit clearings in the UK (except Northern Ireland). Credit transfers are pre-printed credit transactions in paper form.

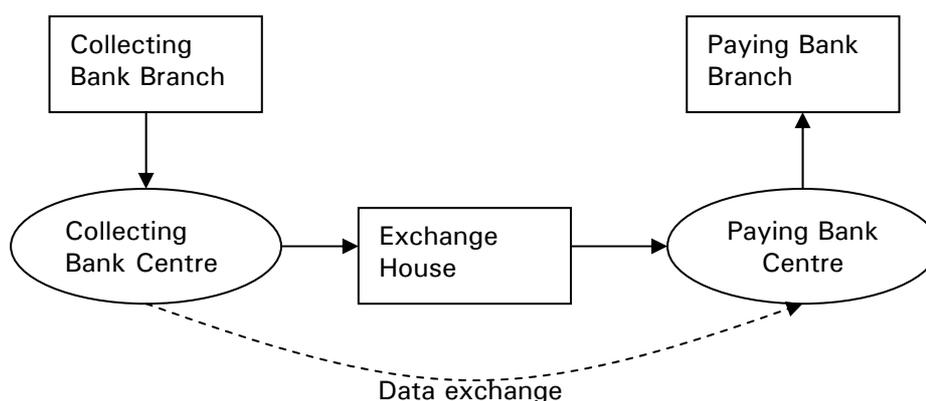
6.24 Like BACS and CHAPS, CCCL also has a two tier membership structure whereby indirect members can access the clearing cycle via a settlement member.

6.25 Within this system the clearing cycle involves the physical exchange of paper. A simplified version is illustrated in diagram 6.5. Final customers submit cheque payments into their collecting bank branch, upon which the collecting bank branch will transport the cheques to the collecting bank centre for processing. The payment information is transmitted electronically to paying bank centres. At the same time the collecting bank centre sends the cheques/paper credits to the Clearing Exchange Centre (CEC) where they will be sorted between members. These are then transported to the paying bank centres to verify settlement values. Netted values are submitted to the Bank of England for settlement. This whole process is completed within a three day cycle. See annexe K for detail of the structure and operation of CCCL Ltd.

⁶¹ Transactions increased from 1,826 million in 1999 to 4,045 in 2002. Source APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk.

⁶² Source: APACS

DIAGRAM 6.5: SIMPLIFIED CHEQUE/CREDIT PROCESSING CYCLE



6.26 Outsourcing has become an increasingly cost-effective means to process CCCL transactions due to the increasing unit costs associated with lower transaction volumes (see paragraph 6.27 below). A long-term goal of outsourcing companies is that transactions are processed on an On-We basis. That is, the processing of cheques takes place internally within the outsourcing firm. At present this is not possible as the individual banks that outsource to the same firm operate on different technological platforms. Processing still has to go through the Inter Bank Data Exchange (IBDE) system which is operated by CCCL. It is only transactions where collecting and paying bank are the same that an internal process can take place. This is known as an On-Us process. For On-Us items, the debit and credit may well appear on both payer's and payee's statements on the day when the transaction is deposited, although this does depend on internal procedures at each of the members. Within the UK there are two outsourcing companies, Intelligent Processing Solutions Ltd (IPSL) and Electronic Data Services (EDS). IPSL have seven client banks: Lloyds, Barclays, HSBC, HBOS, Clydesdale, Cooperative and Girobank whilst EDS have 2 client banks, Royal Bank of Scotland and Natwest.

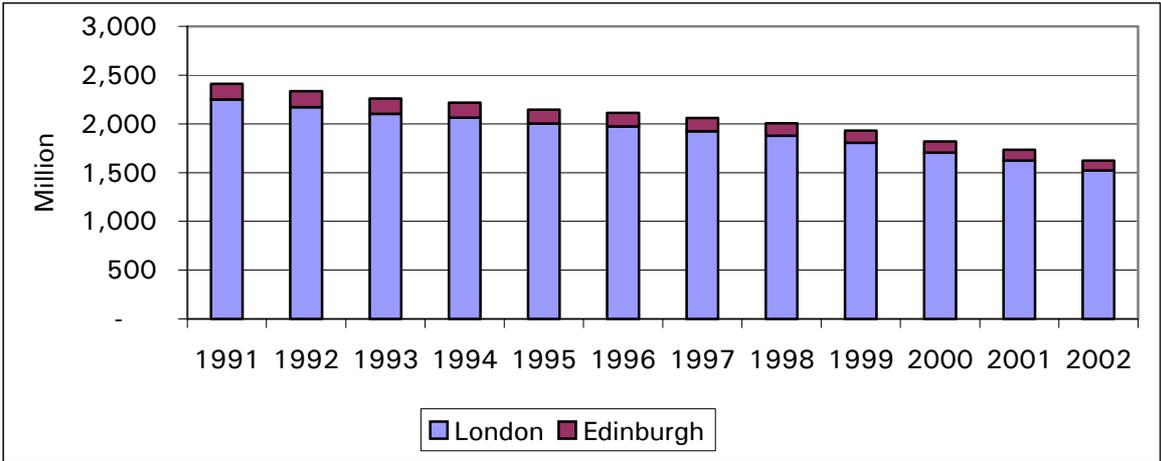
Recent trends

6.27 Cheque usage in the UK has declined in recent years as debit cards have increased in popularity and ATM's are more widely available to dispense cash. In addition, the use of automated services has increased substantially (see paragraphs 6.12 to 6.15).⁶³ Subsequently, such changes in consumer trends have resulted in a 10.8 per cent reduction in cheque usage between 2000 and 2002.⁶⁴ Volumes are expected to decline even further with the introduction of automated credit transfers for all benefit payments in 2003.

⁶³ Source: APACS Payments Markets Report 2002, section 2.5.

⁶⁴ 1,622 million inter-bank transactions took place in 2002. Source APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk.

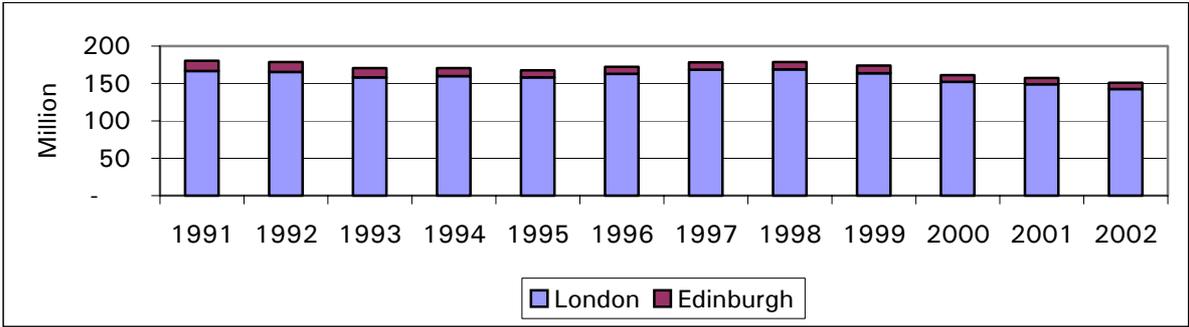
DIAGRAM 6.6: CHEQUE INTER-BANK VOLUMES 1991- 2002.



Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk

6.28 For the reasons stated above, there has also been a decline in the number of paper credit items processed. In 2002 only 151 million inter-bank payments passed through the system compared to 161 million in 2000.

DIAGRAM 6.7: CREDIT INTER-BANK VOLUMES 1991 – 2002.



Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk

Liability issues

6.29 There are a number of potential problems that can arise for final customers within the money transmission mechanism. Examples include:

- a delay in funds entering an account resulting in the account becoming overdrawn⁶⁵
- funds are not taken out of the account on the correct specified date. This may result in a final customer overspending, resulting in the account becoming overdrawn when the amount is finally withdrawn
- money is debited from an account and the final customer is unaware of transaction (direct debit or cheque)
- cheques go missing resulting in the receiver not getting needed funds.

6.30 When an error arises, the final customer will look to his/her bank for redress. The final customer and bank have a contractual relationship, and whilst terms and conditions will vary, the Banking Code requires banks to provide final customers with the relevant terms and conditions which will be fair, will set out final customers' rights and responsibilities clearly and in plain language.⁶⁶ The Banking Code also sets standards that banks must conform to in relation to the clearing cycle. The Banking Code states that banks have a responsibility to inform final customers about the clearing cycle, including when final customers can withdraw money after paying into their account and when they will start to earn interest. In addition, the rules of the Direct Debit Scheme require banks to give a guarantee which protects final customers in the event that a direct debit they have not authorised has been taken from their account. Should any money be taken in error, the customer's bank or building society must, as soon as the payment is queried, make an immediate refund to the customer's account.⁶⁷

6.31 When errors occur due to problems within the central clearing systems, the final customer's bank may have redress under rules set out by the individual clearing

⁶⁵ The example focuses on a delay in terms of a receiver of direct debits, direct credits, standing orders and cheques.

⁶⁶ Source: Banking Code paragraph 6.1-6.2. The Banking Code is a voluntary code followed by banks and building societies in their relations with personal customers in the United Kingdom. It covers current accounts, personal loans, savings and credit cards. The Code sets standards of good banking practice, which are followed as a minimum by banks and building societies subscribing to it. At present Citibank do not currently subscribe to the Codes as at 1 March 2003, however they are a settlement member of CHAPS. Source: www.bankingcode.org.uk/whodoesnt.htm and APACS

⁶⁷ This is the Direct Debit Guarantee. This covers situations where the originator has not given the required advance notice regarding a change of amount or date. It also protects customers should an incorrect amount be debited or if a debit occurs earlier than the specified, agreed date, or in error. Source: APACS

companies against another member in the scheme. APACS informed the OFT that disputes may be resolved bilaterally between members or through the clearing company.

7 THE CLEARING CYCLE

The clearing cycle and float income

Introduction

- 7.1 It is a widely held belief that the standard three day cheque clearing cycle results in final customers losing interest income.⁶⁸ It is often assumed that it is the banks that earn interest on the value of a cheque paid in by a final customer between the time when it is deposited and the time when that cheque is cleared.
- 7.2 In fact, for almost all clearing scheme transactions, the debiting of the payer's account and the crediting of the payee's account occur simultaneously. In these cases, the funds are at no time available to either the paying or the collecting bank. Since no 'float' arises in these cases, no interest is earned by the banks as a result of the three day clearing timeframe. This is the case in relation to most cheque transactions.
- 7.3 For a small number of transaction types, float is generated during the clearing cycle. This float is then available to the banks, to earn interest for example. Estimates of the interest income earned by the banks and lost by final customers are clearly sensitive to the rate at which interest would otherwise have been earned by final customers on the funds. Even assuming an interest rate of five per cent per annum, the magnitudes involved are very small in comparison with the total values transacted, though relatively significant in comparison with the costs of the central clearing schemes. However, to the extent that the payments final customers' current accounts, typically offering much lower interest rates, the interest foregone is likely to be negligible.

The clearing cycle

- 7.4 As noted chapter 6, paragraphs 6.11 and 6.25, the CCCL and BACS schemes operate on a three day clearing cycle. This means that transactions initiated on day T are settled between the clearing banks on the morning of day T + 2.⁶⁹
- 7.5 From a payee perspective, the two key events in the clearing process occur:
- when a payment received begins to earn interest (i.e. the payee 'has value'), and
 - when paid-in funds can be withdrawn (i.e. the funds are 'cleared').

⁶⁸ For example, this was raised as an important issue when the OFT met with the consumer groups National Consumer Council, Consumers' Association Financial Services Consumer Panel.

⁶⁹ In the case of BACS payments, such as payroll direct credits, these may be set-up well in advance of day T. The instructions are then effectively stored, before being executed on day T.

7.6 Similarly, as far as the paying customer is concerned, the key payment stages occur:

- when a payment can no longer be stopped
- when funds earmarked for a payment can no longer be used for other purposes
- when earmarked funds stop earning interest, and possibly
- when payment reaches the payee.

In general, each of these events occurs at a different point after the payment process has been initiated.

7.7 In principle, banks and building societies have considerable flexibility in the timing of each of these events. For example, a bank may pay interest on a paid-in cheque from the time it is first deposited, even though it will not actually receive the funds from the paying bank until settlement occurs, two days later. Indeed, it could also allow the final customer to withdraw funds to the value of the cheque instantly.

7.8 Ultimately these are commercial decisions for the bank in question. When a bank pays interest on payments received before settlement has occurred, it is doing so while not actually earning any interest on the monies itself. When the bank allows paid-in money to be withdrawn before settlement, then it runs the risk that it will not actually receive the funds from the paying bank. Indeed, under clearing scheme rules, a payment may be stopped even after settlement has occurred in some circumstances.

7.9 Settlement members generally give value (ie pay interest, where it is offered) on a payment received from day $T + 2$, i.e. from the day settlement occurs between banks. Funds are generally available to be withdrawn from the point where accounts are updated. For some banks, this occurs once settlement has been completed on the morning of day $T + 2$. However, in other cases, account updating may not take place until overnight processes are run between day $T + 2$ and day $T + 3$, in which case funds may not become available until the morning of day $T + 3$.⁷⁰ In some cases, while paid-in funds are available from the point when settlement occurs, they are not visible in an account until the next day.

7.10 As identified above, notification that a payment has been withheld by the paying bank, because there are insufficient funds in the payer's account, for instance, may therefore occur after the payee's bank has allowed the funds to be withdrawn from the payee's account.

⁷⁰ Additional timescales may apply when transactions involve movements between England & Wales and Scotland or Northern Ireland.

- 7.11 Clearing scheme rules do constrain the commercial freedoms of the clearing banks with regard to timing to some extent. For instance, banks which receive output directly from BACS are required to update their customer's accounts by day T + 2.⁷¹
- 7.12 Some participating institutions do not allow paid-in funds to be withdrawn for periods significantly beyond the date when settlement occurs. For example, funds paid in to building society accounts are typically only available several days after settlement has occurred. (Table 7.1 below summarises relevant information for cheques for a sample of the largest building societies.) This may be partly due to the fact that some institutions take longer to physically process transactions. However it also reflects commercial considerations, allied to the fact that a returned cheque may take several days after settlement to reach the payee bank.⁷²

TABLE 7.1: CHEQUE CLEARING TIMES FOR A SAMPLE OF BUILDING SOCIETIES.

Building Society	Account Name	Funds available	Interest paid
Britannia	Flexible Savings	T + 9	T
Chelsea	Instant Option	T + 9	T + 1
Cheshire	Premium Access	T + 6	T + 4
Coventry	NetSave III Instant	T + 4	T
Derbyshire	Cash	T + 8	T + 1
Leeds & Holbeck	Premier Current	T + 7	T + 3
Portman	Prestige Cheque	T + 4	T + 3
Principality	Super Six	T + 11	T + 3
Skipton	Fixed Rate Bond	T + 8	T + 3
Yorkshire	E Saver	T + 5	T + 3

Source: Societies' websites

⁷¹ Most do update on T + 2.

⁷² It has been suggested to the OFT that the non-payment risks associated with a typical cheques payment into a building society account are notably higher than those associated with a standard bank current account.

'Float'

7.13 The OFT understands that, for most transactions made through the CCCL and BACS, the accounts of the final customer making the payment and of the payee are updated simultaneously. In effect, the payment is transferred directly from one account to the other when settlement occurs. In these cases, no 'float' arises in connection with the clearing process.

7.14 However, for a small number of transaction types, payment leaves the final customer account at the paying clearing bank before settlement occurs. In these cases, the paying bank rather than the final customer earns interest on the money ('float') for a period before settlement.

7.15 The responses to the OFT's questionnaire indicate that 'float' principally arises in connection with:

- inter-bank standing order payments, and
- internet and telephone banking transactions.

The OFT understands that these practices are observed across the industry.

7.16 Float may also arise where a final customer submits a credit (ie a cheque payable from the final customer's own account) at his or her own branch. In this case, the final customer's account may be debited immediately. However, if the payee's account is with another bank, they will receive the payment on day T + 2, following the standard clearing process. In the meantime, the paying bank will earn interest on the float generated.

7.17 Finally, float will arise if the payee's bank delays giving the payee value on received payments. The OFT understands that all settlement members give final customer's value, when settlement occurs on day T + 2. However, a final customer paying a cheque into a building society savings account may have to wait longer before they begin to earn interest on the payment. Information for a sample of the largest building societies, set out in Table 7.1, suggests that interest payments may be initiated up to two days after settlement (i.e. on day T + 4)

7.18 Clearly the cost of this two day delay to the final customer will depend on the interest foregone, and therefore on the relevant interest rate. By way of illustrative example, a final customer could lose approximately 38p on a £1000 deposit if the interest rate is five per cent and the clearing time is two working days later than day three.⁷³

7.19 In some cases, where a final customer undertakes substantial telephone banking business, then alternative arrangements may be offered which avoid significant

⁷³ $(2.8 \text{ days}/365 \text{ days}) \times 0.05 \times \text{£}1000$.

float being generated. Such offerings form part of the commercial strategies of individual banks.

Explanations for causes of 'float'

- 7.20 The OFT has been told that float arises because of the commercial practices of the banks, and not as a direct consequence of clearing scheme rules. However, a number of the clearing banks have pointed to differences in the treatment of standing orders within the wider BACS system (including the banks' own systems) as the explanation for the differential treatment afforded these transactions by the banks.
- 7.21 Specifically, it has been argued that direct credits and standing orders initiated on day T can only be recalled on day T + 1, i.e. the day before settlement. (This contrasts with direct debits and cheques, which can be recalled on the day of settlement, or even after.) Moreover, a standing order is structured as a direct credit from the paying bank itself. This means that the paying bank's own money is at risk unless it secures payment from its final customer before the direct credit instruction is initiated.
- 7.22 However, while this might explain why standing order payments must be 'frozen' in the payer's account on day T, it does not explain why the interest on the resulting float generally accrues to the paying bank rather than its final customer.
- 7.23 The OFT understands that the execution of internet and telephone banking payments are structured as standing order payments. Hence they are treated in the same way by the banks.

The magnitude of 'float' income

Standing orders

- 7.24 Drawing on information supplied by the banks, the OFT estimates that the income generated for the clearing banks as a result of the standing order 'float', assuming an interest rate of five per cent applies, is in the broad region of £20-25 million a year.⁷⁴ Where the monies involved would otherwise earn similar rates of interest for final customers, then this will also represent an estimate of the interest income foregone by final customers.
- 7.25 Float is generated by inter-bank standing order transactions only, i.e. those processed by the BACS system. There were 260 million inter-bank standing order transactions in 2001.⁷⁵ Given an estimated average standing order value

⁷⁴ As noted above, the sums involved would be much lower if a typical 'current account' interest rate were assumed.

⁷⁵ Yearbook of Payment Statistics 2002: Table 1.1.

of £200, this suggests an aggregate value for inter-bank standing orders of some £52 billion in 2001.⁷⁶

7.26 From the estimates of standing order transaction values, the float income estimate of £20-25 million is derived by additionally assuming that:

- the value of every standing order is available as float to the clearing banks for a period including two working days - an average of 2.8 calendar days (i.e. two days, except where standing order processing straddles a week-end when float is available for four days)
- the clearing banks are able to earn interest on that float - an interest rate of five per cent is used
- that final customers would also earn interest at rates of up to five per cent on these funds too.⁷⁷

7.27 It is anticipated that the BACS clearing cycle will be reduced from three to two days from 2005. Even allowing for the expected nine per cent growth in aggregate standing order transaction values relative to 2001, this would indicate clearing bank float income in the range £10-15 million in 2005.⁷⁸

Remote banking

7.28 Data from the 2002 Payments Market Report indicates that BACS processed 43 million remote banking credits in 2001.⁷⁹

7.29 The OFT has been told that the average value of a remote banking transaction is approximately £550 to £600.⁸⁰ These figures therefore suggest that the total value of inter-bank remote banking transactions was around £24-26 billion in 2001.

7.30 Assuming float is generated for two working days on such transactions, (i.e. implying four calendar days on 2/5ths of transactions) and that the relevant

⁷⁶ The APACS Payments Markets Report for 2002 estimates that the total value of 383 million standing order transactions (including intra-bank) undertaken in 2001 was £75 billion. This yields an estimated average standing order value of just under £200. A bank has estimated that the average value of a standing order transaction is, in fact, around £260. Applying this higher average value to estimated inter-bank standing order volumes would yield a total value of inter-bank standing orders of £68 billion.

⁷⁷ $(2.8/365) \times 5\% \times £52 \text{ billion} = £20 \text{ million}$; $(2.8/365) \times 5\% \times £68 \text{ billion} = £26 \text{ million}$.

⁷⁸ The APACS Payments Market Report 2002 estimates that total standing order volumes will increase from 383 million in 2001 to 416 million in 2005, an increase of 8.6 per cent. Assuming similar growth for inter-bank standing orders would yield an estimated 280 million inter-bank transactions in 2005.

⁷⁹ See table 'BACS Credits in 2001', page 12. Data in Table E of Appendix C of the 2002 Report also indicates that personal remote (ie telephone and internet) banking credit volumes stood at 58 million transactions in 2001. However, this figure presumably includes intra-bank volumes, on which float income would not be earned.

⁸⁰ Estimates provided by APACS.

interest rate is five per cent on this float, then the float income generated for the banks and lost by final customers annually would be of the order of £10 million.⁸¹

- 7.31 Unlike standing orders, a very rapid increase in remote banking transaction volumes is predicted. Indeed, by 2005 it is forecast that those volumes (including intra-bank transactions) will have approximately trebled, to 153 million. Assuming similar growth in inter-bank only transaction volumes suggests around 130 million remote inter-bank transactions will be undertaken in 2005. The estimated net effect of this increase in remote banking volumes and a one day reduction in the BACS cycle is to increase float income (assuming a five per cent interest rate) to around £15 million.

⁸¹ $(2.8/365) \times 5\% \times £26 \text{ billion} = £10 \text{ million}$.

8 RECENT DEVELOPMENTS

Recent and forthcoming system developments

- 8.1 Within recent years the clearing companies have implemented or proposed a number of changes to their schemes' processes and technical infrastructure. These recent developments are described below. For implications to innovation see chapter 9, paragraphs 9.124 to 9.168.

BACS

- 8.2 As discussed in chapter 6, paragraphs 6.12 to 6.15, the use of automated services has expanded over recent years and levels are due to rise even more with the introduction of automated credit transfers for all benefit payments.⁸² Such high transaction levels are putting growing pressure on BACS' central payment engine. The central infrastructure is unable to cope with increasing capacity requirements - it is becoming costly to maintain and is now outdated. Parallel to this central infrastructure problem the link between members and BACS, a delivery channel called BACSTEL, has become increasingly incompatible with current telecommunication and other IT technologies.
- 8.3 In response to these concerns, in February 2002 BACS initiated a £75 million NewBACS technological renewal programme. The new programme will be introduced in four phases, with full implementation due in 2005. A number of innovations have already been implemented, but later phases have only been partially signed off by the BACS Board and some are yet to be decided upon.⁸³
- 8.4 Phase one of the programme tackles the problem relating to the ageing delivery channel between members and BACS' payment engine. The initiative upgrades the existing telecoms based member delivery channel to an internet-based payment service known as BACSTEL-IP. With the old system, members submit payment information to BACS via a telecommunication link⁸⁴ and receive operational reports from BACS either in paper form or via an electronic mailbox. The new BACSTEL-IP system introduces an Internet Protocol-based interface between members and BACS. Members will be able to receive reports from BACS and access the clearing operation across the internet. To address the security issues, a Public Key Infrastructure (PKI) and the latest cryptographic

⁸² See annexe I for details on BACS usage.

⁸³ BACS press release dated 21 February 2003 and 12 March 2003

⁸⁴ Settlement members and indirect members can transmit their data directly to BACS' central infrastructure.

security methods will be put in place.⁸⁵ The operational start-up of this programme began in March 2003 and full migration is expected by 2005.⁸⁶

- 8.5 Phases two, three and four are yet to be implemented and some major design features are yet to be agreed. Phase two of the programme will upgrade member data management processes,⁸⁷ while phases three and four will build and introduce a new electronic payment engine. The final specification of the payment engine is still under discussion, but it is expected that the new infrastructure will enable greater functionality from the system. Benefits include the full automation of direct debit transfers between banks and final customers and the capability to reduce the three day clearing cycle if required.⁸⁸

CHAPS

- 8.6 As described in paragraph 6.16 CHAPS has two separate arms, CHAPS Sterling and CHAPS Euro. Until 2001 CHAPS Sterling operated on proprietary standards and network. However when CHAPS Euro was introduced in 1999, it employed a more generic platform, using SWIFT's global messaging system.
- 8.7 In August 2001, CHAPS Clearing Company launched an improved service called NewCHAPS. This realigned CHAPS Sterling and CHAPS Euro onto the common SWIFT platform. The reasoning for the transition was that it simplified any potential Euro entry and supported industry initiatives and fundamental changes to the payment and securities infrastructure.
- 8.8 Alongside the NewCHAPS migration to the SWIFT platform, the NewCHAPS programme also included a centrally provided scheduling facility which is based around an Enquiry Link workstation.⁸⁹ The Enquiry Link provides members with the option to use a centrally provided, on-line central scheduler and settlement process to support liquidity management and payment scheduling.

CCCL

- 8.9 Unlike BACS and CHAPS, CCCL has not undertaken a major 'New' development programme, although there have been a number of initiatives to improve the CCCL clearing cycle. As described in chapter 6, paragraph 6.27, cheque transaction volumes have declined, resulting in increasing unit costs. One

⁸⁵ The move to Internet protocol allows BACS to take advantage of the latest proven security, particularly in areas of user identity verification, data integrity and increased privacy measures. Source: BACS press release dated 12th March 2003

⁸⁶ BACS press release dated 12 March 2003

⁸⁷ Phase two of the programme is based on a Unix mainframe and Java development environment. Completion is due Autumn 2003. Source: www.networknews.co.uk/News/1139396

⁸⁸ See chapter 9, paragraphs 9.138 to 9.139.

⁸⁹ The project was owned by the Bank of England. The Enquiry Link workstation operates on the new SWIFTNet Link communications infrastructure.

method to tackle declining volumes is to outsource, so that economies of scale can be retained. Outsourcing has become an increasingly cost-effective means to process transactions and uptake has increased within recent years.

- 8.10 In relation to the cheque cycle itself, the introduction of IBDE (Inter Bank Data Exchange) in 1996 enabled the electronic transfer of cheque details from the collecting bank to the paying bank. This has facilitated the implementation of paying bank truncation.⁹⁰ The next step forward is movement towards truncation at the collecting bank. The 'enablers', such as imaging techniques are now available, but the application is not yet utilised. A number of other projects have also taken place within the CCCL scheme. These include the development of new standards in relation to cheque printing and combating fraud, as well as new netting and loss sharing arrangements in relation to settlement.

Recent and forthcoming changes to governance

Background

- 8.11 In March 2000 all payment schemes operated under a mutual governance model. That is, settlement members determined the rules on access, system operation and development.⁹¹ APACS was at the heart of this operation and acted as an umbrella organisation to the payment schemes, overseeing developments, resolving disputes and acting as a representative body. All scheme members were required to be members of APACS.
- 8.12 There are claimed benefits to this kind of mutual governance structure. Where banks have similar interests, and these coincide with those of their final customers, their inside knowledge means that they are best placed to efficiently provide for those interests. In addition, operating under a not-for-profit structure may guard against any potential abuses by an independent provider with market power, such as exploitative pricing.
- 8.13 However, this structure can also have anti-competitive effects. As stated in paragraph 6.6, settlement members provide wholesale functionality to indirect members with whom they also compete at the retail level. Each bank has its own commercial business plans and there are inherent incentives to gain competitive advantage over rivals. Activities to achieve such an advantage could include settlement members imposing anti-competitive restrictions on

⁹⁰ In a system of truncation, the movement of the cheque is halted at some stage during the clearing cycle and it need not be returned, for final payment, to the bank on which it is drawn. Some cheques are currently being retained at a central point within paying banks (paying bank truncation) rather than being passed on to the paying customers branch, although this may eventually change to a point within the collecting bank. This is known as full Collecting Bank truncation.

⁹¹ Individual member control may vary though with some share allocation being dependent on volume.

access, or charging unfair wholesale prices. It might also be argued that the mutual governance structure leads to lower innovation levels and poor transparency, see chapter 9.

- 8.14 Over recent years governance issues have been reviewed since concerns were highlighted in the Cruickshank Report. Primarily there has been a focus on voting rules and entry requirements. The review has resulted in major changes to the constitutions of APACS, BACS, CHAPS and CCCL as described below.

APACS

- 8.15 Since March 2000, the three clearing systems have become more independent of APACS. All clearing companies are now legally separate entities with the option to leave APACS if they wish to do so.⁹² The legal separation has enabled BACS, CHAPS and CCCL to decide their own governance arrangements. It has been claimed by one bank that the redefining of clearing system rules has facilitated quicker decision making activity, achieved by a more 'democratic' voting arrangement. For example, the clearing schemes are no longer required to show their development plans to the Council for approval.⁹³
- 8.16 APACS governance changes have also resulted in a relaxation of membership criteria.⁹⁴ Access to APACS has been amended with associate members being replaced with Affiliates. Affiliate membership is available to a wider range of institutions and the information available to affiliate members is broader than previously.⁹⁵ The increased information available to affiliate members increases knowledge levels and can provide them with more influence and negotiating power over members. In addition, banks and building societies can now join the schemes directly without becoming a member of APACS. Avoiding APACS' membership requirements can help smaller volume members who no longer have to pay entry fees and running costs which might have previously

⁹² In September 2002 the old APACS Rules were replaced by the New APACS Constitution. Under the new Constitution the governance link between the clearing companies and the APACS Council has been broken with full autonomy given to the clearing companies. If a clearing company remains under the umbrella they support APACS' objectives and APACS supports theirs. Membership also enables clearing companies to advise on how the activities commissioned by the Council should be directed. At present APACS (Administration) still provides the staff, facilities and premises for CHAPS and CCCL. At present all settlement banks are still members of APACS, see annexe H. Source: The APACS Umbrella, July 2002 and www.apacs.org.uk.

⁹³ Source: APACS submission

⁹⁴ In order to become a member of APACS, an applicant must, at the time of its application and the date upon which it becomes a member, be a principal member of a payment scheme which, in the view of the Council, is widely used or otherwise significant within the UK. Source: APACS Constitution 2002.

⁹⁵ Information available includes: The Payment Markets report, The yearbook of payment statistics, The plastic card review, APACS annual review, In Brief and a list of other available APACS publications. Source: APACS submission dated 17 March 2003.

prevented them entering. Access issues are discussed more fully in section chapter 9, paragraphs 9.44 to 9.81.

BACS

- 8.17 BACS has proposed major changes to its governance structure. At present, even though BACS is legally separated from APACS, although still a member, the banks still control and operate both scheme and infrastructure. The proposed changes will see a BACS Board responsible for setting the rules and running the scheme and an Infrastructure Services Company (ISC) being responsible for the operation and development of the infrastructure. A virtual company was set up in December 2002 to facilitate the transition, with a target date for legal separation set at December 2003.⁹⁶
- 8.18 In the long run, it is envisaged that an independent, profit maximising company will own and control the ISC. The scheme itself will continue to operate under a mutual governance model. As members no longer have to contribute to infrastructural development, lower costs can potentially increase access.⁹⁷ There is also the possibility that new schemes will develop and operate under separate rules using the same infrastructure.
- 8.19 In the short run, both scheme and infrastructure will be under mutual control. A method of share allocation will be used to initially define the ownership rights of the ISC. However, there are transitional uncertainties in regard to ownership control. It is not known whether members will wish to remain as shareholders of the ISC or leave. Some direct members may have an interest in controlling infrastructural developments and the incentive to leave may be small. Therefore, a number of outcomes are possible and these influence the advantages set out in Box below. BACS claims that, irrespective of the ISC ownership profile, the competitive benefits described below will still be achieved.⁹⁸ However, until a point is reached where the ownership profile of the infrastructure is completely independent to that of the scheme, the incentives for change will not alter radically. The Box provides analysis on how the separation changes the incentives of the ISC and the scheme.

⁹⁶ Source: BACS

⁹⁷ See chapter 9, paragraphs 9.44 to 9.81 for discussion on access.

⁹⁸ Over time BACS anticipate divergence between Scheme membership and ISC ownership and hence potential divergences in their aims and target markets. BACS submission dated 6 March 2003 Question 5.

Governance: a change in incentives

Theoretically, the separation between BACS' scheme and infrastructure will result in a clear final model. This model foresees an independent company, for example a technological firm, owning and operating the ISC. In the short run, there may be uncertainties with the precise ownership profile, see paragraph 8.19. BACS has stated that there will be a number of contracts between the Scheme and ISC. All will be put out to competitive tender after an initial period. If the ISC owns the infrastructure and if it owns the IP rights associated with the messaging protocols, then it is questionable whether the processing role will be harder for an entrant to win the contract.

Separation of the scheme from the infrastructure allows the ISC the opportunity to undertake developments which may meet the requirements of all scheme members or only a subset. Under the mutual governance structure, consensus of the majority of banks is required for every system development. This will no longer be the case after separation. Due to the profit maximizing nature of the ISC, if a group of banks approach the ISC with a business case for extra functionality,⁹⁹ the ISC could be motivated to innovate.

Additionally, the ISC may have the incentive to exploit any new opportunities in payment services and other markets. The ISC would be free to compete or cooperate with other system providers and other schemes. In an extreme case, the payment engine could end up supplying services to schemes other than BACS, while BACS might go to another supplier. Inter-system competition can potentially drive up the rate of innovation as infrastructure companies have a desire to maintain a competitive advantage.

Assuming there is a degree of inter-system competition, to compete the ISC will have to invest. However, such investment is risky due to the fixed contracting period, renewal is not guaranteed. Consequently, the ISC may attach additional charges to pricing policies. Such a supplement would represent the risk undertaken with each development. These premiums may be high, as the ISC costs need to be recovered over the fixed contracting period. Any additional charges potentially increase the burden incurred by scheme members. Also, if the ISC establishes a strong monopoly position there may be the incentive to carry out exploitative practices, for example engage in excessive pricing. This strong position may reduce any incentive to minimize cost.

continued ...

In contrast, with a mutual governance model, the scheme has a captive audience. Even though there may be a weaker incentive to innovate in a mutual governance model, as members control and pay for the service, it does provide lower incentives to engage in exploitative pricing.

⁹⁹ Extra functionality may, for example, be the development of electronic bill presentment and payment (EBPP). This service will enable final customers to receive bills via email and an icon present on screen will enable direct access to their bank account so payment can be made.

CHAPS and CCCL

- 8.20 Like BACS, since March 2000 both CHAPS and CCCL have become separate entities to APACS but still operate under a mutual governance model.
- 8.21 CHAPS and CCCL have much less central infrastructure and most of the processing activity is carried out by individual banks or third party contractors. Therefore, any governance changes will have a lesser impact on the market. In contrast to BACS, CHAPS and CCCL have already separated scheme and infrastructure. With the introduction of NewCHAPS in 2001, CHAPS' scheme and infrastructure were separated.¹⁰⁰ With CCCL there have not been any governance changes at the scheme level. Processing has always taken place at one of the four processing centres owned by banks or outsourcing companies.¹⁰¹

¹⁰⁰ See paragraphs 8.6 to 8.8 for a description of NewCHAPS.

¹⁰¹ The processing companies are iPSL, EDS, Abbey National and Nationwide. See annexe K] for a description of CCCL clearing cycle. CCCL still operate the Clearing Exchange Centres (CEC) where the physical exchange of paper takes place. There are two exchange centres, one in London and the other in Edinburgh.

9 PRICING, ACCESS, INNOVATION AND THE IMPACT ON RETAIL COMPETITION

TARIFFING: TRANSPARENCY, EFFICIENCY AND DISCRIMINATION

Summary

- 9.1 There is an inherent tension in the organisation of clearing systems between the need to ensure effective coordination between members while allowing vigorous competition between those same members. The OFT has therefore examined whether scheme charges are structured to dampen inter-bank rivalry and whether there might be indirect anti-competitive effects facilitated by such coordination.
- 9.2 The OFT found that the costs and wholesale charges associated with the three clearing schemes are a relatively small part of the estimated total costs of providing the relevant payment services to final customers. Moreover, the relationship between scheme costs and final customer tariffs is weak. It appears unlikely that the level and structure of clearing scheme tariffs alone could be the cause of substantial anti-competitive effects on final customers.
- 9.3 Direct access by smaller institutions to the clearing schemes appears to be constrained, primarily by the level of investment required in a settlement member's own infrastructure. Furthermore, the terms on which these institutions obtain indirect access to the clearing schemes via settlement members were found to vary considerably. Assessing these terms is difficult, since the costs associated with the decentralised components of agency service provision by settlement members are not readily observable. However, many respondents to the OFT's inquiries regarded competition between settlement members for agency business as intense, while responses from indirect members did not highlight this as an area of concern.

Introduction

- 9.4 The Cruickshank Report raised a number of concerns regarding wholesale pricing in the money transmission system, allied with restrictions on access to the payment schemes. In this section of the study these issues, as they apply to the three clearing schemes - CCCL, CHAPS, and BACS - are considered.
- 9.5 Each of the clearing schemes is the sole processor of a particular category of payment type (e.g. paper credits) in either the United Kingdom or Great Britain.¹⁰² Moreover, there is substantial overlap in the ownership and control of each of the three clearing schemes. In this context, a natural concern is that there may be an incentive to raise wholesale charges excessively, in the absence of effective competitive constraint. Since the charges affect all

¹⁰² A separate cheque clearing scheme operates in Northern Ireland.

institutions equally, each individual settlement member may have weak incentives to control scheme costs and charges.

- 9.6 Even if, overall, wholesale charges reflect total scheme costs, nevertheless the structure of those charges may distort competition between banks. The Cruickshank Report expressed concern that the average charge per transaction paid to the schemes appeared to vary significantly between larger and smaller member banks.¹⁰³ Distortion may arise if the allocation of scheme charges to a particular bank does not reflect the costs imposed by that bank. Distortions can also be created if the impact of **marginal** increases in a bank's transaction volumes on the wholesale charges it pays does not reflect the marginal costs to the scheme of such increases.
- 9.7 In paragraphs 9.13 to 9.30 and 9.35 to 9.43 below, the costs of the three clearing scheme companies, the wholesale charges they set, and the relationships between costs and charges are considered. The evidence obtained by the OFT suggests that central scheme charges represent a small proportion of the total costs of providing particular payment services to customers. Moreover, the relationship between these charges and retail tariffs appears weak. Consequently, the charges, in themselves, are unlikely to be the cause of significant anti-competitive effects on final customers.
- 9.8 Since the schemes are owned by a subset of banking institutions, a further concern is that the members may use their controlling positions to restrict other institutions' access to clearing services, thereby limiting downstream competition in the provision of payment services to final customers. Such a concern is likely to arise if an institution faces substantial barriers to joining the clearing schemes directly **and** the terms on which indirect access via a scheme member can be obtained are also not competitive.
- 9.9 The terms on which direct and indirect access to the clearing schemes can be obtained are considered in section paragraphs 9.44 to 9.81, while the impact on end-user tariffs is considered in paragraphs 9.82 to 9.100. Only a small number of banks and building societies have in fact opted to join the clearing schemes directly, though these account for the majority of payment transactions. The fixed costs of doing so, particularly of establishing the required in-house infrastructure, mean that access via agency relationships is preferred by most smaller institutions.
- 9.10 Charges for indirect access via agency relationships are often significantly greater than the wholesale charges paid by the settlement members themselves. However, a different service is being provided. Insufficient information was available to the OFT to determine whether the difference in charges reflects the costs of the additional role performed by the settlement members in such cases.

¹⁰³ The Cruickshank Report, paragraph 3.96.

Nevertheless, several respondents to the OFT's tariffs inquiries indicated that competition for agency business was intense. Further, the indirect members did not express concerns with the level of agency fees in their responses.

- 9.11 Usually, the account of a payment recipient will be held with a different bank to that of the payer. Hence, execution of the payment transaction requires cooperation between two banks. At the same time, those banks may compete for the custom of final customers. Consequently, there is an inherent tension in the organisation of payment transmission systems between the need to ensure effective coordination between members while allowing vigorous competition between those same members. It is possible that scheme charges could be structured to dampen inter-bank rivalry and secure undesirable coordination in the potentially competitive behaviour of the indirect members.
- 9.12 Possible collusion concerns are addressed in paragraphs 9.106 to 9.113 below. Given the rather weak relationship between the wholesale charges set by the clearing schemes and the charges for payment services set by individual banks, it seems unlikely that the structure of those charges contributes to any coordination between banks. The inherent constraints on innovation and competitive service differentiation imposed by clearing scheme rules would appear to be of potentially greater concern in this respect. This is considered in paragraphs 9.124 to 9.168 of this report.

Clearing scheme costs

Context

- 9.13 Total audited expenditures by CCCL, and the CHAPS and BACS companies, responsible for the central organisation of the respective clearings, were £3.4 million, £3.6 million, and £53.5 million respectively in 2001.¹⁰⁴ The costs of operating BACS are therefore an order of magnitude greater than those incurred in running the two other clearings.
- 9.14 Comparison of these costs with the estimated total costs of operating the UK's money transmission systems suggests that the central scheme costs of the CHAPS, BACS and CCCL clearings account for only a small proportion of the total costs of providing money transmission services.
- 9.15 The Cruickshank Report quoted estimates from APACS, based on 1994 data, which indicated that the total cost of providing money transmission services in the UK, including credit card, ATM and cash services, was around £4.5 billion per year.¹⁰⁵ In this context, the annual costs of the three clearing companies are

¹⁰⁴ Source: Company accounts for CCCL and CHAPS; BACS data from <http://www.bacs.co.uk>.

¹⁰⁵ The Cruickshank Report: chapter 3, paragraph 3.21.

very small, representing less than two per cent of the estimated aggregate costs of money transmission.

9.16 Disaggregated analysis of the 1994 cost estimates suggests that:¹⁰⁶

- CCCL accounted for much less than one per cent of the aggregate industry costs associated with CCCL
- the CHAPS company accounted for less than five per cent of overall CHAPS clearing costs, and
- the BACS company was responsible for approximately 10 per cent of the costs associated with clearing automated payments.

Overall, the charges levied by the three clearing schemes accounted for less than four per cent of the estimated total costs of processing cheques and credits, automated debits and credits, and CHAPS transactions.¹⁰⁷

CCCL

9.17 The two major sources of CCCL's costs are the charges for IBDE processing (currently provided by BACS) and the costs of running the small central scheme secretariat. A sizeable proportion of the latter comprise payments to APACS for administrative and statistical support, and contributions to establishment overheads. The secretariat is also responsible for various research projects, on image archiving and special ink development for example, and supporting industry fora.¹⁰⁸

CHAPS

9.18 Similarly, the on-going costs incurred centrally by the CHAPS scheme are predominantly associated with the running of the central secretariat and reflect the relatively minor role now played by the CHAPS company itself in processing transactions.¹⁰⁹ In this respect, the introduction of NewCHAPS and the move away from a centrally provided infrastructure to a more generic SWIFT-based message technology has greatly reduced that role. From time-to-time, CHAPS costs may also reflect the more substantial resources devoted to major system changes, such as the introduction of NewCHAPS.

BACS

9.19 In contrast, the BACS company is itself actively involved in the actual processing of automated payments. Its activities include message routing and

¹⁰⁶ Source: APACS.

¹⁰⁷ The 1994 APACS estimates suggest that around 40 per cent of total money transmission costs are associated with the payment instruments processed by the three clearing schemes. (Around half the total was associated with cash.)

¹⁰⁸ Source: CCCL.

¹⁰⁹ Source: CHAPS.

repairing, and the preparation and distribution of transaction reports. Unsurprisingly, therefore, the largest components of BACS costs are labour costs and computer costs. Unlike the other clearing companies, the BACS company also has a marketing role, reflecting the on-going potential for growth in the use of automated payments.¹¹⁰

Clearing scheme tariffs

- 9.20 CHAPS and CCCL operate on a not-for-profit basis.¹¹¹ Costs are recovered primarily through a quarterly general call on members, together with separate volume-related and fixed charges for IBDE services in the case of CCCL. Similarly, the BACS scheme aims to make a limited profit (of no more than around £1 million per year), and charges are calculated accordingly.¹¹²
- 9.21 In 2001, CCCL processed 1.9 billion transactions. With total scheme charges in 2001 of around £3.4 million, this equates to an average CCCL charge of a little under 0.2p per transaction.
- 9.22 Around 70 to 75 per cent of CCCL revenues are generated through the general call on members. Individual member contributions to the call are calculated on the basis of the proportion of overall clearing volumes (payments and receivables) for which they account, subject to the constraint that all members contribute at least two per cent of the total call.¹¹³ In recent years, only one member of the CCCL clearing scheme (the Bank of England) has been caught by this constraint.
- 9.23 The remaining 25 to 30 per cent of CCCL's income in 2001 came from charges for IBDE services. IBDE network charges have been allocated on the basis of members' debit in-clearing volumes, while authentication charges have been divided equally among all members.¹¹⁴
- 9.24 Since CCCL general call contributions are applied on a per unit volume basis and only one member is caught by the two per cent floor, the average call contribution per payment made or received is more-or-less identical for almost all members. However, since IBDE charges involve both a fixed component and a volume-related element which is calculated on the basis of a subset of all

¹¹⁰ Source: BACS.

¹¹¹ Source: CHAPS and CCCL.

¹¹² Presumably, following separation of BACS infrastructure provision from the clearing scheme itself, the infrastructure company may be run for profit, even if the scheme itself remains essentially non profit-making.

¹¹³ Since, the sum of total payments made and payments received by banks is twice the number of payment themselves, the paying bank and the receiving bank will each, on average, contribute half the average total charge levied by CCCL per payment transaction.

¹¹⁴ From May 2003 IBDE charging will be based on a member's use of resources, as measured by the number of sites, transmission lines, and gateways used, for example.

transactions only, they introduce some variation in average charges across members. In 2002, the average impact of the annual CCCL call and volume-related recurrent IBDE charges on individual banks' unit charges (excluding the Bank of England) ranged from around 15 per cent above the average to 11 per cent below the average.

- 9.25 In recent years, total CHAPS income has varied between about £3.5 million and £4 million per year. However, fees (and revenues) decreased very substantially in 2002, following the implementation of NewCHAPS, to £1.6 million or around 6p per transaction. This was primarily due to the ending (i) of proprietary hardware use for CHAPS Sterling, and (ii) of the project costs associated with NewCHAPS, and a reduction in the size of the secretariat.
- 9.26 As with the CCCL clearing scheme, annual CHAPS revenues are generated predominantly through a general call on members. Again, a particular member's contribution to the general call is based on its share of the volume of payment transmissions and receipts, subject to the constraint that no member pays less than two per cent of the general call. Unlike CCCL, a significant proportion of the members of CHAPS (around half in 2002) each account for less than two per cent of CHAPS transmission and receipt volumes and are therefore caught by the minimum charge. However, this minimum is itself subject to a further limit, namely that these smaller members should pay no more than 26 per cent of scheme charges in total, a constraint which consequently binds when more than 13 members each clear less than two per cent of CHAPS volumes.
- 9.27 Some CHAPS members account for a very small proportion of total transaction transmissions and receipts indeed. Consequently, the two per cent minimum charge results in the average fee per CHAPS transmission/receipt varying substantially between members. Specifically, while the average charge per transmission and per receipt was around 3p in 2002 (ie half the average total charge per CHAPS payment), a handful of banks paid average fees in excess of £1.00 per transmission/receipt.
- 9.28 The BACS scheme turnover of around £50 million per year is primarily generated by transaction-specific charges. Around one third of this transaction-specific income comes from charges for particular services, such as the generation of advice reports. A catch-all unit charge, applied equally to all input and output volumes, accounts for around 60 per cent of total revenues. Each BACS member also pays a fixed charge of £100,000 a year. These fixed fees represent three per cent of total BACS revenues.
- 9.29 Since BACS charges vary depending on the services utilised, simple comparison across banks of average fees paid is not as meaningful as for the CHAPS and CCCL schemes. Nevertheless, for reference, the total average charge levied on

each payment routed through BACS (ie combining charges paid by both paying and receiving banks) was around 1.4p in 2002.¹¹⁵

- 9.30 Average charges varied across members from a minimum of around 0.5p per transmission or receipt to a maximum of around 2p per transmission or receipt. These differences in average charges across banks are not caused solely by differences in volume; some relatively small members also incur relatively low charges. However, with the largest member of BACS accounting for more than 100 times the volumes of the smallest, the impact of the £100,000 BACS fixed fee on average costs does vary from around 0.01p per transmission/receipt to around 1p per transmission/receipt.

Transparency

- 9.31 The Cruickshank Report expressed concern at the transparency of clearing scheme wholesale charges to final customers.¹¹⁶ This concern seems motivated by the fact that (i) only financial institutions can become settlement members of the clearing schemes, and (ii) that the clearing schemes face limited or no competition in the provision of particular clearing services.
- 9.32 The method for calculating regular CCCL and CHAPS contributions appears relatively straightforward and transparent. Hence, there would appear to be little obstacle to prevent a member bank from verifying its own charges against the tariff-setting principles of the scheme. Since BACS charges are derived from an activity based costing model, their calculation is inherently less transparent, even to member institutions. Though even for BACS, around 60 per cent of charges arise from a straightforward volume-based allocation.
- 9.33 Clearing scheme wholesale charges are not in the public domain. However, it is possible to calculate broad estimates of average costs per transaction from scheme company accounts and data on aggregate payment transaction volumes published by APACS.
- 9.34 More generally, final customers have a choice of the payment services offered by competing banks. It is therefore unclear why transparency of wholesale charges, as opposed to retail charges, is required for final customers to operate efficiently, or to negotiate effectively with the banks for payment services.

Relationship between tariffs and costs

- 9.35 The secretariat functions and associated costs of the CHAPS and CCCL clearing companies would appear to represent costs that are truly fixed. If transaction volumes were to double, for example, it seems likely that these costs would not change, even if relatively long planning horizons were considered.

¹¹⁵ In other words, an average charge of 0.7p was made per payment transmission and receipt.

¹¹⁶ The Cruickshank Report: chapter 3, paragraph 3.146.

- 9.36 A significant portion of these costs are also likely to be common to all members, in that they are not associated with any one bank's membership of the schemes. Any allocation of these common costs among member banks is therefore, inevitably, somewhat arbitrary.
- 9.37 In contrast, the recurrent costs associated with the IBDE process in CCCL clearing, as well as many of the activities undertaken by BACS, appear to arise from processing individual transactions. Over the short term, many of these inherently variable costs may nevertheless be fixed. For example, once a computer system of given capacity is installed, the variation in costs from processing greater or less volumes within that capacity may be relatively small. Similarly, the costs of processing paper cheques may be relatively insensitive to specific volumes once automatic reading and sorting equipment of given capacity is installed, for instance. However, the scale of new investment and labour input required to process transactions might be expected to be strongly correlated with the magnitude of processing volumes.
- 9.38 Where the costs of the clearing schemes are related to individual transactions, then recovering those costs through per transaction fees will be efficient. However, the volume-based charging structures of the CHAPS and CCCL clearings translate costs that are fixed from a scheme perspective into marginal costs for the member banks.¹¹⁷ Each additional transaction undertaken by a bank increases its share of total transaction volumes and hence its payment obligations.
- 9.39 In general, such tariff structures will lead to inefficiency, since they will result in the effective marginal cost for a bank exceeding the true marginal cost of processing additional transactions. This will dampen individual banks' incentives to process additional transactions, either by expanding overall volumes or by competing to win business from other banks. The most efficient cost recovery mechanism would allocate fixed costs independently of actual transaction volumes. Such an allocation would avoid distorting individual banks' incentives to process additional transactions.
- 9.40 Nevertheless, a mechanism that allocates fixed costs in proportion to transaction volumes ensures that the costs borne by a relatively small member of a clearing scheme are proportionately smaller, thereby eliminating a potential fixed cost barrier to small scale entry. If any entry thereby encouraged resulted in more intense competition between member banks, then the impact of this on efficiency could outweigh any adverse effects of fixed cost allocation on marginal incentives.

¹¹⁷ BACS uses an activity based costing approach to allocate costs among distinct activities. These costs are then recovered through per transaction charges. To the extent that the original costs were fixed costs, this allocation mechanism will also translate fixed costs into essentially variable costs.

- 9.41 To the extent that all member banks were charged an equivalent per-transaction fee by the clearing schemes, as a means of recovering fixed costs, this could be viewed as having the merit of preserving a level playing field in terms of the relative unit costs of the competing banks, since the bank with lowest internal unit cost would then also have the lowest unit cost overall. However, the floor imposed on member banks' contributions to CCCL and CHAPS general calls undermines this objective in two respects. First, it increases smaller banks average costs relative to larger banks. Secondly, it artificially reduces the marginal costs of those smaller banks, since any increases in transaction volumes below the two per cent minimum threshold will not lead to increased clearing charges.¹¹⁸
- 9.42 However, the impact of any incentive effects at the scheme level must be appraised in the context of total payment system structures and costs. The incentive implications of the banks' own costs and resource utilisation appear likely to outweigh the impact of even significant changes in central scheme charges.
- 9.43 The key effect of the operation of the three clearing schemes is therefore likely to be how they impact on the decentralised payment system operations of individual banks, rather than on the direct costs they generate.

Access

9.44 A bank or building society can access the various clearing schemes in one of two distinct ways:

- **directly** – by becoming a settlement member of the relevant clearing
- **indirectly** – by establishing an agency relationship with a settlement member.

Direct access

9.45 Even if the fees levied by the clearing scheme companies do not themselves have anti-competitive effects, the operation of the schemes may allow existing settlement members to impose anti-competitive charges on their downstream customers if:

- the terms on which access to the scheme is granted create artificial barriers to entry, and
- the rivalry between existing settlement members is weak.

9.46 Similar membership criteria apply across each of the clearing schemes. In broad terms the requirements are that the applicant:¹¹⁹

¹¹⁸ As noted above, the CHAPS threshold may be below two per cent if more than 13 banks have volume shares of less than two per cent.

¹¹⁹ Source: CCCL, CHAPS, and BACS.

- is a credit or financial institution
- has a settlement account with the Bank of England
- pays any entry fees
- is prepared to contribute to the on-going costs of the scheme
- becomes a scheme shareholder, and
- is able to comply with the rules and technical requirements of the scheme.

Financial institution status

- 9.47 The requirement to be a financial institution currently prevents many major users of the clearing schemes, such as utilities and other large business customers, from becoming settlement members.
- 9.48 This constraint is perhaps most relevant in the case of the BACS clearing. Currently many businesses input their BACS data direct to the BACS central systems, effectively by-passing member banks. However, to do so they must be sponsored by a member bank. Significantly, for those businesses receiving payments (e.g. utilities receiving bill payments), their direct membership as payment receivers would appear to impose no settlement risk on member banks.
- 9.49 The Cruickshank Report pointed to the potential significance of restrictions on the categories of business permitted to join the lower value (i.e. non-CHAPS) payment schemes in particular. This is still small in comparison to the high decentralised (non-scheme) costs of becoming a direct settlement member (see paragraphs 9.55 to 9.59), and needs to be judged in the context of the lack of notable problems associated with indirect access (see below).

Bank of England settlement

- 9.50 Settlement for all three clearing schemes is currently undertaken by the Bank of England (the Bank). Consequently a scheme member must hold a settlement account with the Bank. A refusal by the Bank to provide settlement facilities to an institution would therefore prevent it from becoming a member of any of the three clearing schemes. However, the Bank has indicated that where it 'has decided to act as a settlement agent [for a payment system], it will normally be prepared to open settlement accounts for all members of that system'.¹²⁰
- 9.51 The Bank regards itself as the natural settlement agent for payment systems that are of systemic importance, such as CHAPS. Moreover, the fact that CHAPS involves real-time gross settlement means that the Bank's involvement is substantially greater than for the other clearing schemes. In particular, the Bank must undertake immediate settlement for every transaction, as opposed to

¹²⁰ Bank of England Settlement Accounts: A Policy Document (November 2002), paragraph 21.

end-of-day net settlement on an aggregate bank-by-bank basis. This requires significant IT and communications infrastructure.

- 9.52 With a real-time gross settlement system such as CHAPS, a bank's gross position at a given moment in time may be substantially different from its typical net daily position. However, each settlement member must have sufficient credit in its settlement account always to cover its gross position. In order to minimise the funds a bank must actually maintain in its account for this purpose, the Bank of England is typically prepared to provide intra-day liquidity through sale and repurchase (repo) arrangements involving high quality assets. If a CHAPS member were not offered such a facility the liquidity costs of scheme membership could increase significantly.
- 9.53 The Bank of England currently charges a fixed management fee of £15,000 per CHAPS settlement account. In addition, it charges a transaction fee of 15.8p per item.¹²¹
- 9.54 While the Bank of England currently provides settlement facilities for CCCL and BACS, it does not actively seek to undertake this role for schemes of so-called system-wide importance such as these. Since CCCL and BACS clearings involve a small number of daily multilateral net settlements, the Bank of England's role in effecting settlement of these schemes is significantly lower than that, for example, in CHAPS. As a consequence, currently the Bank does not charge specifically for the settlement services it provides in connection with these clearings.

Scheme entry fees

- 9.55 Currently, new settlement members of the CHAPS clearing scheme must pay a one-off entry fee of £100,000.¹²² This is designed to cover the costs of incorporating the new member into the scheme, as well as providing a contribution for past infrastructure developments.¹²³ The entry fee is equivalent to approximately three times the 2002 annual call for a small CHAPS settlement member (ie one accounting for less than two per cent of transactions). As such it represents a non-trivial investment for a smaller player, though it is likely to be small in comparison with the investment in systems required within the bank itself.

¹²¹ Source: CHAPS and responses to OFT questionnaire.

¹²² Source: CHAPS.

¹²³ Here the lack of a meaningful distinction between scheme membership and asset ownership is relevant. (Members acquire ownership rights for a nominal share payment.) In principle, one might imagine all members paying a contribution to infrastructure costs on an on-going basis. Existing infrastructure owners (often the same people) would receive these contributions and their entitlement would be reflected in the value of a share in the ownership of that infrastructure.

- 9.56 Entry fees for direct membership of CCCL currently comprise a relatively small administrative charge to cover the costs of share transfer, and other matters relating to changes in the membership of the company.
- 9.57 There is a significantly higher charge to cover the auditable costs incurred by existing members in making computer program and other changes necessary to accommodate the receipt and delivery of both paper and data for cheques and credits issued and collected by the new member.
- 9.58 The ongoing running costs of the clearing company are paid for by the settlement members in proportion to the percentage volume of cheques and credits processed by each (calculated quarterly) with a minimum charge of two per cent being applied to those members processing a total percentage volume below that figure.
- 9.59 It has been suggested by some of the parties interviewed by the OFT that the costs of joining CCCL today might be substantially lower than those estimated when the last membership enquiry was made. Nevertheless, the estimated cost to a new member of covering existing members' adjustment costs are not insubstantial.¹²⁴ But again, the OFT has not judged this to be a major concern in the light of its analysis of indirect access (see paragraphs 9.68 to 9.81).

Clearing company shareholding

- 9.60 To date, there has been little difference between the requirement to contribute to the costs incurred by a clearing company and the requirement to become a shareholder of that company. Either way, settlement members have been responsible for all the costs of the scheme, including the costs of any infrastructure investment.
- 9.61 However, plans are afoot to separate ownership of the BACS infrastructure from membership of the scheme.¹²⁵ In principle this would allow firms with no involvement in the clearing process itself to acquire a share in the infrastructure provider. It would also allow institutions to join the clearing scheme without having to take a share in infrastructure ownership. Paragraphs 8.17 to 8.19 cover this issue in more detail.

Technical requirements

- 9.62 A member of any of the clearing schemes will typically require substantial infrastructure investment to undertake transactions in a manner which complies with the standards set down by the clearing schemes. In particular, any institution must be able to process transactions within a timeframe that allows it to meet the deadlines set down for the clearing cycle.

¹²⁴ It is perhaps surprising that the central scheme operation does not appear to have developed its own procedures to facilitate this process.

¹²⁵ Since the BACS company provides IBDE services to CCCL, some divergence between the services provided by the scheme company and those received by scheme members already exists.

- 9.63 The standards established by the central clearings may play a key role in determining the magnitude and nature of the investment that must be undertaken by a settlement member. For example, each of the three clearing schemes currently operates to different information and software standards, making it very costly to be a member of all three schemes.
- 9.64 The potential impact of scheme standards on entry costs is illustrated by the impact of the introduction of NewCHAPS. According to many respondents to the OFT's questionnaires, the move to SWIFT-based messaging technology has substantially reduced the investment necessary for a new settlement member to join the CHAPS scheme. In particular, prior to the introduction of NewCHAPS, dedicated Tandem hardware was required for CHAPS communication. The OFT understands that cost of installing such hardware, and associated facilities, had been an important factor deterring small bank entry in the past.

Settlement risk

- 9.65 The total monetary values settled by the clearings every day are very large indeed. In principle, each member of the clearing system is therefore exposed to the risk that another member bank may be unable to meet substantial obligations. While the probability of such failure occurring is very small, the impact of such a failure would potentially be very large.
- 9.66 Moves are currently afoot to adopt structures to explicitly guard against the impact of settlement risk. In particular, every settlement member of each clearing scheme may be required to contribute to a fund which would cover the exposure of a clearing to the failure of a member.
- 9.67 The need to commit the capital necessary to meet such an obligation could represent a significant cost to scheme membership for smaller institutions. Indeed, some respondents to the OFT questionnaire identified this as factor affecting the attractiveness of scheme membership.

Indirect access

- 9.68 A bank or building society does not need to be a settlement member of the various clearing schemes in order to offer CCCL, BACS and CHAPS services to its customers. Instead it can participate via an agency relationship with a bank that is a settlement member. Indeed, most banks and building societies that offer such payment services have established agency relationships with member banks.
- 9.69 The responses to the OFT questionnaire indicate that there is significant variation in the extent to which member banks provide such agency services. In some cases an indirect member will access all three clearing schemes via a single settlement member. In other cases, an indirect member will use different settlement members to provide different clearing services. Indirect members may also have agency relationships with more than one settlement member to

provide access to the same clearing service. The terms under which agency services are provided are bilaterally negotiated.

- 9.70 There are a number of distinct classes of indirect members. UK building societies form one such distinct grouping. Most of these societies specialise in providing savings account and mortgage services to personal customers. Another class of indirect member consists of foreign banks, whose UK volumes are presumably small but nevertheless require some means of transacting UK cheques etc. In a relatively small number of cases, a bank is a settlement member of one or more of the clearing schemes, but obtains access to other clearings via an agency relationship. For example, Nationwide Building Society is a member of the CCCL and BACS schemes but not CHAPS. Similarly, Northern Rock is a member of BACS, but not the CCCL or CHAPS schemes.
- 9.71 Generally, not all the separate banking entities in a banking group will be settlement members of a clearing scheme. For example, National Australia Bank group includes the Clydesdale Bank, Yorkshire Bank, Northern Bank and National Australia Bank. Of these, only Clydesdale is a member of the CCCL, BACS and CHAPS Sterling clearings, while only National Australia Bank is a member of the CHAPS Euro clearing.
- 9.72 The terms negotiated for agency services will depend on a number of factors, including:
- the level of service required
 - the volume and range of transactions undertaken
 - the overall importance of the agency relationship to the settlement member (including any correspondence arrangements)
 - the typical credit balances held in the indirect member's accounts with the settlement member bank
 - the credit and risk ratings of the indirect member, and
 - the intensity of competition between settlement members for agency business.
- 9.73 For example, tariffs may vary depending on the liquidity that is required by a particular customer and the nature of the channels through which they propose to interface with the settlement member.
- 9.74 In its 2002 inquiry into the supply of banking services by clearing banks to small and medium-sized enterprises, the CC concluded that 'to charge for clearing services provided under agency agreements at differential rates not

solely related to cost discriminates between the clearing banks and the agency banks, and between the agency banks, thus distorting competition.¹²⁶

- 9.75 The data obtained by the OFT from its market questionnaire indicate that there are substantial variations in the terms negotiated between individual indirect members and building societies and their settlement agents.¹²⁷ This variation is, in part at least, likely to reflect the diversity of participating institutions and their relationships with settlement members.
- 9.76 In broad terms, the data also indicate that the level of agency charges for automated (BACS) transactions are more reflective of settlement members' clearing scheme costs than are charges for CCCL and CHAPS transactions. This is consistent with the fact that the BACS scheme company accounts for a greater proportion of transaction processing than do the CCCL and CHAPS scheme companies.
- 9.77 In general, settlement members will use their own resources to contribute to the payment services provided to indirect members. The information available to the OFT on settlement members' own costs has been very limited. When allied with the fundamental difficulty of attributing costs to individual money transmission services, this means that it has not been possible to compare the agency tariffs set by individual settlement members with the full marginal costs incurred by those settlement members in providing agency services. In any event, the preponderance of fixed and common costs in the provision of payment services suggests that the relationship between individual service tariffs and marginal costs might be expected to be relatively weak.
- 9.78 Moreover, during the course of this study, the OFT has been told by a number of parties that competition for agency business is intense. Furthermore, responses from indirect members have not highlighted concerns with agency fees.
- 9.79 Drawing on publicly available data, the OFT has compared the end-user tariffs for individual payment services set by a sample of UK indirect members with those set by the settlement members. This comparison suggests that, where indirect members offer similar services to the settlement members, they are able to do so on similar terms.
- 9.80 That said, the extent to which most participating institutions offer an overall package of services that is comparable with those provided by settlement members appears limited. In particular, UK building societies have focused on providing mortgage services and higher-interest savings products to personal customers, and most building society accounts offer limited access to payment

¹²⁶ Competition Commission (2002): The supply of banking services by clearing banks to small and medium-sized enterprises, paragraph 2.473.

¹²⁷ Source: Responses to OFT tariffs and costs questionnaire.

instruments. In these cases, payment services appear to be provided largely to service accounts – to make regular mortgage payments or savings deposits, for instance – rather than accounts being used to provide payment services.

- 9.81 The narrower range of payment services provided by many indirect members could indicate the limited importance of such services to their distinctive product offerings. But it might also reflect a difficulty offering such services competitively via agency relationships.

End-user tariff structures

- 9.82 The clearing schemes' member banks serve a range of different customer constituencies, notably:

- large corporations
- small businesses, and
- personal customers.

- 9.83 The payments service tariff structures adopted by settlement members appear to differ significantly between these customer types.

Large business customers

- 9.84 The responses to the OFT's tariffs questionnaire indicate that the charges paid by larger business customers for payment services are typically negotiated on a customer-by-customer basis. The factors affecting such negotiations are similar to those shaping the relationships between settlement members and their indirect member customers.

- 9.85 Negotiations with large corporate customers over payment tariffs tend to take place in the context of the overall customer relationship. An international bank dealing with a multinational corporation, for example, will have a view to its global client relationship as well as the costs of servicing particular requirements in an individual country. The 'free-in-credit' philosophy may also translate (partially, at least) into the large business customer environment.

- 9.86 The structure of negotiated payment system charges may also vary significantly. While some customers will negotiate per transaction rates, in other cases charges will take the form of fixed fees that are independent of actual transaction volumes.

- 9.87 Large business customers are also often able to send payment instructions to their banks in formats that are already suitable for so-called straight through processing. In this case, the processing costs of the bank may be significantly reduced. Business customers may therefore be able to secure additional discounts if they are able to pre-format instructions in this way.

- 9.88 More generally, the channel through which a customer initiates payment transactions, and the resource implications for the bank, will have an important

bearing on charges. In particular, payments made through electronic channels are likely to involve less bank resource than manual transactions, a fact which is typically reflected in tariffs.¹²⁸

- 9.89 In responding to the OFT's enquiries, a number of banks stated that vigorous competition exists for the custom of large businesses. These customers may formalise this competitive process by establishing tender procedures to select their service provider.

Small business customers

- 9.90 Small and medium-sized enterprises were the subject of CC's Inquiry, published in March 2002. Payment system charges for smaller business customers are typically based on published tariffs, and are generally levied on a per transaction basis.¹²⁹ A small business customer with an account with one of the leading clearing banks will typically pay around 60p for non-automated payments such as cheque and manual credits. Automated payments, such as those initiated through direct debits and standing orders, cost around 40p per transaction, while automated credits cost about 30p per transaction.¹³⁰ A CHAPS payment typically costs about £20. Further information for each of the leading clearing banks is set out in annexe M.
- 9.91 Some banks offer small business accounts which do not levy charges on a per transaction basis for a set of payment services. For example, in some cases, automated transactions may not incur per transaction fees. Sometimes the absence of per transaction charges is offset by a relatively high standing charge. Volume limits may also apply to free services. Once these limits are exceeded, customers may begin to be charged on a per transaction basis.
- 9.92 Central payment scheme charges account for a relatively small proportion of the fees paid by small business customers for payment services, particularly for cheque, credit and CHAPS transactions. Thus, the estimated average central CCCL clearing scheme charge of 0.2p per transaction amounts to significantly less than one per cent of the average transaction fee paid by a small business

¹²⁸ For example, the charges levied by one settlement member for CHAPS and BACS payments are lower when the customer initiates the payment instruction using the bank's electronic banking system.

¹²⁹ Following its inquiry into SME banking, the Competition Commission recommended (paragraph 2.609(b)) that the four largest clearing banks be required to 'offer all SMEs operating current accounts in England and Wales an account that pays interest at BoE base rate minus 2.5 per cent or a current account free of money transmission charges or a choice between the two'. The OFT has agreed an undertaking with the banks to that effect. See <http://www.of.gov.uk/Business/Monopolies/banks.htm>

¹³⁰ Start-ups typically receive between 12 and 18 months free banking. Charges for payment services are therefore below cost for these customers during this period. A bank may be expected to recover these costs either through charges for other services, on future payment services, or from income earned from credit balances.

for a manual payment. Similarly, the average central scheme charge for a CHAPS payment represents substantially less than one per cent of the typical fee paid by small business customers to their bank for such services.

- 9.93 In this context, even relatively substantial changes in clearing scheme tariffs would seem unlikely to have a significant direct impact on the charges paid by business customers for clearing services. Any significant impact would therefore seem to require either a substantial knock-on impact on the costs of individual banks' systems or on the mark-ups over costs set by the banks.
- 9.94 BACS scheme charges account for a higher proportion of customer fees for automated payments (direct debits, standing orders, and automated credits). This reflects the fact that the BACS company itself undertakes a significantly greater role in the actual processing of transactions than either the CHAPS company or CCCL, as noted previously. Nonetheless, the average small business charge of around 40p per direct debit transaction compares with a typical BACS charge of between 1p and 2p.

Personal customers

- 9.95 Most high-street banks offering payment services to personal customers have adopted a 'free-in-credit' tariff structure. As a result, most personal customers do not pay any **direct** bank charges for standard services, including cheque, credit, and BACS transactions.¹³¹ Of course, customers pay implicitly via other means, and explicit charges are typically levied for more specialised services, such as CHAPS payments.¹³²
- 9.96 The free-in-credit provision of payment services to personal customers is consistent with the broader approach to service provision adopted by the banks. The provision of payment services is typically viewed as one basic component of a general banking service offering. Furthermore, a proportion of the costs incurred processing individual services, such as the costs of maintaining a network of branches, plus profit, will be recovered through revenues across a range of services.
- 9.97 One consequence of free-in-credit charging for payment services is that there is currently no link between the level and structure of wholesale charges paid by a bank to the central clearing schemes and the charges paid by a personal customer. While the banks retain their free-in-credit charging policies, a personal customer will therefore have no incentive to switch between direct debit and cheque payment channels, for instance, in response to an increase in the relative wholesale price of processing direct debit transactions.

¹³¹ Customers with unauthorised overdrafts may have payments stopped or may pay substantial penalty charges on payment transactions.

¹³² The typical charge for a CHAPS transaction lies in the £20-25 range.

- 9.98 If competition between banks is vigorous, then an individual bank's incentives to exert downward pressure on clearing scheme costs may be limited, since any saving will benefit competitors too. However, if lower clearing costs are not passed on to customers (and for free-in-credit services this would seem to imply higher interest payments on credit balances), banks will have strong incentives to maintain downward pressure on central clearing scheme costs in a free-in-credit service environment, since the banks will gain £1 for every £1 reduction in central scheme tariffs.
- 9.99 If wholesale charges for cheque, credit and BACS payments were to be increased, a point would presumably be reached where the retail banks would re-appraise their free-in-credit service offers, taking into account the responses of competing banks. Banks are able to offer free-in-credit services because they are able to generate offsetting income from the positive money balances held in accounts that are in credit (and from any paid-for business generated). Clearly, if wholesale charges for payment services were to increase sufficiently, a point would be reached where the income generated from such positive balances would no longer cover the costs of providing banking services.
- 9.100 Nevertheless, even in this scenario, it is far from clear that banks would choose to raise additional income by charging for individual payment transactions, as opposed to levying general account management fees, for example.

Service quality and differentiation

- 9.101 Individual banks' interactions with the central clearing systems are governed by a range of technical standards designed to ensure timely and effective communication and coordination. Consequently, there is little to distinguish the operations of the member banks in this respect. In particular, the timescales for key stages in the clearing process, including settlement, are determined centrally.
- 9.102 These centrally-determined standards inevitably affect the service individual banks can provide to their customers. In some cases, the central scheme timeframe absolutely constrains the bank's own service. For example, a bank cannot debit cheque payments from a customer's account until it has at least been informed that a cheque has been submitted by the payee for payment.
- 9.103 In other cases, centrally-determined standards affect the risks and costs an individual bank incurs in providing a particular level of service to its customers. For example, settlement of a cheque occurs between banks on Day Three of the clearing cycle. A bank that allows a customer to withdraw the value of a paid-in cheque before this point takes the risk that it will not receive a matching payment from the payer's bank.¹³³

¹³³ Indeed, cheques may be returned after settlement has occurred in some cases, if the cheque is found to be forged, for instance.

- 9.104 In other respects, the payment service provided by a bank to its customers is shaped by commercial considerations only. For example, there appears little in the organisation of the BACS scheme itself that would prevent banks from paying interest on standing orders during the clearing cycle, but this does not happen.¹³⁴
- 9.105 One notable area where banks do appear to offer differentiated service offerings is in the arrangements for business customers, in particular, to submit payments. For example, some banks offer electronic payment vehicles with additional functionality.

Possible collusion concerns

- 9.106 Since each of the clearing schemes is controlled by its member banks, the charges set by the clearings are ultimately the result of a decision made jointly by competing banks. This raises the possibility that charges could be set in a manner designed to dampen, or having the effect of dampening, competition between the banks. In particular, this could occur if the charging policy raised the marginal costs of undertaking additional payment service business.
- 9.107 A second concern that may be voiced is that the potential for competition between the schemes themselves may be underdeveloped, because the same institutions account for a substantial proportion of the shares in each scheme.¹³⁵ In particular there would appear to be some unrealised potential for BACS to offer low value same-day payments that could compete with CHAPS, and vice versa.
- 9.108 It is significant, however, that the clearing schemes have been operated on a more-or-less not-for-profit basis. It therefore appears that member banks have not attempted to elevate scheme fees above cost levels.
- 9.109 On the other hand, as noted in paragraphs 9.13 to 9.19, the charging structures adopted by the CHAPS and CCCL clearings, in particular, appear to convert fixed costs into per transaction charges, increasing the marginal costs faced by the member banks, and possibly dampening inter-bank competition.
- 9.110 Nevertheless, as discussed in paragraphs 9.13 to 9.16 above, central scheme costs are likely to represent only a small proportion of the total costs associated with CCCL, CHAPS and BACS. It is certainly the case that the charges levied by the CCCL and CHAPS companies represent, on average, a very small proportion of the charges typically paid by small businesses for payment services. This suggests that any anti-competitive impact from increases in central scheme costs is likely to be small.

¹³⁴ See chapter 7 for further discussion of the treatment of 'float' in connection with standing order processing.

¹³⁵ APACS also retains an over-arching governance role over all three schemes, though there has been increased de-centralisation in scheme governance post-Cruickshank.

- 9.111 BACS undertakes a wider range of services on behalf of its members than the other clearing schemes, and accounts for a higher proportion of the charges levied on final customers. While this centralisation may reduce the extent to which the banks compete on the basis of their individual infrastructures, it is difficult to see this effect being significant.
- 9.112 It does seem to be the case that banks often set payment service charges for their small business customers which are significantly above marginal cost. This is consistent with competition between banks in respect of these customers being limited. Indeed, in its report on the supply of banking services by clearing banks to small and medium-sized enterprises, the CC noted (paragraph 2.459) that 'the structure of charges does not in our view directly reflect the structure of the clearing banks' income and costs'.
- 9.113 However, where fixed costs are significant, as appears to be the case, charges may have to exceed marginal costs by substantial amounts if they are to cover total costs. As for personal customers (see paragraphs 9.95 to 9.100), payment services are only one component of the general banking service offering to small businesses from which banks earn their revenue. An examination of retail competition in banking services is beyond the scope of this study.

Conclusions

- 9.114 The costs of CCCL, and the CHAPS and BACS companies are small in comparison with the total costs of operating the payment transmission system as a whole. The bulk of the functions (and costs) associated with CCCL and CHAPS, in particular, appear to be decentralised to individual banks or their agents.
- 9.115 CCCL and CHAPS operate on a not for profit basis and BACS aims to make a small profit. The OFT has not uncovered any evidence that the payment scheme companies are being operated by their members with a view to making excessive profits. Furthermore, the OFT's investigations have not identified evidence that scheme costs are unreasonable.
- 9.116 There is evidence that the tariff-setting methodologies utilised by the clearing schemes are not reflective of costs. In particular, while a substantial portion of the costs incurred by the schemes would appear to be fixed, those costs are largely recovered by means of volume-related charges.
- 9.117 Costs are caused with a particular institution's membership of a scheme, rather than its transaction volumes, but this would appear to favour smaller institutions. In this context, the floor imposed on member's contributions to CHAPS and CCCL appear reasonable.
- 9.118 Seen in isolation, an emphasis on volume-related charging by the scheme companies is likely to discourage competition for marginal volumes by inflating

‘marginal’ costs.¹³⁶ However, the banks’ incentives to maximise utilisation of their own fixed-cost infrastructures seems likely to provide an offsetting impact. The charges for payment services faced by personal and small business customers do not reflect CCCL, CHAPS, and BACS wholesale tariffs closely in any case.

- 9.119 This last fact also suggests that wholesale charging structures do not facilitate coordination between banks in their offerings to final customers. In this respect, the constraints on service provision and innovation effectively imposed by the technical requirements of the various schemes would appear to be of potentially greater concern.
- 9.120 The fact that only a relatively small number of banks and building societies are direct settlement members suggests that entry costs are not trivial, at least in comparison with the costs of indirect access via an agency relationship with a settlement member. Indeed, the impact of clearing scheme technical requirements on individual banks’ own costs seems likely to be more competitively significant than the scheme tariffs themselves.
- 9.121 The most significant costs appear to be those associated with the infrastructure that an individual bank must install to participate. These costs are clearly sensitive to the communication and timescale standards adopted by the schemes. In this respect, the requirement for on-going compatibility with the legacy systems of existing members is undoubtedly a constraint, both in terms of ensuring efficient communication and achieving agreement under existing governance arrangements. When last estimated, payments to recover the costs of adapting individual member banks own systems comprised the majority of the entry fee for joining CCCL.
- 9.122 Interestingly, while the introduction of generic SWIFT-based messaging technology for CHAPS transactions is generally viewed as having reduced entry costs substantially, it has not resulted in significant new membership. The potential impact of a similar switch for BACS remains an open question.
- 9.123 The justification for preventing non-financial institutions from joining the schemes, at least as receivers of payments, appears weak, and therefore this constraint remains of potential concern.

¹³⁶ In this respect, the minimum payment thresholds imposed by the CCCL and CHAPS clearings have an offsetting effect, though they appear unlikely to have a significant impact on competition.

INCENTIVES TO INVEST AND INNOVATE IN CLEARING SYSTEMS

Introduction: why innovation is important

- 9.124 Innovation in clearing systems can achieve new and improved methods of payment transfer and functionality and/or they can deliver lower costs for the same service. Whether innovation is initiated from existing competitors or potential new entrants, it is a key part of intensifying retail competition and delivering the best outcome for customers. But chapter 6 outlined that many banks and institutions offering payment services to final customers in the retail market – particularly those who are not settlement members of schemes - are reliant upon the limited number of payment/clearing systems available.
- 9.125 This section looks at the areas in which clearing system innovation might be lower than desired by some banks using the systems; the type of innovations required by banks and final customers; and why the characteristics of payment systems sometimes provide disincentives to an appropriate level of innovation.

The theory and its application to payment systems

Investment interdependency: the underlying incentives to innovate in payment systems

- 9.126 A key feature of investment decision-making for banks in clearing systems is that it is interdependent.¹³⁷ The provision of clearing system services requires cooperation, and since customers value a network more the more other customers are using the network,¹³⁸ the returns on an individual's bank's investment also depends on the investment decisions by other banks in the system. This means there is an unavoidable need (at least initially) for coordinated investment planning.
- 9.127 However, accepting that some degree of coordinated investment planning is necessary, the current mutual governance models mean that there is a need for consensus of majority of banks to agree on substantial investments. This decision-making context raises theoretical potential problems:
- 9.128 First, in deciding whether to veto or agree to system upgrades or improvements, individual member banks examine the costs of upgrading their own internal systems¹³⁹ which are sometimes considerable and likely to vary enormously across members – offering different degrees of attractiveness.
- 9.129 Moreover, in assessing business cases (and satisfying shareholders) these costs are only part of the equation. These investment costs must be compared to the

¹³⁷ See Ganguly B and Milne A (2002) 'Do we need public policy intervention in UK retail payment systems and if so how?

¹³⁸ Network externalities: see section 5.

¹³⁹ Which may include new software development, staff training and system interfacing etc.

additional long term revenue that the innovation will generate. The underlying problem is that, by cooperating on the innovation itself, no one member bank will gain significant competitive advantage over the other members. So it may often be the case that no scheme member can produce a positive business case for an innovation even though it would greatly benefit final customers.

- 9.130 The other underlying disincentive might occur because many final customers in the UK - particularly personal customers - tend not to incur direct charging for using payment systems. As stated in paragraph 9.95 retail banks in the UK mainly offer 'free-in-credit banking' to personal customers, whereby no charges are levied for payment services if a customer's account is not overdrawn.
- 9.131 Free-in-credit banking means that final customers are not exposed to the underlying cost differences for different payment instruments, and banks thus have less ability to encourage their final customers to switch to most efficient or lower-cost versions. Similarly, the lack of direct charging inhibits any one bank's ability to reap additional revenue from a particular system innovation. Finally, the degree to which these disincentives dampen innovation is affected by the level of inter-system competition. The higher the number of competing payment systems the higher the incentive for each payment system to innovate and compete more effectively.

The link between innovation and retail competition

- 9.132 The way in which payment system innovation affects the intensity of retail competition is not straightforward. The most direct form of innovation can occur where member banks are able to add retail value to the end of the payment system not shared by competitors in such a way that competitive advantage is achieved through product and service differentiation. But the ability to undertake this non-cooperative innovation is very much dependent on the shared payment system itself, and in particular, the innovations to the system that offer members increased flexibility to add differentiated retail innovations in the first place.
- 9.133 Another dimension is that cooperative payment system innovation is also, in turn, affected by the entry and ease of entry of new members: new members may add different pressures for change within payment systems according to the type of new retail service they want to market. The following sections therefore examine the actual level of innovation in payment systems in terms of:
- **Collective innovation.** The level of cooperative innovation in the actual payment systems that has delivered collective improvements, flexibility and benefits to all members; and the pressure for collective innovation created by governance and other changes.
 - **Retail innovation.** The resulting level of 'end process' payment instrument innovation that has allowed members to offer differentiated products.

The existing situation

Summary

- 9.134 The OFT found that, unsurprisingly, progress in collective payment system innovation has reflected, to some degree, the disincentives arising from the unavoidable need to cooperate and the interdependency of investment decision making (see paragraphs 9.136 to 9.148). But whilst the inherent dampening of incentives has limited the underlying pace of payment system level innovation, the OFT has noted significant progress in some key areas. Current and planned developments over the next two years will help downstream competition.
- 9.135 Both members and potential entrants of all sizes have made it clear that, notwithstanding the pace of collective innovation, they are satisfied with their current and future ability to add differentiated features at the retail level. They are keen to emphasise that the shared payment system is only the central part of the overall end-to-end process that delivers money transmission services between final customers. No party questioned by the OFT regarded regulatory intervention as a realistic or desirable option to improve innovation.

Collective payment system innovation

BACS

- 9.136 The current and potential changes to the BACS scheme (NewBACS) are outlined in chapter 8, paragraphs 8.2 to 8.5. Phase one of the programme tackles problems relating to the ageing delivery channel between members and BACS' payment engine and phase two upgrades member data management processes.
- 9.137 Phases three and four of NewBACS will build and introduce a new electronic payment engine and could potentially be a step change in payment system innovation. These phases are the most critical in terms of whether the BACS system will be developed into one flexible enough to offer members increased ability to offer more innovative and differentiated retail payment products.

Planned developments

- 9.138 A key enhancement that has been partially completed is the automation of direct debit and standing orders transfers. In November 2001, BACS improved its procedures and semi-automated the transfer of information that would follow a customer switching his account from one bank to another. It is envisaged by BACS that, in 2004 this transfer of information between banks and direct debit originators will become fully automated – improving accuracy and reducing the process time. Although this final stage has yet to be formally signed-off by the BACS Board, it is an example of an innovation that has required cooperation, consensus of the majority of banks and significant investment; and might enhance retail competition. The lengthy procedures that final customers need to

endure when switching banks have, in the past, been viewed as a major obstacle to improving competition in the personal and SME sector.¹⁴⁰

9.139 Another proposal that the NewBACS development has is the capability of providing next day payments. BACS is currently planning to move to a next day payment cycle¹⁴¹ in 2006 and is considering the feasibility of introducing a same-day service. This would again represent a significant development, because it would potentially directly benefit final customers. But it could also increase the intensity of retail competition by offering enhanced scope to retail banks who might wish to compete more effectively by developing better products and services in certain areas (e.g. in internet banking). Another planned development is enabling members to input their files to BACS 24 hours a day, 7 days a week.¹⁴²

Uncertainty with NewBACS

9.140 The NewBACS initiative has meant that the potential for further innovations that will either benefit final customers directly, or indirectly by allowing greater retail competition, is high. But even the changes outlined above are not absolutely certain to happen and, looking further ahead, questionnaire respondents have made it clear that the exact future functionality of NewBACS is both very unclear and not guaranteed to match what they will be seeking as individual competitors.

9.141 The continuing uncertainty, and to some extent, inertia, relates back to the fundamental problems of network cooperation. The primary problem is that, many of the larger and more established BACS members bear internal legacy system constraints.¹⁴³ The cost that any members would have to incur towards a change to the BACS central infrastructure would broadly include the renewal of the central infrastructure itself, internal management planning and staff training. Most important of all, individual banks must bear the costs of upgrading systems to interface with the new infrastructure. For **any** bank, this cost will dwarf the cost of contributing towards the central infrastructure. But for some members, the cost of accommodating central infrastructure changes

¹⁴⁰ The Competition Commission found the markets were characterized by a reluctance on the part of SMEs to switch banks, the reasons for which included the perceived complexity of switching for little financial benefit; the perceived significance of maintaining relationships with a particular bank or particular relationship manager; and the ability of the existing bank to negotiate lower charges or otherwise respond if there is a threat of switching. Source: 'The supply of banking services by clearing banks to small and medium-sized enterprises' Competition Commission March 2002 page 3. The Cruickshank Report also highlighted that the prospect of transferring standing orders, direct debits and salary payments can deter consumers from switching. See paragraph 4.74.

¹⁴¹ Often called two day cycle or T + 1 cycle.

¹⁴² Files may currently only be submitted between 0800 and 2230, Monday to Friday.

¹⁴³ Another constraint reported to the OFT is the interconnections between member banks and their smaller indirect users.

would be so prohibitive that there would not be a positive business case for several years. Yet whilst some members would wish to take immediate advantage of the potential enhanced capability of NewBACS, consensus of the majority of banks is still required for the foreseeable future.

- 9.142 It is clear that these problems could act as significant obstacles to unlocking the seemingly high potential of NewBACS to deliver further innovations offering real benefit to the retail market. Examples of the type of general functionality sought by some members include variable length clearing cycles, messaging that carries extensive customer information, multiple settlement options¹⁴⁴ and ultimately new payment products such as micropayments. Whilst these are technically feasible, many member banks have stated that the current level of consumer demand is either low or uncertain compared to the high technical interfacing costs that would be entailed. The variable length clearing cycle is one example of where different banks have different views on the level of consumer demand (e.g. for proposed next day credit). To some extent, it is difficult to gauge the long term attractiveness to final customers of such products before they are available. But whilst only smaller members wish to gain advantage (or even experiment) by introducing this type of product, the scheme incentive for enabling payment system innovation will remain limited in the short run.¹⁴⁵
- 9.143 Larger members have stated to the OFT that whilst they recognise that lack of consensus of the majority of banks has been a barrier to payment system innovation in the past, any disincentives are unlikely to persist in the longer term. First, the separation of the scheme from the infrastructure provider means that there will be more incentive for the latter to maximise revenues through adapting to the needs of sub-sets of banks.¹⁴⁶ This argument, however, is not particularly convincing. Chapter 8, paragraphs 8.17 to 8.19 and the box highlights that, whilst there are clearly some advantages to the separation planned by BACS, until a point is reached where the ownership profile of the infrastructure is completely independent to that of the scheme, the incentives for change will not change radically. But even in a scenario where the infrastructure provider is entirely independent, many innovations require a network of large critical mass to succeed. Small members will still be reliant on positive business cases for the majority of larger members.
- 9.144 The second argument put to the OFT is that the development of a pan-European network and common international messaging standards will mean greater inter-system competition for BACS. This means that BACS will be forced to adopt more open standards, enabling the use of better and updated functionality, and

¹⁴⁴ One example of a settlement option is instantaneous settlement. At the other end of the range is deferred net settlement. See glossary for definition.

¹⁴⁵ Many new products could not be introduced unilaterally anyway.

¹⁴⁶ Or even a new competing scheme.

also, that the legacy system constraints will become more and more irrelevant in the face of more intense competition. In chapter 10, the OFT concludes that this outcome is likely, but that uncertainties remain.

CHAPS and CCCL

9.145 The system developments in CHAPS and CCCL outlined in chapter 8, paragraphs 8.6 to 8.10, relate less to innovation in functionality and more to reducing running costs.¹⁴⁷ Like BACS, although the infrastructures have potential for innovation, further development is still hindered by legacy system constraints and the need for cooperation and consensus. A typical and illustrative example is the proposal by one CHAPS member to launch a low cost person to person payment – aimed at the personal banking market.¹⁴⁸ The OFT understands that the proposal failed because, although it was attractive to individual members (and presumably the customers in their target markets), there was not a positive business case at the industry level; and the initiative therefore failed due to lack of critical mass.

9.146 It is the OFT's view that the system-level innovation incentives faced by CHAPS in the medium term will depend on developments – particularly at the European level – that may pull other systems into direct competition with CHAPS and towards more open and generic messaging (see paragraphs 9.156 to 9.161).

Collective innovation incentives resulting from 'entry pressure'

9.147 Some respondents to the questionnaires and other industry representatives have put the argument to the OFT that, in assessing the incentives for payment system innovation and potential developments, due consideration should be afforded to the increased ease with which industry players can become settlement members of schemes. New members can change the dynamic of a scheme, and particularly where they do not carry the burden of legacy system constraints, add pressure for more innovation.

9.148 Chapter 8 outlines the key changes in the three clearing systems that might lead to increased entry capability, and paragraphs 9.44 to 9.81 provide a general overview and analysis of access. It is the OFT's view that these changes by themselves will not lead to alterations in the underlying incentives to innovate at the payment system scheme level. Entry will still be on small scale,¹⁴⁹ and even where there are an increased number of smaller members desiring change, any innovative development requiring cooperation will still be dependent on consensus of the majority of banks and reliant on the larger members for critical mass.

¹⁴⁷ The effect of reduced unit costs through increasing the ease of scheme entry is covered in paragraphs 9.44 to 9.81.

¹⁴⁸ The Fastpay Initiative.

¹⁴⁹ In fact, the OFT notes that there have been no new entrants to the scheme since March 2000.

Unilateral retail innovation allowed by payment system functionality

- 9.149 The previous section outlined that recent developments in the three clearing systems had created the potential for the payment systems to innovate collectively to increase retail competition (e.g. automating direct debit transfer), or to allow individual members to add their own new customer propositions. This potential was clouded by the inherent disincentives associated with investment interdependency and cooperation.
- 9.150 However, despite such uncertainty, a high majority of respondents and industry representatives have been very clear in stating to the OFT that the current state and direction of collective innovative payment systems is of little real concern. This is because the ability to innovate independently of payment systems, and offer differentiated customer propositions, is already high. This ability can be divided into unilateral product innovations that can use the clearing systems as they currently exist, and payment innovations that do not rely on the existing clearing systems.

Unilateral innovations using the existing system

- 9.151 One product initiative not requiring payment system changes given by many respondents is electronic bill presentment and payment (EBPP). EBPP uses the existing BACS system and is described as providing an 'innovative front end' in conjunction with a remote banking product. This service will enable final customers to receive bills via email and an icon present on screen will enable direct access to their bank account so payment can be made. This is an example of an innovation that could offer direct benefits to final customers and increase competitive advantage to individual banks without the need for payment system cooperation. But it has required partnership between some banks and issuers of bills in order to increase the coverage of the scheme.¹⁵⁰ It is unlikely that a group of smaller banks alone would have been able to launch such a product because critical mass is still required.
- 9.152 Other respondents and industry parties have pointed to the development of person to person email payments provided by banks and non-banks¹⁵¹ as a similar area of innovation. The majority of these products use the existing BACS service to transfer value into or out of the email payment system. Market participants view the existing capability and stability of clearing systems as a major factor in enabling these new products to be launched in the market quickly and with low risk.
- 9.153 Mobile payments are also emerging as a source of potential competitive advantage for players in the retail market. It is the OFT's understanding that a

¹⁵⁰ An EBPP scheme would require standards and a central system to consolidate bill data, which will receive information and distribute it to the bank's on-line banking service.

¹⁵¹ E.g. Natwest's FastPay, Egg's EggPay. Non banks include PayPal and PayHound.

number of banks are looking at the financial feasibility of developing interface standards and operating models – and whether such products are likely to be attractive to final customers. This will necessarily require bank cooperation with handset manufacturers, mobile network operators and application providers; but as the initiatives are likely to use existing clearing systems for settlement, neither cooperation nor consensus of the majority of banks would be required in principle. It is likely that such a payment product will be more attractive to final customers if faster clearing times are developed through BACS.

Innovations not reliant on existing systems

- 9.154 Many of the above developments, such as online and mobile payments, are capable of using either clearing systems (e.g. BACS) for settlement or using four-party credit card networks (e.g. PayPal) or ATM networks. This additional flexibility to innovate at the retail end of payment systems will help to intensify competition. Arguably, it could also provide a limited degree of inter-system pressure by yielding extra incentives for the clearing systems to innovate at the payment system level itself (see paragraphs 9.136 to 9.146 above) in order to gain advantages in functionality. However, the OFT has seen little evidence of this.
- 9.155 It is also pointed out by the industry that Switch, IBOS¹⁵² and FastPay are examples of services that have been launched by small groups of banks without industry-wide cooperation or changes to the infrastructure. It is argued that this fact demonstrates the flexibility of the current infrastructure and the ability to innovate within the current payment system functionality constraints.

Possible forms of regulatory intervention

An open system with generic messaging standards?

- 9.156 The OFT asked all questionnaire recipients about the feasibility and attractiveness of establishing generic standards and message types.¹⁵³ In such a model, instead of industry competitors needing to interface with three different infrastructures, a single form of generic payment and messaging standard would be adopted (specifying the data to be provided and the format for its presentation). The current infrastructures would, in effect, become one generic infrastructure supporting a number of different competing schemes; and members would select the scheme which is appropriate to their needs based on speed, certainty of fate, cost and other criteria.

¹⁵² IBOS allows consumers to make cross border payments in Europe. If it recruited more banks as members it would be seen as a rival to SWIFT (see paragraph 6.21 and the box); but unlike SWIFT, there is no central hub: banks communicate directly with each other. The Royal Bank Of Scotland owns approximately 32 per cent of IBOS.

¹⁵³ This was an idea given in Alistair Milne's ERSC project:
<http://www.staff.city.ac.uk/~amilne/payments/index.html>

- 9.157 Although such a model is viewed as practically unrealistic in the short term, most industry players could see advantages in such a payment system model. In particular, respondents stated that it would result in greater efficiency,¹⁵⁴ lower running and fixed costs, improved reliability, greater final customer responsiveness and reduction in time to market for new products.
- 9.158 Many respondents also agreed that a more open architecture could potentially increase competition by allowing a higher number of schemes to compete for members and their final customers. Increased operability might also encourage the entry of alternative infrastructure providers.
- 9.159 In terms of enhancing innovation incentives, it is not clear to the OFT, however, that even an open system overcomes the need for consensus of the majority of banks; and whilst the scope for setting up alternative schemes (e.g. for disenchanted members) would be higher, there would be little point in doing so if there is insufficient critical mass. Despite the unilateral innovation examples in paragraphs 9.149 to 9.155 above, most highly innovative payment propositions are only attractive to final customers if many other final customers are part of the same network sharing the benefit of the new product.¹⁵⁵ It is beyond the remit of this report to analyse the potential problems in the retailing bank market.
- 9.160 The OFT has not detected any real overall incentive or resolve for the industry to move to an open system. In 2000, APACS initiated the Future Payment Systems Development (FPSD) project to address the perceived industry requirement for a strategy for interbank payments. The FPSD concept was to create a generic payment infrastructure that could support multiple payment systems. By March 2001, the recommendations made to the APACS Council effectively ended the project.¹⁵⁶ Not only do members have different strategic drivers, it is clear from the questionnaire response of the schemes' larger members that, in the short to medium term, legacy system constraints would make the cost of interfacing with a generic system prohibitive.
- 9.161 Chapter 10 highlights that, depending on a number of uncertain factors – including membership of the Euro – pan European developments may provide the UK domestic systems with competitive pressure to adopt international open standards. At the present time the likely extent of this inter-system competition is unclear, though over time, UK banks' internal systems will need to be

¹⁵⁴ From not needing to reform payment instructions for example.

¹⁵⁵ See chapter 4 on network externalities.

¹⁵⁶ A bank informed the OFT that the generic infrastructure proposal was dropped and instead, a member strategy group recommended to the APACS council in March 2001 that Next Day capabilities and an Instant Credit Proposition be developed. The assessment of the latter has been deferred.

updated or replaced by definition – and the legacy system constraints problem will recede.

Free-in-credit charging

- 9.162 The OFT also asked questionnaire respondents about the benefits of a hypothetical scenario whereby all banks would charge cost-reflective, per transaction charges to all final customers making the choice of payment instruments. The OFT asked whether this might help the business case for individual banks who wish to innovate or reduce costs.
- 9.163 Some respondents agreed that, in principle, such a system might have the advantages of encouraging final customers to make efficient decisions on the choice of payment system; of enabling banks to assess more accurately the extent to which final customers would be willing to pay for further innovations; and of encouraging banks to invest more efficiently if they thought they could recover the investment costs more directly from final customers.
- 9.164 However, even where respondents did agree with these potential benefits, they were underlined as being only theoretical, unrealistic and impossible to implement unilaterally. A vast majority of respondents concluded that any move to impose direct charging would be unworkable and undesirable. Many banks pointed to the problem of the risk of many final customers inefficiently reverting to the heavy use of cash as a way of avoiding account transaction charges. Moreover, such a move would unnecessarily complicate customer choice and run counter to Government initiatives on encouraging financially disadvantaged customer groups to use bank accounts. On a practical level it was also argued that the notion of cost-reflective charges would be impossible to monitor.

Conclusions

- 9.165 The OFT found that, unsurprisingly, progress in collective payment system innovation has reflected, to some degree, the disincentives arising from the unavoidable need to cooperate and the interdependency of investment decision making (see paragraphs 9.136 to 9.148). But whilst the inherent dampening of incentives has limited the underlying pace of payment system level innovation, the OFT has noted significant progress in some key areas. Current and planned developments over the next two years will help downstream competition.
- 9.166 There have also been changes to the openness of the systems, and in particular, the increased ease in which entrants can become settlement members of CHAPS. But that these changes, by themselves, have not significantly affected the incentives for innovation in the short run. In the longer run, there are some clear advantages to a more central and open architecture system advocated by many in the industry. But it is not clear whether European and other external drivers are sufficiently strong to achieve such a system in the UK.

- 9.167 There are also some theoretical advantages to the separation planned by BACS, but until a point is reached where the ownership profile of the infrastructure is completely independent to that of the scheme, the incentives for change will not change radically. Even in a scenario where the infrastructure provider is entirely independent, many innovations require a network with a large critical mass to succeed. Smaller members will still be reliant on positive business cases for the majority of larger members.
- 9.168 Nonetheless, both members and potential entrants of all sizes have made it clear that, notwithstanding the pace of collective innovation, they are satisfied with their current and future ability to add differentiated features at the retail level. They are keen to emphasise that the shared payment system is only the central part of the overall end-to-end process that delivers money transmission services between final customers. No party questioned by the OFT regarded regulatory intervention as a realistic or desirable option to improve innovation.

POLICY APPROACH IN OTHER COUNTRIES: POTENTIAL LESSONS FOR THE UK.

European overview

9.169 In order to place the UK clearing systems in context, the tables below compare some features of the various domestic European Union (EU) payment systems.¹⁵⁷ The first table looks at the large value payment systems, such as CHAPS in the UK. Most of these systems connect to the pan-European TARGET network, although there are some (such as CHAPS Sterling) which are primarily designed for domestic operations.

9.170 The second table compares the different retail payment systems, including BACS and CCCL in the UK. There are various forms of settlement and processing used around the EU, with the different systems offering different lengths of clearing cycle. The number of direct and indirect members gives an idea of the respective size of the systems.

Key¹⁵⁸

Ownership:	CB	= central banks
	B	= banks
Processing method:	M	= manual
	ACH	= Automated Clearing House (off-line)
	RTT	= Real-time transmission
Settlement:	N	= multilateral netting
	BN	= bilateral netting
	RTGS	= real-time gross settlement
	GS	= other gross settlement

¹⁵⁷ This corresponds to data in 2000. Source: Payment and securities settlement systems in the European Union Addendum incorporating 2000 figures (Blue Book, July 2002) Table 15.

¹⁵⁸ See glossary for definitions.

TABLE 9.1: LARGE VALUE PAYMENT SYSTEMS¹⁵⁹

Country	Name	TARGET	Ownership		Settlement	Participants	
			CB	B		Total	Of which Direct
Belgium	ELLIPS	✓	✓	✓	RTGS	94	17
Denmark	DEBES	✓	✓		RTGS	111	34
	DN-Inquiry & Transfer		✓		RTGS	105	105
Germany	ELS	✓	✓		RTGS/ GS	2,486	2,486
	EAF		✓		N/BN	67	67
Greece	EURO HERMES	✓	✓		RTGS	32	32
	HERMES		✓		RTGS	39	39
Spain	SLBE	✓	✓		RTGS	259	227
	SPI			✓	N	177	37
France	TBF	✓	✓		RTGS	651	200
	PNS		✓	✓	N/BN/RTGS	468	24
Ireland	IRIS RTGS	✓	✓	✓	RTGS	23	23
Italy	BI-REL	✓	✓		RTGS	873	699
Luxembourg	LIPS – Gross	✓	✓	✓	RTGS	30	30
Netherlands	TOP	✓	✓		RTGS	163	105
Austria	ARTIS	✓	✓		RTGS	79	78
Portugal	SPGT	✓	✓		RTGS	39	39
Finland	BoF-RTGS	✓	✓		RTGS	14	14
	POPS			✓	N/GS	9	9
Sweden	E-RIX	✓	✓		RTGS	18	18
	K-RIX		✓		RTGS	22	22
UK	CHAPS Euro	✓	✓	✓	RTGS	104	20
	CHAPS Sterling		✓	✓	RTGS	415	14

Source: Payment and securities settlement systems in the European Union Addendum incorporating 2000 figures (Blue Book, July 2002) Table 15.

9.171 As illustrated in the table above, throughout the EU there are similarities between large value payment systems. All countries have a large value payment system that connects to TARGET,¹⁶⁰ with approximately half operating two large value payment systems in parallel. A majority settle in real time and

¹⁵⁹ Large value payments are generally of very large amounts, which are mainly exchanged between banks or between members in the financial markets and usually require urgent and timely settlement. Source: ECB Blue Book June 2001 Glossary, page 738

¹⁶⁰ This was a requirement necessary for Euro entry.

virtually all have an element of central bank control, although the degree of this control varies between countries. There are 10 systems (including CHAPS) where the number of total and settlement members differs (ie where a two tier membership structure is operated), whilst there are 12 systems where numbers are equal. CHAPS Sterling has the smallest proportion of direct to indirect members of any system. In summary, the high-level comparators contained in this table indicate that the UK's CHAPS system is fairly typical relative to other EU large value payment systems.

TABLE 9.2: RETAIL PAYMENT SYSTEMS¹⁶¹

Country	Name	Owner		Processing	Settlement	Clearing	Participants	
		CB	B				Total	<i>of which Direct</i>
Belgium	Clearing House	✓	✓	RTT	N	Same day	91	39
	CEC	✓	✓	RTT	N	Same day	94	33
Denmark	Retail Clearing		✓	ACH	N	Next day	214	69
Germany	RPS	✓		ACH	GS	1 day	2486	2486
Greece	DIAS	✓	✓	ACH	N	Same day	32	32
	ACO	✓	✓	M	N	Same day	55	55
Spain	SNCE	✓		RTT	BN	Same day	277	27
	CH Paris		✓	M	N	Same day	368	25
France	CH Province	✓		M	N	T + 1 local T + 3 other	267	219
	SIT		✓	RTT	N	Same day	311	17
	CREIC	✓		ACH	N	Next day or 1/ two days: depends on location	28	28
Ireland	Retail Clearing	✓	✓	RTT	GS	3 days	12	7
Italy	Local clearing	✓		RTT	N	-	-	140
	Retail	✓		ACH	N	-	-	211
Luxembourg	LIPS-Net	✓	✓	ACH	N	Same day – 5 times at real time	13	13
Netherlands	Interpay		✓	ACH	N	Same day (morning) Next day (evening)	72	72
Portugal	SICOI		✓	RTT	N	-	57	36
	SLOD	✓		M	GS	-	178	178

¹⁶¹ Retail payments: this term describes all payments which are not included in the definition of large-value payments. Retail payments are mainly consumer payments of relatively low value and urgency. Source: ECB Blue Book June 2001 Glossary, page 748.

Country	Name	Owner		Processing	Settlement	Clearing	Participants	
		CB	B				Total	<i>of which Direct</i>
Finland	PMJ		✓	Batch	BN	Same day	15	15
Sweden	Bankgirot		✓	ACH	N	-	20	20
	Dataclearing		✓	ACH	N	-	20	20
	Postgirot		✓	ACH	GS	-	1.3m	1.3m
UK	BACS		✓	ACH	N	3 days	60000	15
	CCCL		✓	M	N	3 days	464	12

Source: Payment and securities settlement systems in the European Union Addendum incorporating 2000 figures (Blue Book, July 2002) Table 15 and ECB Blue book 2001.

9.172 As discussed in chapter 6 the UK has two retail payment systems, BACS and CCCL, for electronic and cheque/paper credit clearing respectively. In terms of BACS' and CCCL's processing and settlement, procedures are not unique, although there is greater variation across the EU than is the case for the large value systems. BACS operates using an automated clearing house, whilst CCCL uses 'manual processing'.¹⁶² Most of the EU systems function under either ACH or manual procedures, but seven use real-time transmission. In terms of settlement, most use multilateral netting. Variations do occur in terms of access and clearing times. It appears that BACS and CCCL are relatively open in comparison to their EU equivalents, with indirect participation for BACS especially high. Access issues are discussed in paragraphs 9.44 to 9.81. However, the UK does seem to fall short with regard to clearing times. Difficulties in speeding up the clearing process are discussed in paragraphs 9.136 to 9.148.

Case study: Finland

9.173 The tables above illustrate some of the high-level differences in the way that systems operate around the EU. For a more detailed level of analysis, the following section contains a specific case study comparing the situation in Finland with that in the UK. The OFT has chosen Finland because it is often cited as an example of a country where payment systems have evolved quickly, with final customers offered a range of some of the most innovative payment methods available.¹⁶³

¹⁶² There is an element of manual processing within the cheque and credit cycle.

¹⁶³ See, for example, Snellman, J. - 'Evolution of Retail Payments in Finland in the 1990s' – Bank of Finland Discussion Papers, 13.12.2000 page 19 and B Ganguly and A Milne 'Retail Payment systems in the UK: Is there a problem of lack of competition?' December 2001, page 18.

- 9.174 This section briefly describes the Finnish systems and some of the services on offer, highlighting differences from the situation in the UK. It then looks at possible explanations for differences between the two countries, focusing on the extent to which any of these variations are driven by alternative ways of running the clearing companies.
- 9.175 The analysis suggests that the main reasons for the high levels of retail innovation lie outside the central clearing systems. Key features of the Finnish situation that appear to have encouraged the faster uptake of more technologically advanced payment instruments include:
- a more concentrated banking market, with each major bank having a higher proportion of the total domestic market, and
 - a small, widespread population that seems more receptive to the early take-up of new technologies.
- 9.176 There are, nonetheless, some important differences between the clearing systems in Finland and the UK. This is particularly noticeable at the level of low-value retail payments, where the ACH of BACS is clearly distinct from the bilateral exchanges that underpin the PMJ system in Finland (see paragraphs 9.180 and 9.181).¹⁶⁴ The fact that there is no central infrastructure (in the form of an ACH) means that a higher proportion of a Finnish bank's total payment system infrastructure is held 'in-house'.¹⁶⁵ This arguably leads to greater flexibility in the Finnish system, and removes the need for consensus of the majority of banks for changes that would take place at the BACS level of infrastructure in the UK. However most of the retail innovation described below (such as mobile payments and electronic bill presentment) could be introduced by individual banks in the UK, without changes being introduced to the central infrastructure. Differences in clearing time do not appear to impact upon banks ability to launch such services. Indeed, many of the services that have been introduced in Finland have eventually followed in the UK. There is a rapid increase in the use of internet banking in the UK and other technologies are also emerging.¹⁶⁶

¹⁶⁴ There is also a significant difference in the use of cheques, which is now negligible in Finland, with obvious implications for any innovations surrounding this payment method.

¹⁶⁵ Infrastructure that would lie within BACS in the UK is likely to be found within the Finnish banks, with the only central technology being the underlying Virtual Private Network (VPN).

¹⁶⁶ For example, the use of mobile payments is being introduced, to a limited extent. Customers can pay their congestion charge in London by SMS text message, although they have to register with the scheme before doing so.

The Finnish clearing systems

- 9.177 As in the UK, there are three principal clearing systems (excluding securities) in Finland. However, their design and governance differs significantly from their UK equivalents.
- 9.178 Finland has an RTGS system, **BoF-RTGS**, which is developed and run by the Bank of Finland (Suomen Pankki). This system is primarily used for cross-border payments into the TARGET network and for domestic interbank settlement. It is also used for some domestic commercial/personal payments, but far less for this purpose than CHAPS in the UK, because of the existence of the cheaper POPS system for real-time payments (see details below).
- 9.179 The **POPS** large-value netting system for express transfers and cheques¹⁶⁷ is a real-time system operated by its members on a decentralised basis (banks exchange payment messages bilaterally, without using a central clearing house or operator).¹⁶⁸ Final customers use this system for large one-off payments (of an equivalent nature to many of the domestic uses of CHAPS in the UK). All transaction information is processed in real time between the banks and they credit the customer's account immediately upon receipt of the payment information. Payments larger than the bilaterally agreed credit limits are settled on a gross basis directly in BoF-RTGS. Single payments under the settlement limits are normally settled on a net basis, but can exceptionally also be settled individually in BoF-RTGS.
- 9.180 The **PMJ** retail payment system handles all customer payments between banks (i.e. credit transfers, direct debits and debit card transactions). Unlike the UK BACS infrastructure, there is no common multilateral clearing centre, and all customer payments made from one bank or banking group to another are cleared bilaterally between banks and settled centrally in BoF-RTGS. The banks operate the system through their own computer centres, which are linked via a network run by telecommunications companies.
- 9.181 Payment orders involving the same bank or banking group are processed in real time, while payment orders involving other banks are collected in the sending

¹⁶⁷ It should be noted that cheques are very rarely used any more in Finland, especially by personal customers – their main purpose is for high-value payments in excess of bank card limits.

¹⁶⁸ **POPS** and **PMJ**, which both operate through bilateral exchanges between participating banks, are governed by a number of agreements between those banks and between the banks and the Bank of Finland. The agreements determine the procedure for transmission of payment and related information between members, rules for settlement in BoF-RTGS, procedures for system participation and issues related to the technical infrastructure. Because there is no separate ACH in Finland, the Finnish Bankers' Association (SPY) is involved in the development and upkeep of the systems, along with the administration of certain system contracts (e.g. with the telecommunications companies that operate the network through which the bilateral links take place in PMJ).

banks' computer centres and sent in batches two or three times a day to the receiving banks. All clearing calculations are settled in a clearing run initiated twice a day (1.00 and 14.25 local time). If all banks with net payment obligations have sufficient funds on their accounts, the amounts due are simultaneously debited from and credited to the accounts of the members in BoF-RTGS.

Innovations at the retail level in Finland

9.182 Some recent offerings to personal customers at the retail level that have been introduced in Finland include:

Electronic bill presentment

9.183 One fairly recent development in Finland is the introduction of electronic bill presentment (EBP).¹⁶⁹ Under an EBP agreement, a service provider no longer sends bills in paper form by post to a customer. Rather, the bills are sent directly and electronically to the customer's bank, where they appear on the customer's internet website. When paying the bill, a customer is offered two options by its bank: direct debit, where the bill is debited from the customer's account on a due date, or direct payment, where the customer has to log-in to his/her internet banking website and accept the bill before it is debited. In Finland, approximately 20 per cent of billing now takes the form of EBP.¹⁷⁰

9.184 Some developments in Finland, such as EBP, which were introduced by individual banks, were soon followed by their competitors. Initially, each bank would offer a product/service in its own format, but agreed standards followed to allow for compatibility and to facilitate interbank transactions. Standardisation resulted in little or no loss of competitive advantage for any individual bank, because the existing differences in presentation were not sufficient to persuade final customers to use one bank's service ahead of another. In other words, consensus of the majority of banks was not needed to introduce the new service, but some limited coordination later on helped overall efficiency.

Direct real time e-payment

9.185 Another way in which Finnish banks have tried to use their internet banking facilities is by offering services to internet-based retailers. Under these schemes, a final customer is able to use his/her bank account to pay for internet purchases. When paying for goods/services on the internet, the customer selects his/her bank's sign on the retailer's website. The bill is then sent directly to the final customer's internet banking website, where the final customer can pay for the merchandise. The bank's system notifies the retailer of the payment

¹⁶⁹ See paragraph 9.151 for discussion of the possible introduction of Electronic Bill Presentment and Payment in the UK.

¹⁷⁰ Source: Bank of Finland

immediately and the merchandise can be delivered. Currently, this service requires the customer and the retailer to have accounts in the same banking group – interbank payments are not yet possible. This means that retailers wanting to access as broad a range of final customers as possible have to hold banks accounts with all three major banking groups (the three largest banks now account for 80-90 per cent of the market in Finland).¹⁷¹

Pilot schemes for mobile payments

- 9.186 Some mobile-based banking services, such as credit transfers and balance inquiries, have been available in Finland since 1996. At first, mobile banking services were based on SMS text messages, but the latest developments also use Wireless Application Protocol (WAP) facilities. Some pilot schemes have been introduced whereby final customers can transfer funds to an account run by the scheme and then make payments to certain retailers via their mobile phones (either by sending a text message or via the internet using WAP).
- 9.187 Other payment services are operated by including the charges for the services in the user's mobile phone bill. For example, there are some vending machines from which the final customer can buy products by calling a premium rate number. Final customers can also pay for parking in some cities in Finland by calling a service number of the parking area upon arrival, and calling another number when leaving. Finally, tickets for tram, underground and Suomenlinna ferry in Helsinki can be paid for by sending a text message to a service number. After about 30 seconds, the customer then receives a text message in reply. This reply serves as a ticket that can be shown to a controller if necessary.

Possible drivers of differences in levels of retail sector payment system innovation between the UK and Finland

- 9.188 For the purposes of this investigation, it is interesting to try to understand the factors that have led Finnish banks to introduce certain services that have not yet been offered to UK final customers. Of particular relevance is the extent to which differences between the two countries' clearing systems might have influenced the changes.
- 9.189 One way in which it might be argued that the clearing systems have influenced the developments in Finland is that the attractiveness of the innovations is increased by the faster clearing cycle (next-day, at the latest). This argument does not seem to stand up to closer scrutiny – none of the main innovations outlined above appears to be dependent on a speedy underlying clearing cycle.
- 9.190 However, there are several other factors, both within and outside the banking system, which might help to explain the observed situation. These include:
- differences in the structure of the banking market

¹⁷¹ Source: Bank of Finland.

- differences in the functioning of the clearing system, and
- differences in certain characteristics of the population.

Different structure of the banking market

- 9.191 One difference between Finland and the UK is the relative level of concentration of their respective banking markets. In Finland, the three largest banks have 80-90 per cent of the market,¹⁷² compared with the less concentrated UK structure, where the big four banks had 68 per cent of current accounts in 1998.¹⁷³
- 9.192 This means that each of the main Finnish banks has a relatively high proportion of total banking customers to whom it can unilaterally introduce a new product, compared to its UK equivalents.¹⁷⁴ In such a concentrated market, there is a higher chance that any given payer and payee involved in a transaction are members of the same banking group. This means that unilaterally introduced services which depend on customer and merchant having accounts at the same bank (such as the direct real-time e-payments described above) are likely to be more attractive in Finland than in the UK. Also, in a more concentrated market, an individual retailer will have to hold accounts at fewer banks in order to cover the majority of the market with potential 'on us' transactions.
- 9.193 It has also been suggested that an asymmetric market structure, with both large and small banks, might lead to a free-rider problem.¹⁷⁵ (There is a less concentrated, more asymmetric market structure in the UK than in Finland.) The theory here is that small banks are usually able to gain larger benefits from cooperation than are large banks. For example, if a cooperative payments ATM network is established, small banks benefit more than large banks, since small banks can offer their final customers more widely available services than would otherwise have been possible and hence can exploit scale economies associated with the extensive network. Unless large banks are able to access price to compensate for lost competitive advantage, there is a danger that they will not undertake the investment.

¹⁷² The OFT was told by the Bank of Finland that the concentration of banks in Finland is a result of the banking crisis in the early 1990s. After this crisis, the authorities dictated a reorganisation of the banks.

¹⁷³ Source: The Cruickshank Report– this figure is likely to have increased with the RBOS takeover of Natwest.

¹⁷⁴ It should be noted that the important factor here is the share of customers, rather than the absolute number (Several UK banks have a higher number of customers, but a lower share of the domestic market, than the big banks in Finland). This is because the share will determine the proportion of a bank's transactions that are 'on us', and which are therefore subject to the type of unilateral innovation being discussed.

¹⁷⁵ See Snellman, 'Evolution of Retail Payments in Finland in the 1990s' – Bank of Finland Discussion Papers.

Different underlying clearing systems

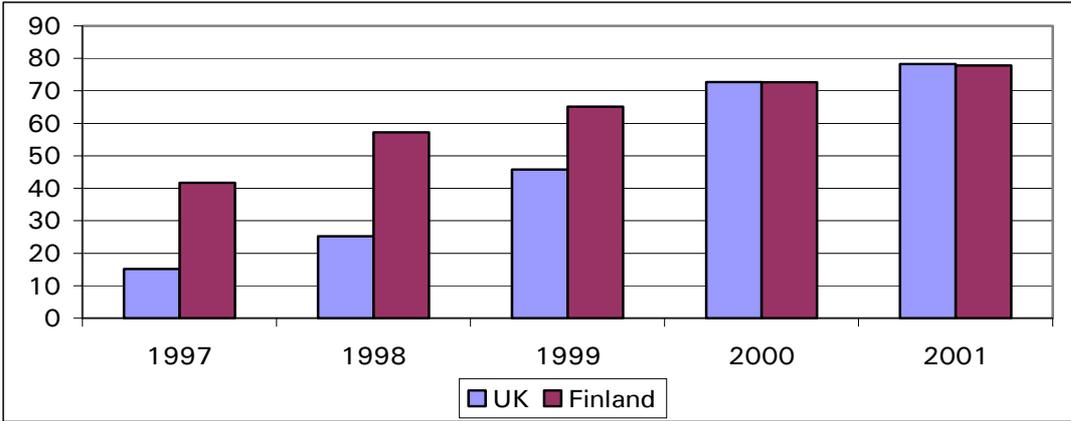
- 9.194 In the UK there is an ACH, in the shape of BACS, whilst the Finnish PMJ scheme operates through bilateral links between banks over a Virtual Private Network (VPN). This means that a higher proportion of the relevant infrastructure lies within each bank in Finland. It also means that that infrastructure can be somewhat more flexible, as it does not have to conform to all the central technological standards of the ACH (although it does still have to satisfy any technical requirements of the scheme). It also means that certain developments do not require consensus of the majority of banks, as they can be introduced on a bilateral basis. In the areas that are covered by BACS in the UK, such developments cannot readily be made without consensus of the majority of banks (see paragraphs 8.11 to 8.19 on governance).
- 9.195 On the whole, however, the type of retail innovation discussed above (such as mobile payments and electronic bill presentation) could be introduced by individual banks in the UK, and are not dependent on the central infrastructure.

Different characteristics of the population

- 9.196 Finland is much less densely populated than the UK. Its population of approximately 5.2 million (compared to the UK's 59.8 million) is spread over an area almost 1.5 times the size of the UK. Although there are obviously major areas of population concentration, the higher proportion of people in remote areas has increased the demand for electronic links. In the Finnish banking sector, a crisis in the early 1990s led to the closures of branches, as a cost-cutting move, and a shift towards automated solutions. The profitability of branches is likely to be lower in a sparsely populated country than in areas where each branch is within easy reach of a large number of final customers.
- 9.197 The greater propensity of the Finns to embrace new technologies early is illustrated by the following charts comparing mobile phone connections, PC ownership and internet hosts¹⁷⁶ in the UK and Finland over time:

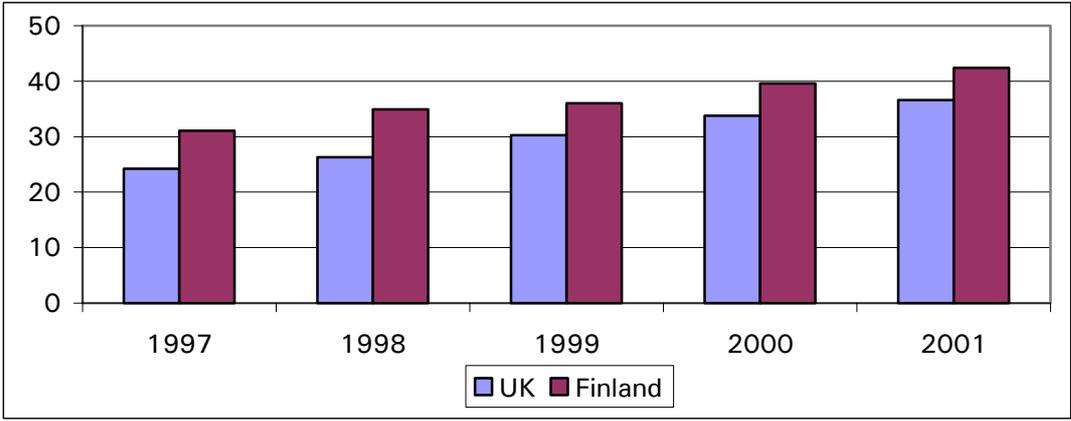
¹⁷⁶ Internet hosts: defined as internet connections.

DIAGRAM 9.1: MOBILE PHONE CONNECTIONS (PER 100 PERSONS)



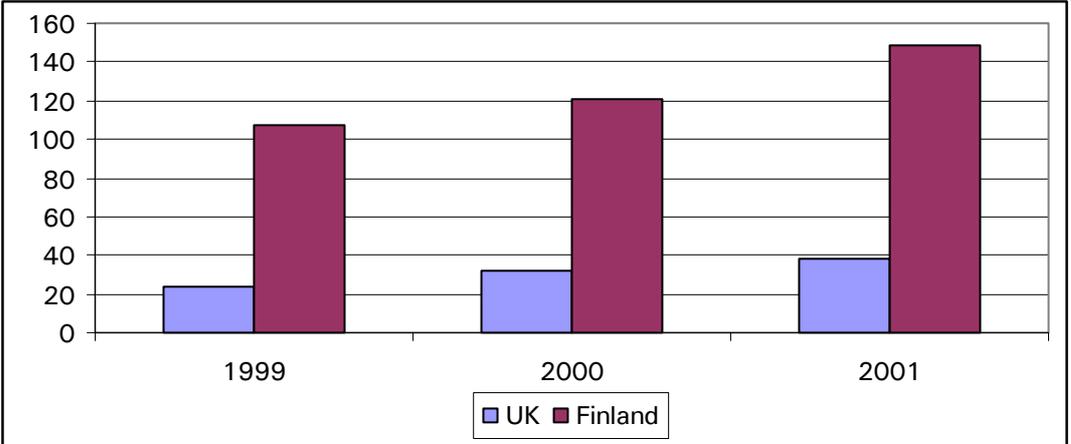
Source: Statistics Finland

DIAGRAM 9.2: PERSONAL COMPUTERS (PER 100 PERSONS)



Source: Statistics Finland

DIAGRAM 9.3: INTERNET HOSTS (PER 1000 PERSONS)



Source: Statistics Finland

9.198 The wide ownership of, and access to, new technologies amongst the population clearly makes it easier for banks to introduce new payment methods that are dependent upon the use of those technologies. For example, the earlier prevalence of mobile phones in Finland is likely to have been a major reason for Finnish banks being able to introduce mobile payment schemes before their UK counterparts.

Conclusions

- 9.199 The preceding analysis suggests that the main reasons for the high levels of retail innovation lie outside the central clearing systems. The main features of the Finnish situation that appear to have encouraged the faster introduction of more technologically advanced payment instruments include: a more concentrated banking market; and a small, widespread population that seems more receptive to the early take-up of new technologies.
- 9.200 There are, nonetheless, some important differences between the underlying clearing systems in Finland and the UK. This is particularly noticeable at the level of low-value retail payments, where the fact that there is no central infrastructure (in the form of an ACH) in Finland means that a higher proportion of a Finnish bank's total payment system infrastructure is held 'in-house'. This arguably leads to greater flexibility in the Finnish system, and removes the need for consensus of the majority of banks for some of the changes that would take place at the BACS level of infrastructure in the UK.
- 9.201 However, much of the Finnish retail innovation discussed in this section could be introduced by individual banks in the UK, without changes being introduced to the central infrastructure. Indeed, similar services are being introduced in the UK at the retail level (albeit more slowly) without significant development of the infrastructure.

10 EUROPEAN DEVELOPMENTS

- 10.1 This section of the paper looks at some of the main recent European developments in the field of payment systems. Changes have primarily been driven by institutional demand for change, expressed in the form of legislation. The banking sector has been forced to react to this legislation and has taken action that could be perceived as aiming to stave off further regulatory intervention.
- 10.2 A brief outline of the developments is followed by an analysis of their observed and expected impact upon the current and future standing of the clearing companies in the UK.
- 10.3 Developments in Europe are of particular interest because of the actual and potential competitive threat that they create for UK clearing companies. BACS will be affected by the development of a pan-European ACH (PE-ACH) and CHAPS already faces direct competition for its euro business from other European RTGS systems, along with the Euro Banking Association's (EBA) EURO1 system for high value payments. CCCL is unlikely to be significantly affected by European developments, because of the general decline in use of cheques throughout the EU.
- 10.4 This competition has implications for the price and level of service provided by the UK companies, and it also impacts upon the nature of any investment that they undertake. The decisions to innovate at a system level are likely to be affected by member banks' perception of alternative offerings from Europe. This, in turn, will be at least partially determined by their views on the likelihood and timing of UK entry into European Monetary Union (EMU).

Recent and imminent European developments

- 10.5 A fundamental aim of the EU is the development of the internal market. In seeking this goal, the European Institutions have launched a considerable drive in recent years to develop a single payment area within the EU, and especially the Eurozone. The successful creation of the TARGET¹⁷⁷ network of RTGS systems for high-value cross-border transfers means that the new legislation has tended to focus on retail payments.¹⁷⁸

¹⁷⁷ See paragraphs 6.21 to 6.22 for a description of TARGET.

¹⁷⁸ E.g. See COM (2000) 36, *Retail Payments in the Internal Market*, 31.01.2000, p.2: 'Large value (wholesale) payments can now be made across borders nearly as quickly and cheaply as they can domestically, yet small value (retail) cross-border payments are less reliable, usually take longer and cost significantly more than domestic payments. There needs to be a significant improvement in the efficiency of small value cross-border payments, and substantial reductions in cross-border charges to customers, by 1 January 2002.'

Legislation

- 10.6 The will to achieve a single payments area within the EU led to the adoption in 1997 of a Directive on cross-border credit transfers.¹⁷⁹ 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. However, 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 2001.¹⁸⁰ Amongst other things, as of 1 July 2002, the Regulation explicitly prevented any discrimination between charges for cross-border transfers in euros and their domestic equivalents. The immediate direct applicability of the Regulation (without the need for subsequent action by Member States) makes it a more powerful tool than a Directive for the Institutions to achieve their aims in this area.

Response from the banks

- 10.7 The Regulation has provoked a response from the European banking community – both in terms of speeding up initiatives that had been introduced before its adoption, and in new proposals. The EBA has moved to develop systems to deal with low-value cross-border credit transfers (STEP1 and, most recently, STEP2) alongside its existing high-value system (EURO1) (see the box below for details). In addition, commercial banks have formed the European Payments Council (EPC), which has published a white paper, ‘Euroland: Our Single Payment Area!’.¹⁸¹ That paper contains an outline of how the banks propose to move towards a Single European Payment Area (SEPA), including the creation of a pan-European ACH (PE-ACH). The EPC has provided a forum for a variety of working groups as the banks respond to the demands of the latest legislation.

¹⁷⁹ Directive 97/5/EC on cross-border credit transfers – OJ L 43, 14.2.1997, p.25.

¹⁸⁰ Regulation (EC) 2560/2001 on cross-border payments in euro – OJ L 344, 19.12.2001, p.13

¹⁸¹ ‘Euroland: Our Single Payment Area!’ – White Paper, May 2002

The EBA's payment systems

The EBA Clearing Company (one of three companies that falls under the EBA umbrella) manages three payment systems: EURO1, for large-value euro credit transfers, and STEP1 and STEP2 for low-value payments. STEP1 is a short-term solution before the greater functionality of STEP2 is fully operational. All three systems use SWIFT message types.¹⁸²

EURO1 is a multilateral large-value EU-wide payment system for euro credit transfers. It operates under the Single Obligation Structure (SOS), whereby members agree to enter into a contractual agreement that on each settlement day, at any given time, each member will have only one single payment obligation or claim with respect to the community of other members as joint creditors/debtors. The SOS is intended to prevent any unwinding in the event of a member being unable to honour its single obligation at the end of the day.

EURO1 settles at the end of the day in central bank money at the ECB. After the cut-off time (i.e. 16.00 CET), clearing banks with debit positions will pay their single obligations into the EBA settlement account at the ECB through TARGET. After all amounts due have been received, and upon instruction from the EBA Clearing Company, the ECB will pay the clearing banks with credit positions, also through TARGET.

STEP1 is a short-term offering for low-value, non-urgent credit transfers, based on the EURO1 technical platform.

As well as being a member of the EBA, a STEP1 bank needs to have the agreement of a EURO1 bank to act as its settlement member (EURO1 banks are automatically able to send and receive STEP1 payments).

STEP1 banks can submit and receive payments to or from other STEP1 banks. The netted balances are settled bilaterally by each STEP1 bank and its EURO1 settlement member. This settlement is part of the single claim/obligation of the settlement member within the EURO1 legal environment.¹⁸³

continued...

¹⁸² See glossary for a description of SWIFT.

¹⁸³ To ensure that the STEP1 system does not create any additional systemic risk in the large value payment system, a zero debit cap is imposed on STEP1-only banks. As such, these banks cannot, in any settlement cycle, be net payers to the system and must pre-fund (by means of a payment from their settlement member) any prospective short position.

STEP2 is a more ambitious project, aiming to overcome the limitations of the short-term STEP1 solution for retail payments. Of particular concern was the fact that payment instructions must be submitted individually in STEP1 – far from ideal in the high-volume retail market. STEP2 is a high volume, low value, non-urgent commercial and retail euro processing service. It is being introduced in phases, with the first phase processing cross-border credit transfers, which are settled in EURO1. Later phases are expected to deal with debits as well as credits, and then to incorporate domestic, alongside cross-border payments. A pilot version of STEP2 phase one went live in March 2003, with full operability expected by 2004/5 (dependent on the success of the pilot).

Banks participating in STEP 2 can either send and receive files of payment instructions directly to and from the central system (settlement members) or via the services of a settlement member (indirect members). Direct participation is open to members of EURO1 or STEP1.

Initially, a next-day processing cycle is employed, with all files received by 22.00 CET processed by the STEP2 system early the following morning. There is no netting in STEP2 and the system calculates the bilateral, gross obligations between each pair of members. Once calculated, the STEP2 obligations are submitted to EURO1 for settlement (by a cut-off time of 8.00). These settlement instructions are then settled in EURO1 in the normal way, with the SOS again guaranteeing no unwinding.

High value transfers

- 10.8 All these developments relate primarily to low-value (retail) payments. The creation of the pan-European TARGET network for RTGS systems means that cross border high value payments are already available throughout the EU on similar terms to their domestic equivalents (in the UK, this happens through CHAPS Euro). The TARGET system operates through links between the RTGS systems in the different Member States,¹⁸⁴ with the ECB playing a linking role between the national central banks. With EURO1 also offering a competing platform for high-value payments, this is the area where many of the main developments seem to have already taken place. However, the ECB has declared its intentions to move TARGET on with the creation of TARGET2.¹⁸⁵

¹⁸⁴ The decision to construct the TARGET system was taken by the Council of the European Monetary Institute (EMI) in March 1995. A unique feature of TARGET is that its euro payment services are available throughout the EU. Since it is necessary for all countries adopting the euro to participate in TARGET, and as the time that was available to set up the system was limited, all EU NCBs had to start investing in TARGET before they knew whether they would be part of the euro area. Source: European Central Bank, Blue Book, June 2001, page 29.

¹⁸⁵ ECB press release: *The long-term evolution of TARGET*, 24 October 2002.

This will centralise some of the existing elements of the TARGET network, providing a more harmonised service level.¹⁸⁶

Impact on UK clearing companies

- 10.9 The following section examines the actual and potential impact of the various European developments outlined above on each of the UK clearing systems. For each system, the following three areas are considered: EU legislation; collective actions of the European banking community; and possible UK adoption of the euro. These areas cannot be considered as independent, with legislation driving banks' behaviour, and the timing of EMU entry affecting the extent to which legislation and other European actions have an impact in the UK.
- 10.10 There is a far greater focus on BACS than on either of the other two systems, for differing reasons: CHAPS has already been developed to handle cross-border payments in euros (with the creation of CHAPS Euro) and is integrated into a pan-European system (TARGET). CCCL, on the other hand, is unlikely to be significantly affected by future European developments because of the steady decline in use of paper-based payment instruments in the EU. The only exception to this might be through a possible phasing out of the use of cheques in the EU as a whole (although there appears to be at least a medium-term future for domestic cheques within the UK). With BACS, there is far more uncertainty in relation to future developments within the UK and to the precise nature of potential competition arriving from elsewhere in Europe.

Legislation and BACS

- 10.11 The recent EU legislation in the payments area has concerned retail payments and is therefore of more relevance to BACS than to CHAPS. The legislation has not tended to have a direct bearing on CCCL because the use of cheques for cross-border payments in the EU is negligible.
- 10.12 In its recent consultation, *A Possible Legal Framework for the Single Payment Area in the Internal Market*, the European Commission suggested that there should be something of an overhaul of the current legal framework relating to retail payments.¹⁸⁷ This suggests that there might be further developments in

¹⁸⁶ One bank told the OFT that it is anticipated that some smaller countries may find it economic to run their RTGS systems on a centralised TARGET2 platform and that in time all countries will migrate to the one platform.

¹⁸⁷ European Commission Working Document – *A Possible Legal Framework for the Single Payment Area in the Internal Market* – 7 May 2002, at p.6 'Presently there exists one regulation, several directives, at least one recommendation and several communications on retail payments in the EU. They address different aspects and present them in piece-meal, although there is also some overlapping of themes (e.g. information to customers). This situation does not facilitate transparency and legal certainty of EU legislation. In accordance with the Commission's general objectives in its legislative activities, it is therefore desirable to reconsider the new needs for legislative proposals in the general

the future, but the main European issue that the banks have raised in relation to BACS is the move towards a pan-European ACH in response to recent legislation.

10.13 One further issue is the increased use of the International Bank Account Number (IBAN) and Bank Identifier Code (BIC), which must appear on the account statements of each customer (or in an annexe) from 1 July 2003 (set out in Article 5 of the Regulation on cross-border payments in euros). On the one hand, it is argued that the resulting increased standardisation will facilitate the development of straight through processing of international payments. On the other hand, some banks suggested that the adding of these identifiers to all their messages takes up valuable space and adds an extra cost to the system.

Pan-European ACH (PE-ACH)

10.14 The EPC's stated aim of developing a PE-ACH, in response to the legislation driving forward the concept of a single payments area, has significant implications for the evolution of BACS. The EBA's STEP2 system is the first offering of this kind, but it is possible that one or more alternatives will be provided in the future. It is highly likely that, driven by the will of the European Institutions, a fully functioning system will be introduced in the next few years. This could result in a variety of different eventual outcomes in the UK, determined by BACS' choice of response.

Possible BACS responses to the competitive threat of a PE-ACH

10.15 A number of banks have cited the competitive threat posed to BACS by a PE-ACH as a significant driver of its future development. However, the precise way in which BACS would respond to that threat was open to question. Possible responses include:

- BACS could decide to make new developments, introducing greater functionality, to put itself in a position to compete head on with the new entrant. In this case, a distinction should be drawn between fighting to retain UK business and competing for members elsewhere in Europe (although BACS could obviously choose to do both).
- Alternatively, members of BACS might decide that the PE-ACH offers a superior service to BACS and that there is no point in investing in further improvements to BACS. Rather, they will switch to the new system and BACS will no longer have sufficient business to survive. It might be argued that the separation of scheme from infrastructure (see paragraphs 8.17 to 8.19 for details) increases the possibility of this outcome arising, as an independent scheme is more likely to switch to a competing infrastructure.

context and to achieve an improvement in proposing a comprehensive coherent legal framework.'

- Somewhere in between these two extremes lies the situation where BACS is actively involved in the development of the PE-ACH, and makes complementary changes, with a view to either becoming a part of the new system or working alongside it. It is possible that national ACHs might eventually play some kind of gatekeeper/hub role for the new PE-ACH. The EPC's recommendation for the governance of the PE-ACH says that local ACHs 'should be neither owners nor users, however they may have the role of facilitators to technically access the PE-ACH framework'.¹⁸⁸ If members believe that this is the likely future of BACS, they may be less willing to invest in any developments that are incompatible with the evolving European system.

10.16 There are a number of factors that are likely to influence which outcome arises.

Factors that will influence the BACS response

Likelihood of UK entry into EMU

10.17 The choice of response will be heavily influenced by the banks' perception of the likelihood of UK entry into EMU. If they think that it is imminent, then that increases the proximity of the threat from a PE-ACH. Virtually all the banks cited uncertainty regarding whether and when the UK will adopt the euro as having a knock-on effect upon the investment decisions with respect to BACS. (These investment decisions do not only take place at the central infrastructure level – in order to implement most significant changes, the requirements of all BACS users have to be taken into account.)

10.18 It should be noted that, in the longer term, it is likely that the PE-ACH will develop multi-currency functionality. At such a time, it will offer a direct competitive threat to BACS regardless of UK adoption of the euro.

Speed of development of the PE-ACH

10.19 As with the timing of EMU entry, the speed at which STEP2, or any competing pan-European system, develops obviously determines the length of time before it becomes a truly viable alternative to BACS. In this context, it is worth noting the proposed timetable for STEP2 – it is capable of processing direct credits from March 2003 and is anticipated to be handling direct debits by 2005.¹⁸⁹ One bank suggested that, in order to ensure the financial viability of STEP2, banks may be required to commit to move 10-20 per cent of euro ACH traffic to this system by 2007. Obviously, the extent to which this would impact upon BACS depends on whether the UK has entered EMU by then.

¹⁸⁸ PE-ACH Governance Recommendation as approved by the European Payments Council on 29 January 2003.

¹⁸⁹ At this stage, it is envisaged that STEP2 will only be handling transactions in euro.

Differences in service provided by BACS and the PE-ACH

10.20 Another factor that will determine the nature of any competition between BACS and a PE-ACH is the significance of any differences between the type of 'product' that is offered. There are currently a couple of major differences between the BACS offering and that provided by other European ACHs, or that proposed by STEP2:

- First, BACS is able to allow corporate customers who are not financial institutions to send data direct rather than through settlement members (see paragraph 6.11) including facilities to control settlement exposures, e.g. limit checking and referrals. This does not happen with equivalent systems elsewhere in the EU and the governance rules for a PE-ACH, approved by the EPC, state that members (direct or indirect) must have a banking license.¹⁹⁰ As such, it is possible that BACS has a competitive advantage with respect to these users in the UK.
- Secondly, the current messaging standards used by BACS are only accepted in the UK and they only allow a limited amount of information to be transmitted with each payment message. STEP2, on the other hand, uses the global SWIFT and XML messaging systems, which are technically more advanced and enable far more information to be attached to the messages.

10.21 The extent to which members value these distinctive services relative to the rest of the package (including, for example, the price charged) will determine the ability of BACS to compete effectively with the PE-ACH in the UK.

10.22 It is possible that the later developments of NewBACS (see paragraphs 8.2 to 8.5 for details) will include a switch to equivalent messaging standards. It is less likely that the EPC will change its governance rules to allow direct corporate access.

Relative efficiency of the two systems

10.23 It has been suggested that early indications are that the cost of a STEP2 transaction is likely to be low enough to compare very favourably with BACS. STEP2's cross-border reach and short settlement cycle are other relative selling points if BACS does not develop significantly before the two systems are placed in direct competition with each other.

10.24 Some banks expressed the view that a significant shift of business from BACS to a PE-ACH could even lead to the collapse of BACS. For example, if the big banks, with more cross-border business, decide that it is in their interests to switch to the PE-ACH, they may not leave a sufficient critical mass for BACS to continue to operate.

¹⁹⁰ PE-ACH governance recommendation as approved by the European Payments Council on 29 January 2003.

Governance of BACS

10.25 Another factor that may dictate how BACS responds to competition from a PE-ACH is the governance structure of BACS (see paragraphs 8.17 to 8.19 for details). Future independent owners of a separate Infrastructure Service Company might have different incentives from the current owners of BACS with regard to investment in a system to compete with the PE-ACH. In addition, members of a separate scheme may be more willing to switch to an alternative provider of services (be it in the form of another scheme or another infrastructure).

CHAPS

10.26 Of the three UK clearing systems, CHAPS seems to have already evolved to accommodate European needs to the greatest extent. This evolution was initially driven by the European Institutions as they prepared for EMU (with the UK participating with a view to its potential involvement). The introduction of CHAPS Euro in 1999 means that Euro payments are handled alongside sterling payments on the same terms. UK membership of the TARGET network through CHAPS Euro also means that cross-border high-value payments can be made to other EU destinations on similar terms to domestic payments.

10.27 In addition, one of the driving forces of the introduction of NewCHAPS, which includes a common SWIFT platform for sterling and euro payments, was to provide for simpler migration if/when the UK joins EMU.

10.28 As well as the domestic developments being further advanced, the precise nature of the competition from elsewhere in Europe is clearer for CHAPS than it is for BACS (although this is not to say that considerable uncertainties do not remain). EURO1 is an established system with a growing membership, whose services are cheaper than those of CHAPS.

10.29 When discussing the future of CHAPS, several banks have pointed to developing pressures from Europe. In considering these pressures, one bank stressed that it is wrong to think of CHAPS as a system purely aimed at high-value payments – rather it provides a mechanism for **urgent** transfers. As other systems develop faster processing capabilities, they will be able to compete for, at least, the lower value urgent transfers. Specifically, the European threat (current and potential) to CHAPS' business comes from:

- Increased competition from EURO1. There are two factors that would significantly raise the threat to CHAPS from EURO1. Firstly, UK entry into EMU would mean that all the business that currently passes through CHAPS Sterling (in 2002, approximately 83 per cent by volume and 63 per cent by value) could either move to a euro RTGS system (CHAPS Euro or an alternative), or to EURO1. Secondly, as more banks join the EURO1 system, the greater its attractiveness as the wider is its scope. The number of members has been steadily increasing since its conception in January 1999

– in October 2002 there were 74 settlement members in EURO1, compared to 66 in July 1999.¹⁹¹

- Potential competition from other national RTGS systems – again this is dependent upon UK entry into EMU. Some banks already do most of their euro business through other European bases and could shift their sterling business there if the UK adopted the euro. In the longer term, there is the possibility that TARGET becomes a central system that supersedes the need for separate domestic RTGS systems in the EU.
- Potential competition from ‘low-value’ ACHs, such as STEP2, which could develop a fast enough processing service to win lower-value urgent business that is currently forced to turn to CHAPS. Again, this competitive threat would increase if the UK entered EMU.

CCCL

10.30 Cheques are not used extensively for cross-border payments (and those that are have to be manually processed¹⁹²), which means that the latest EU legislation in this area is unlikely to have a significant direct impact on the operations of CCCL. In many EU countries, the use of cheques for retail payments has all but disappeared.

10.31 One way in which CCCL might be directly affected by actions at a European level is through the activities of the Cheque Exit Task Force within the EPC. The task force has a policy of ending the use of cross-border cheques. There may also be future moves at phasing out of domestic cheques.

10.32 Overall, however, the European influence on the way in which CCCL evolves is likely to be minimal.

Conclusions

10.33 It is clear that BACS will face competition from at least one European scheme at some point in the future. Increased competition is likely to have implications for the price and quality of services offered by BACS, and may also influence the amount of innovation that takes place at the scheme level.

10.34 There is far less certainty as to the precise nature of this competition and the timing of its impact in the UK, with one of the main sources of uncertainty being the timing of any possible UK entry into EMU. This uncertainty may well affect the extent to which banks are willing to invest in new developments in BACS (and the accompanying alterations to their own systems). This is particularly so if any such investment is incompatible with the European systems into which they will eventually link in one way or another.

¹⁹¹ Source: EBA

¹⁹² In January 1999, CCCL introduced a euro bulk paper clearing which handles UK-issued cheques drawn in euro and presented in the UK cheque clearing.

- 10.35 With CHAPS, there is a clearer picture of the precise nature of competition present in Europe. Indeed, EURO1 is already in direct competition with CHAPS for certain parts of its business. As with BACS, however, the extent of this competitive threat is heavily dependent upon whether and when the UK adopts the euro.
- 10.36 Of the three UK clearing companies, CCCL is likely to be the least affected by developments in Europe. The only exception to this is any possible acceleration of the decline in use of cheques.
- 10.37 On a general level, across all schemes, some banks have made another point in relation to possible UK entry into EMU. They suggested that, aside from any uncertainty in relation to investment plans, once a 'UK-in' scenario arises, they will have to devote all their spare resources to making their systems euro-compatible. This will leave no money/specialist staff to allocate to other issues, possibly resulting in them having to put on hold any existing payment system innovations and preventing the uptake of any new projects.

PART III: PLASTIC CARD NETWORKS

11 CREDIT AND DEBIT CARD SYSTEMS

- 11.1 This section of the report covers payment card systems. This includes credit, debit and charge card transactions processed through retailers (merchants). Such payment card schemes are usually known as four party schemes as, when a final customer purchases goods or services using a credit, charge or debit card, there are typically four parties involved:
1. the final customer/cardholder
 2. the retailer (merchant)
 3. the bank that issued the payment card, known as the 'card issuer', and
 4. the bank that acts for the retailer, known as the 'merchant acquirer'.
- 11.2 Visa, MasterCard and Switch, the principal credit, charge and debit card schemes in the UK are four party schemes. However the smaller card schemes such as American Express 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.
- 11.3 As part of this study meetings were held with card schemes, large retailers and one of the transaction processors. In addition a questionnaire was sent to merchant acquirers that examined their cost structure, competitive strategy and pricing. Additional public sources such as market reports were consulted, the OFT's analysis drew on the analysis that has been carried out in consideration of the notification of MasterCard UK Members Forum's rules under the Competition Act, where relevant. A full list of those who received questionnaires and the parties consulted is contained in annexe C.

The card schemes

- 11.4 The Visa and MasterCard schemes together account for the vast majority of credit and charge card transactions in the UK. In 2001 they had market shares of combined UK credit and charge card transaction volumes of 63 per cent (VISA) and 33 per cent (MasterCard).¹⁹³ Visa Debit and Switch are the only debit card schemes operating in the UK, with market shares of transaction volumes in 2001 of 48 per cent and 52 per cent respectively.¹⁹⁴ In 2001,

¹⁹³ APACS Plastic Card Review 2002 Table 2A

¹⁹⁴ APACS Plastic Card Review 2002 Table 2A. Each of the debit card schemes has 'full authorisation' debit card brands, Visa Electron and Switch Solo. Electron and Solo are

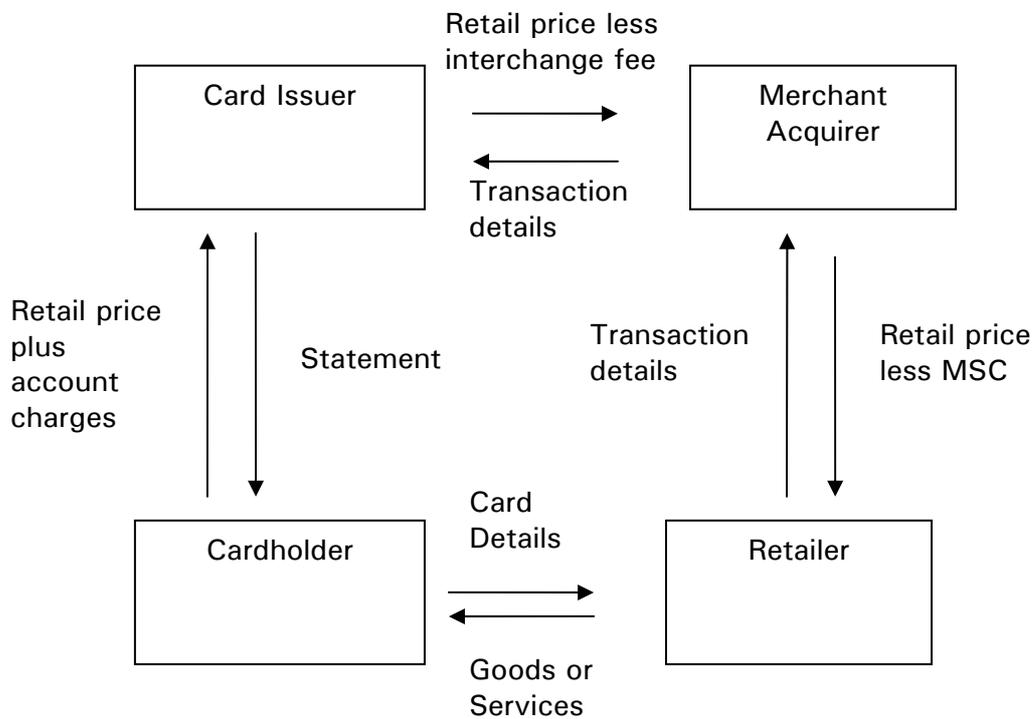
purchases in the UK paid for using credit and charge cards were worth £94 billion, with an additional £95 billion of purchases paid for using debit cards.¹⁹⁵

- 11.5 Each of these schemes are membership associations that have boards on which member banks may be represented. They handle the technical aspects of authorisation and settlement of transactions, the marketing of the brand and the administration of the scheme. The board of members decides upon the rules of the scheme and the level of various scheme fees, including the multilateral interchange fee (MIF). A switching and settlement fee may be payable to the schemes for transactions processed through the scheme's central switch which routes the transaction from acquirer to issuer. The schemes can also obtain revenue through licence or membership fees charged to members.
- 11.6 For each credit, charge or debit card transaction the following steps will normally take place (not necessarily in precisely this order):
1. the cardholder agrees to pay the retailer for the relevant good or service, the card details are checked and the transaction authorised
 2. the retailer sends transaction details to the merchant acquirer
 3. the merchant acquirer in turn forwards transaction details to the card issuer
 4. the card issuer pays the merchant acquirer the retail price less an interchange fee
 5. the merchant acquirer pays the retailer the retail price less the merchant service charge (MSC), and
 6. the card issuer debits the retail price to the cardholder's account.

treated for the purposes of this report as parts of the Visa and Switch debit card schemes respectively.

¹⁹⁵ APACS, Plastic Card Review 2002, Table 4B.

DIAGRAM 11.1: A TYPICAL CREDIT OR DEBIT CARD TRANSACTION



11.7 The acquirer has to pay an interchange fee to the issuer for each transaction made using a credit or debit card and the merchant levies a merchant service charge that includes the interchange fee. For example, suppose Mr Jones has a credit card issued by bank J. When he buys a TV set that costs £1,000, the retailer’s bank, bank R, receives information from the retailer which it passes to bank J. Bank J pays to Bank R £1,000, less the interchange fee. Bank R then pays to the retailer the price less its MSC. For the purposes of illustration, if the interchange fee was one per cent and the MSC was two per cent, Bank R would receive £990 (the price less the interchange fee) and the retailer would receive £980 (the price less the MSC). The MSC would therefore be £20 of which £10 would be the interchange fee retained by Bank J. For Debit card transactions the interchange fee is a fixed pence per transaction fee rather than a proportion of the retail price.¹⁹⁶

11.8 The MSC depends upon a number of characteristics of the transaction such as whether the cardholder is present or not. Card not present transactions will occur for transactions by mail order, internet or telephone. The merchant service charge will also vary according to the floor limit. The floor limit is the maximum value of transaction that can be processed without obtaining

¹⁹⁶ The Cruickshank Report D3.46

authorisation for the transaction. The floor limit can vary both by merchant and by card scheme. For example, if the floor limit for a merchant for a particular scheme is £20 this means all transactions of £20 or above must be authorised online if the payment guarantee is to apply.

Settlement arrangements

- 11.9 The flow of funds for a card transaction will depend on each scheme's arrangements and the individual arrangements of the merchant acquirer and the card issuer. However, using an illustrative example of the Switch debit card scheme, if a cardholder performs a transaction using a Switch 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 Wednesday. The settlement procedure is bilateral net settlement using CHAPS. This is a three day clearing cycle, but in May 2004 the cycle for Switch is to be reduced to two days. In the example given above, from May 2004 the card issuer will settle for the transaction on Tuesday rather than Wednesday.¹⁹⁷
- 11.10 The Switch 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.

Issuing

- 11.11 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. The card holder will generally have an interest free period (up to 60 days depending on the issuer) in which to pay the card issuer. Cardholders who settle in full within this period are not normally charged interest.¹⁹⁸ 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 do not normally benefit from an interest free period. There are various other charges (e.g. annual fees, ATM withdrawal service charges etc.) that an issuer may levy and the issuer may also choose to offer

¹⁹⁷ This example is based upon information provided by Switch.

¹⁹⁸ 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.

benefits (e.g. free insurance, loyalty points etc.) Visa and MasterCard are the principal credit card systems in the UK although both schemes 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 scheme.

- 11.12 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.
- 11.13 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 directly from the cardholder's account. Debit cards are usually issued as part of a current account package and frequently perform a dual role as debit card and cheque guarantee card. The principal debit card schemes in the UK are Visa Delta and Switch. Switch announced in August 2002 that the scheme would migrate over the next few years to Maestro, the international debit card brand of MasterCard.¹⁹⁹
- 11.14 Most credit, charge and debit cards also permit the cardholder to obtain cash at ATMs. There are also cards which serve purely as ATM withdrawal cards. In some cases a credit card holder will be liable for interest from the date of cash withdrawal²⁰⁰ and the interest rate payable may differ from the interest rate charged on balances obtained through retail transactions.²⁰¹ For ATM transactions through a debit or cheque guarantee card issued as part of an account, the amount of the cash withdrawal is debited from the account. Many ATM transactions are by cardholders withdrawing from an ATM machine deployed by the issuing bank. Such a transaction effectively involves only two parties, the bank as issuer and provider of the ATM machine and the card or account holder. Such transactions are known as 'us-on-us' transactions. Where a cardholder uses an ATM machine deployed by a different bank the ATM owner must obtain authorisation for the transaction with the card issuer, and this involves a third party. In the UK there is only one major scheme for ATM authorisation, the LINK network. The LINK network is considered in detail in chapter 12 below.
- 11.15 The issuing side of the UK credit card market is relatively concentrated but has also experienced substantial entry in recent years. It is estimated that in 2002

¹⁹⁹ See www.switch.co.uk/maestro/switch_maestro1.htm

²⁰⁰ The Cruickshank Report, Table D4.3

²⁰¹ Moneyfacts.co.uk May 2003

the big 4 banks, Barclays, RBS, HSBC and Lloyds TSB accounted for more than half of all credit cards issued in the UK.²⁰² In the mid and late 1990s a number of US banks, e.g. MBNA, Capital One and Morgan Stanley Dean Witter, entered into the UK market as monoline issuers. Monoline issuers focus on issuing credit cards rather than supplying a range of banking services. In addition there has been entry from financial institutions within the UK accompanied by large marketing expenditures, e.g. Egg.

11.16 Competition between credit card issuers has been relatively intense in recent years. This competition has manifested itself in a reduction in the proportion of credit cards issued that charge annual fees, the increased use of discounted offers such as interest free offers on balance transfers for introductory periods, as well as aggressive marketing.

11.17 As debit card issuance is tied to a bank or building society account, competition between debit card providers will reflect all of the features of the account provided, of which debit card provision is only one element. Competition in provision of debit cards will therefore be affected by the level of overall retail competition in banking.

Acquiring

11.18 As well as the process of signing up cardholders to take a particular brand of card, there also needs to be a process by which retailers (merchants) are signed up to accept the cards issued by the schemes. Merchant acquirers currently perform four basic functions:

- recruit retailers to a card scheme
- process transactions and pass on information to issuers
- obtain monies from issuers and pay retailers
- are liable to issuers for outstanding payments, if a retailer goes out of business.

11.19 Acquirers may provide the hardware necessary in the form of an electronic point of sale terminal although many large retailers provide their own terminals. Merchants are charged a Merchant Service Charge (MSC) for each transaction which may be a fixed fee (as is the case for debit cards) or may be a proportion of the value of the transaction (as is the case for credit and charge cards). This charge will cover the costs of the acquiring functions but will also need to cover the interchange fee that must be paid to the issuer.

11.20 Not all of the acquiring activities are performed in house. A number of acquirers contract out their transaction processing activities either to another acquirer or to a third party specialist transaction processor such as Electronic Data Systems

²⁰² Keynote, Consumer Credit and Debt 2002, Table 20.

(EDS) or First Data Corporation. Similarly the business of supplying the electronic point of sale terminals used to obtain authorisation to merchants is an activity that is commonly carried out by third party suppliers.

- 11.21 The merchant acquiring market is relatively highly concentrated. In 1997 and 1998 the three big acquirers, Natwest Streamline (part of the RBS group), Barclays, and HSBC accounted for over 85 per cent of all merchants acquired in the UK.²⁰³ Data supplied as part of this study confirm this statistic in broad terms but incomplete responses on this point prevent a more accurate and up to date summary of the market. There are a number of other smaller acquirers but none have a market share of more than five per cent.²⁰⁴
- 11.22 It is clear that there are three acquirers who compete to supply the larger merchants. Streamline, Barclays and HSBC. This was verified in discussion with large merchants but is also verified by the data supplied by the acquirers. The number of transactions per merchant per year for these three acquirers is substantially higher than for the other acquirers. Smaller acquirers have reported to this study that they tend to focus on supplying acquiring services to existing business customers as part of the general banking package, or alternatively, tend to supply to retailers operating in a particular sector or sectors.

Chip and pin

- 11.23 The major current technological development for the credit and debit card schemes is the chip and pin project. Currently for most credit or debit card transactions where the cardholder is present the necessary information concerning the relevant card and account details are contained on a magnetic strip on the back of the card. Verification of the identity of the cardholder is by the cardholder's signature. The chip and pin project will change both of these. It is anticipated that the effect of this will be to substantially reduce the number of fraudulent credit and debit card transactions.
- 11.24 In future, all credit and debit cards will contain a microchip (or 'chip') which will contain the card and account details. The storing of the card data on the chip means that it is much more difficult to create fraudulent cards.²⁰⁵ In addition a much wider set of information can be included on the chip than is currently contained on the magnetic strip. Many cards have already been issued with chips and a number of retailers are currently using the chip rather than the magnetic strip to process transactions.
- 11.25 In addition to the introduction of chip cards there is a move to a system whereby, in order to verify the identity of the cardholder, the cardholder will

²⁰³ The Cruickshank Report, D2.3

²⁰⁴ The Cruickshank Report D2.3

²⁰⁵ www.chipandpin.co.uk

input a pin number into a keypad instead of signing a paper receipt. This will assist in reducing the volume of identity fraud whereby another person's card is used.

11.26 The chip and pin project will have implications for all parties involved with credit and debit card schemes and will impose costs on all parties, save cardholders. For issuers there is the requirement that new cards be issued with a chip. This will involve the issuing banks in re-issuing new cards to replace the existing magnetic strip cards. For retailers and acquirers there is the requirement that the electronic point of sale terminals be upgraded so that they can both accept chip cards and have a pin keypad. For large retailers who typically own their own terminals this is likely to represent a considerable investment in the near future. For smaller retailers who are more likely to lease a terminal(s) from their acquirer, the share of the costs borne by the retailer will depend upon the contract with the merchant acquirer. For merchant acquirers, in addition to the costs of terminal upgrade there are also the IT costs of upgrading their systems so that authorisation and transaction processing are compatible with the new system. Similarly the schemes bear some costs of upgrading their own processing systems.

11.27 A local trial for chip and pin is planned for Spring 2003 in Northampton.²⁰⁶ The full transition to chip and pin will be complete at the start of 2005. The benefits of the chip and pin scheme will be felt in the reduction of fraud losses associated with payment cards. Fraud losses connected to plastic cards have risen rapidly recently from £83.3m in 1995 to £411.4m in 2001.²⁰⁷

Analysis

Multilateral interchange fees

11.28 As explained in paragraphs 11.4 to 11.8, credit and debit card transactions involve the payment of an interchange fee by the acquiring bank to the issuing bank. All of the four-party card schemes in the UK have agreements on a fallback or default level for the interchange fee, known as the multilateral interchange fee (MIF). The OFT has been considering, under the Competition Act 1998, the MIF contained in the UK domestic rules notified to the OFT by MasterCard UK Members Forum (MMF), the UK board of members of MasterCard. In February 2003 the OFT reached the preliminary conclusion that the agreement infringes the Competition Act and results in unjustifiably high interchange fee payments. The OFT issued a notice to MMF to this effect and MMF and its members have the opportunity to make representations to the OFT concerning the notice. The representations process is ongoing at the date of publication of this report. The discussion below is not specific to MasterCard

²⁰⁶ 'Update on chip and pin trial' Chip and Pin, press release 26th March 2003.

²⁰⁷ APACS Yearbook of Payment Statistics 2002 p28

and applies generally to the payment card schemes. It is, however, consistent with the preliminary conclusions arrived at in February 2003 in the MasterCard case.

11.29 The MIF is a default fee which applies in the absence of any bilateral agreement between the parties. However, in the UK, bilateral arrangements are rare and the interchange fee used is nearly always the MIF.²⁰⁸ As a matter of theory it is clear why this could be the case. Once a fallback interchange fee has been set by the parties to a scheme it is difficult for a bilateral negotiation to come to an agreement on any fee other than the fall back level. In a bilateral negotiation between an acquirer and an issuer the acquirer will, other things equal, always prefer a lower interchange fee and the issuer will, other things equal, always prefer a higher interchange fee. Since the acquirer would therefore not agree to a bilateral interchange fee higher than the fallback fee and the issuer will therefore not agree to a bilateral interchange fee lower than the fallback fee, it is highly unlikely that any bilateral negotiations would lead to a different interchange fee from the fallback fee.

11.30 The existence of a MIF agreement is potentially beneficial. A common feature of all the UK card schemes is that merchants must accept all of the scheme's cards irrespective of which of the member banks issued the card. This is known as the "honour all cards rule".²⁰⁹ One consequence is that, in the absence of an agreement on a MIF, there would be a requirement to negotiate bilateral fees with each of the other members of the scheme. Parties would incur the extra transaction costs associated with these negotiations. New entrants may also have weak bargaining power with existing members who could exploit the requirement to negotiate a bilateral agreement with all existing members. Thus the existence of a MIF, set at an appropriate level can reduce the costs to new members of joining a scheme and encourage competition.

11.31 However the agreement on a MIF also restricts competition by removing the incentive for bilateral negotiations between parties as described above, so that there is little or no competition over the level of interchange fees. The setting of a MIF can also have implications for the degree of competition in the acquiring market. As an acquirer must pay the MIF and must also cover its own costs of acquiring for the retailer, the MIF sets a floor for the level of the Merchant Service Charge (MSC). The MIF is estimated to account for between 66 per cent and 80 per cent of the MSC.²¹⁰ This means that the scope for competition on price to reduce the level of the MSC is limited by the level of the MIF.

²⁰⁸ It has been estimated that the MIF applies in over 90 per cent of transactions, see The Cruickshank Report, D3.48.

²⁰⁹ This rule is considered in more detail in paragraph 11.44 below.

²¹⁰ Datamonitor, Future of Interchange, October 2002, page 12 and consistent with confidential information provided to the OFT as part of this study.

Pass through of interchange

11.32 The effect of a high interchange fee on the retail price for goods depends upon the response at two levels:

- higher interchange can lead to higher merchant service charges
- higher merchant service charges can lead to higher retail prices.

11.33 Ordinarily the interchange fee would be expected to set a floor level for the merchant service charge. Since the interchange fee is levied before the funds are passed to the acquirer, the acquirer must cover its costs of acquiring on top of the interchange fee. In theory, there are three possible reasons that an increase in interchange fee may not be passed on in full as an increase in the service charge. Firstly, where the acquiring market is not fully competitive the acquirer may accept a reduction in margins in response to the higher interchange fee. Secondly, an acquirer may choose to cross subsidise its acquiring business from its issuing business. An acquirer who also issues cards would receive the higher level of interchange for 'us-on-us' transactions. The bank could forego the profits on the issuing side by offering a lower merchant service charge. Thirdly the merchant service charge may not be raised because there is a cross subsidy from other corporate business that the acquirer obtains as a follow on from the acquiring business.

11.34 The other aspect of pass through is the pass through of merchant service charges to retail prices. Faced with an increase in the merchant service charge for acceptance of a particular card the merchant has four options:

1. absorb the extra costs making no adjustment in retail price and accepting a reduced profit
2. pass on the costs to customers in full or in part in the form of higher retail prices for all customers
3. pass on the costs to customers in full or in part in the form of a surcharge for those customers using that particular card
4. refuse to accept the card in question.

11.35 Refusing to accept the card will put the retailer at a disadvantage relative to other competing retailers who do accept the card. The number of customers who would switch to rivals in order to have the possibility of paying using that card may be large enough that the retailer feels that they have no choice but to pay the higher service charge rather than lose the customers. When faced with a higher service charge for a card scheme, retailers may collectively be better off refusing to accept the card but each individual retailer would not find it profitable to refuse to accept the card.

11.36 In the UK, retailers are permitted by the card schemes to levy a surcharge for transactions involving a particular kind of card.²¹¹ The willingness of retailers to do this depends upon two factors. Firstly, a retailer will face a similar decision as when choosing to refuse to accept a card. Customers may choose to purchase at a rival retailer when a surcharge is levied. Secondly surcharging may slow down transactions as the surcharge has to be explained to customers and they need to be given an opportunity to use an alternative means of payment. For retailers, such as supermarkets, who have a high through-put of customers at tills, the need for speed of transaction may make surcharging impractical. Surcharging does occur for a limited number of credit card transactions but these tend to be concentrated in certain sectors (e.g. travel agents) where high throughput is not usually a problem and where it is the norm across the sector.

11.37 If the retailer chooses not to adjust retail prices they must make cost savings elsewhere or accept a lower level of profit. If the retailer chooses not to surcharge and increases all retail prices in order to cover the higher merchant service charge then there is an extra cost for all customers regardless of the payment method used. Users of alternative payments methods such as cash will pay higher retail prices as well as customers who pay using their card.

11.38 Save for the very small number of sectors where surcharging is the norm, it is expected that an increase in the MSC will lead to an increase in general retail prices, and this will impact on all customers not just customers using a card for payment.

The level of the interchange fee

11.39 In assessing the overall effect of an agreement on a MIF for the purposes of deciding whether it might benefit from an exemption under the Competition Act 1998, it is necessary to consider whether the MIF is set at an efficient level. There are three principal components of costs that are often covered in an interchange fee:

- Payment system costs such as authorisation and settlement of transactions
- Costs associated with the provision of a 'payment guarantee' where the issuer guarantees the costs of fraudulent use of the cards it issues
- Costs associated with the funding of an interest free period. The benefit of interest free period typically will be received by final customers who pay their credit card bill in full at the end of the month. There is no interest free period for debit cards.

²¹¹ Such surcharging has been possible in the UK since a previous no discrimination rule was found by an MMC report in 1989 to operate against the public interest. Credit Card Services, 1989, Monopolies and Mergers Commission, CM718

11.40 The OFT accepts that an agreement on a MIF could be justified if it were set at a level that covered the first of these cost components, the costs of payments systems services. However, the inclusion of the costs of a payment guarantee in the MIF appears to be an unnecessary restriction of competition. Merchants benefit from the provision of a payment guarantee but may wish to insure against the risk of fraud independently, or self-insure against this risk. Including the payment guarantee as part of the MIF effectively requires that merchants purchase insurance against fraud in this way and restricts competition to supply this insurance.

11.41 The interest free period provided by issuers to cardholders is not a payment service provided to retailers. It is a benefit to cardholders that, if included in the MIF, raises retail prices to all customers. Those customers using alternative payment methods or who do not receive the interest free period should not subsidise the provision of interest free credit to those who benefit from it. Therefore the OFT believes that where the level of the MIF is designed to cover the costs of funding the interest free period and the costs of the payment guarantee the agreement on the MIF will infringe the Competition Act 1998 and will not qualify for an exemption.

Governance

11.42 The three main rules governing the access of new members to a scheme are generally²¹² of the form:

- a prospective member must be an appropriately regulated financial institution – the banking rule
- a prospective member who wishes to acquire merchants for a scheme must also issue a reasonable number of cards for the scheme²¹³ – the no acquiring without issuing rule
- a prospective member's application must be approved by the board of members of the scheme.

11.43 The need to satisfy each of these rules and subsequently pay any joining fees to the scheme could limit the number of entrants to the market and thus could potentially limit competition between scheme members. During the course of this study scheme participants have suggested that the restrictions are justified by reference to the need to maintain the security of the schemes. As with the clearing systems, if a member of the system is unable to meet its commitments to the system, in order to safeguard the operation of the system the members

²¹² The exact rules differ slightly from scheme to scheme but the basic principles are the same.

²¹³ In the case of Switch, the acquirer must be either an issuer of Switch and/or Solo cards or an issuer of debit cards under another scheme which can be acquired by issuers of Switch and/or Solo cards.

of the scheme must bear those commitments. As such, each new member of the scheme imposes some additional risk on the system (and also shares some of the risks imposed by the existing members). It is therefore reasonable for the existing members of a scheme to place requirements on new members equal to the additional risk that they place on the system.

11.44 An additional rule of governance that affects the operation of the scheme is the 'honour all cards rule'. This rule requires that merchants who agree to accept cards of a particular card scheme must accept all of that card scheme's branded cards, regardless of the issuer. This rule has been the subject of a court action in the US brought by Wal-Mart and a number of other retailers against Visa and MasterCard. After a ruling on summary judgement on 1 April 2003, the case was settled by MasterCard and Visa before it went to trial. Wal-Mart and the other retailers argued that, through the honour all cards rule, the card schemes tied acceptance by merchants of credit cards to the acceptance of debit cards. Specifically, they argued that the rule forced them to accept offline debit cards (those authorised by signature, as opposed to online debit cards, authorised by a pin code) which they would otherwise refuse to have accepted.

Banking rule

11.45 Regarding the banking rule, if a credit card issuer were unable to meet its commitments, by being unable to make payments for goods that merchants had provided, then both the scheme and the remaining banks would suffer both financially and through the loss of reputation to the scheme. If an acquirer were unable to meet its commitments the exposure of the other parties in the scheme is likely to be lower since the liability will be restricted to disputed transactions involving the merchant acquirer.²¹⁴

11.46 In order to secure openness and freedom to new entrants the credit requirements should be set at the lowest level consistent with the need to meet the security requirements of the scheme. This need not necessarily be in the form of a regulated financial institution but could involve a wider range of means of assessment, including other means of assessing credit worthiness, which may impose lesser burdens on potential entrants, while still being consistent with the security need of the scheme. It also seems reasonable that the risk requirement reflects the level of risk that the parties impose on the system and thus, in principle, could be set at a lower level for members who predominantly acquire,²¹⁵ as opposed to those who predominantly, or only, issue.

²¹⁴ The Cruickshank Report 3.73-3.79 and D3.39 - 40.

²¹⁵ At present there are no members who only acquire because of the no acquiring without issuing rule.

No acquiring without issuing rule

- 11.47 The justification advanced to the OFT as part of this study for the requirement that only issuing members may become acquiring members is the need to maintain the integrity of the system so that acquiring members have due regard for all parties to the system, both merchants and cardholders. If issuers need not acquire, then on the same argument there would be similar problems in not having a due regard for all parties to the scheme, but the schemes do not require that issuers acquire, and many do not.²¹⁶ It has also been suggested to the OFT that the rule is of little consequence as the costs of issuing the small number of cards is low. However, even if the costs are low, the apparent low level of a restriction does not justify a rule that places an appreciable restriction on access that has no other justification.
- 11.48 Since most retailers source their acquiring from a single acquirer the restrictions on a potential entrant wishing to enter as an acquirer are greater, because the membership criteria for all schemes must be satisfied. Therefore, as currently formulated, to be able to acquire for all UK card schemes a firm must issue Visa and MasterCard cards and must issue Visa debit or Switch cards. This implies that, although the restriction that acquirers must issue may be a relatively low level restriction when considered in the context of a single scheme, the restriction is magnified when it is necessary to join all schemes in order to offer a complete acquiring service to retailers.

Other access rules

- 11.49 The requirement that new applications be approved by existing members means that there is the potential for existing members to seek to exclude would be competitors to the existing members. As such the decision procedure should be transparent and non discriminatory.
- 11.50 The joining fees for the schemes are the other obstacle to a potential member. The schemes have differed substantially in the past in their joining fees. This, in part, reflects the different histories of the schemes and their structures.

Effect of the rules

- 11.51 As indicated in paragraphs 11.15 and 11.16 above there has been significant entry of 'monoline' issuers and others into the credit card market in recent years. On the acquiring side the principal non bank potential entrants could be transaction processors, or other suppliers to financial networks such as ATM networks. First Data already performs transaction processing for Lloyds-TSB through its Cardnet subsidiary and currently provides outsourced transaction processing for HSBC. In addition, in February 2003 First Data announced that it had signed a revenue sharing alliance with HBOS Plc to perform transaction

²¹⁶ Formally Visa's rules may require that members both issue and acquire, but in practice Visa doesn't require members of Visa to acquire. See the European Commission's decision in Case No. COMP/29.373 *Visa International* OJ [2001] L293/28 at paragraph 18.

processing and other acquiring functions for HBOS merchants. Entry has occurred, in some form, in recent years with the advent of Girobank/Alliance and Leicester as a new merchant acquirer with transaction processing performed by EDS. However, the access rules currently prevent parties involved in transaction processing operations, but who do not wish to become registered financial institutions or to issue cards, from becoming members of the card schemes. Therefore, the access rules may still represent a barrier to entry, particularly for non-banks who may be able to serve market niches or provide more innovative services.

Changes to scheme rules: Switch

- 11.52 In August 2002, Switch²¹⁷ announced a decision to gradually phase out the Switch brand to be replaced by Maestro the debit card brand of MasterCard. The process of transition will take up to 5 years. Switch is a domestic brand that has little recognition outside of the UK. Maestro is MasterCard's international debit brand and has wider recognition. Currently many Switch cards have a Maestro branding on the reverse of the card for international use.
- 11.53 At the same time a decision was made to outsource transaction processing for Switch to MasterCard. This move involves a shift away from the series of bilateral connections between the member banks that Switch has used in the past to a hub and spoke system of operation. A hub and spoke system can have considerable advantages for a network since any new member of the network need only establish a single connection to the central hub, rather than establishing connections to each of the existing members of the network. As a result, the technical costs of joining the network are reduced.
- 11.54 As a consequence, new members to the scheme will only have to obtain a Maestro licence in order to join Switch. Prior to the change the joining fee for Switch for full members was approximately £1.5m. Many banks wishing to issue Maestro cards may already issue MasterCard credit cards. Switch believes that the new licence fee arrangement, combined with the reduced requirements associated with connection to a hub and spoke system rather than bilateral connections, will significantly lower the costs of joining the scheme, hence widen access to new members.
- 11.55 There have also been changes to the governance arrangements for the schemes in recent years. As part of the changes to the Switch scheme a company limited by guarantee, Switch 2002 Ltd was formed. The membership of this company consists of all members of the scheme. Prior to the change the scheme was a joint venture serviced by a company owned by the three founder members of the scheme. The board of Switch 2002 Ltd is now the governing body of the scheme, with the membership of the board elected by the members. The voting rights of the membership are awarded to all members on a pro rata basis

²¹⁷ Press Release 15 August 2002, www.switch.co.uk/maestro/switch_maestro1.htm.

according to the share of transactions in the scheme. This is subject to an upper bound to ensure that no single member has a large enough share to be able to block or veto decisions.

Visa and MasterCard

- 11.56 In 2002 MasterCard International completed its integration with Europay International and in the process it changed from a membership association to a private share corporation with the members as the shareholders. Visa International currently retains its status as a membership association. Both schemes have UK bodies which decide upon the rules and regulations that apply at the UK level.
- 11.57 The European Commission has decided, in the context of considering various rules and regulations governing the Visa association and its members which have been notified to the Commission by Visa, that the no acquiring without issuing rule and the honour all cards rule do not infringe Article 81 of the EC Treaty.²¹⁸ The Commission concluded that neither rule appreciably restricts competition.
- 11.58 The Commission's decision is the subject of an appeal to the European Court.²¹⁹

Merchant acquiring

- 11.59 It has been noted above that merchant acquiring is highly concentrated in the UK. There are concerns over the access rules that may represent a barrier to entry in the merchant acquiring market. It has also been noted that the level of the interchange fee restricts competition in the merchant acquiring market by setting a floor to the level of the MSC. However a number of parties expressed the view that there was intense competition in the merchant acquiring market, although some parties noted that the competition was subject to the constraint imposed by the multilateral interchange fee.
- 11.60 The primary driver for the choice of acquirer by large retailers is the quality of service that they receive and price is then a secondary concern. The ability to process transactions quickly, to cope with the volume of transactions and to provide transaction information are the key elements of service for large retailers. A number of retailers reported that they perceive that three large acquirers offer competition in these areas. Large retailers can, and do, split their acquiring business between acquirers if they see that as desirable. Contracts can be put out to tender on a regular basis and the tendering process was viewed as competitive. One acquirer reported substantial churn rates indicating that a significant proportion of merchants do change acquirer.

²¹⁸ Case No. COMP/29.373 *Visa International*, decision of 9 August 2001, OJ [2001] L293/24. Article 81 contains a prohibition on anti-competitive agreements substantially equivalent to the Chapter I prohibition in the Competition Act 1998.

²¹⁹ Case T-28/02 *First Data Corporation*, presently pending before the Court of First Instance.

- 11.61 For smaller merchants there are more acquirers to choose from but smaller merchants will typically have less bargaining power than the large merchants. The smaller acquirers acquire all schemes for the vast majority of their merchants, reflecting the fact that it is unlikely to be viable or desirable for a smaller retailer to contract with two acquirers. The large majority of merchants who use one of the smaller acquirers also have another banking relationship with the acquirer, implying that these merchants may use their existing bank for acquiring. For many small merchants, it is likely that acquiring will be one part of the general banking package. If there are competition problems at the level of the smaller retailers, it may be that the source of these would lie in limited competition generally for SME banking as examined by the CC.²²⁰
- 11.62 Nevertheless the presence of access rules that limit the scope for entry by non-banks and non-issuers can limit the competitive pressure in the market. If the merchant acquiring market were made more open to these parties, acquiring for both large and small merchants may be made more competitive and there may be greater impetus for innovative developments in the market.

²²⁰ *The supply of banking services by clearing banks to small and medium-sized enterprises*, Competition Commission, March 2002.

12 THE LINK ATM NETWORK

- 12.1 At the end of February 2003 there were more than 42,000 ATMs in the UK, nearly all of which were LINK branded.²²¹ ATMs provided 68 per cent of all cash acquired from accounts in 2001.²²² As well as distributing cash, ATMs provide a wide range of other services to final customers including the ability to check bank balances, and order statements and chequebooks. An ATM is essentially a safe attached to a computer. The computer is linked to a system holding final customer account details. Final customers can use ATMs to withdraw cash from personal current accounts, personal savings accounts and business accounts.
- 12.2 There are three parties to an ATM transaction: the ATM owner (also known as the acquirer) who dispenses the cash; the card issuer (who operates the account from which the money is withdrawn); and, the cardholder/final customer (who takes the money out). Many ATM transactions are 'us-on-us' transactions where the information flow between the acquirer and issuer takes place within one bank or building society ATM network. 'Shared transactions' are ATM transactions where the card issuer and the ATM owner are different. Shared transactions now account for more than half of all ATM transactions. LINK provides the central switch facility through which the information flow for the shared transactions passes. The LINK scheme applies only to shared transactions (i.e. those transactions that pass through the central LINK switch).
- 12.3 Settlement in the LINK system is multilateral net settlement at the Bank of England. Each LINK member has a single settlement figure (positive or negative) that represents their net position with respect to all other members. The sum of the settlement figures across all of the members is zero. Settlement takes place at the Bank of England on the next working day following the transaction occurring within the LINK working day, which goes from 8am to 8pm.
- 12.4 When banks started to develop their ATM networks they were concerned to supply to their own final customers and until recently the majority of ATM transactions were 'us-on-us' transactions where the cardholder used the issuing bank's ATM. The advantage of securing wider access to ATMs led to the negotiation of bilateral arrangements between the larger banks to secure access to a greater number of ATMs for their final customers. The LINK system was set up in the mid 1980s to enable small banks and building societies to share their ATMs. Rather than establish bilateral relationships between each of these institutions, a hub and spoke system with a central switch was developed. This system enables the addition of a new member relatively easily and cheaply. Since the late 1990s all of the main banks and building societies in the UK have

²²¹ LINK website www.link.co.uk

²²² APACS Payment Market Report 2002 page 2.

been members of the LINK system, largely superseding the previous bilateral arrangements.

- 12.5 In April 2000, LINK notified the OFT of a number of agreements under the Competition Act 1998 (the Act having come into force on 1st March 2000). The agreements related to the establishment, operation and organisation of LINK and the use of relevant intellectual property rights. The agreements in particular, covered the setting of a MIF and other scheme fees. The OFT was also notified of an amendment agreed in May 2000 to the operating rules for LINK, permitting non bank and non financial institutions to become full members of LINK. Since then a number of non financial institutions have joined LINK as independent ATM deployers. In October 2001 the OFT concluded that although the LINK agreement on a MIF appreciably restricts competition the agreement qualified for an exemption under the Competition Act. The OFT also concluded that other agreements notified by LINK did not infringe the Competition Act.²²³

Interchange fee

- 12.6 There are a number of charges associated with a shared ATM transaction. These include the interchange fees charged in relation to the part of the transaction which takes place between the card issuer and acquirer, fees charged to the cardholder by the card issuer and acquirer for services provided and fees charged to the card issuer by the system such as the switching and settlement fee,²²⁴ and the gateway fee for access, via LINK, to other networks, principally the VISA and MasterCard networks.
- 12.7 The acquirer can charge the card issuer an interchange fee for the cost of distributing the cash. The interchange fee covers the cost of the services provided by the acquirer to the card issuer on shared transactions. Acquirers and card issuers can negotiate a bilateral interchange fee different from the MIF, but in practice only a small minority do.
- 12.8 As with payment card networks, the setting of a multilateral interchange fee (MIF) can restrict competition by removing the incentive for bilateral negotiations between parties. It can also adversely affect competition by reducing the incentives for members to compete for each others final customers. However, in the absence of a MIF, the large number of members (there are currently 50) would require over a thousand bilateral agreements for the same sized network to be in place. The costs of the negotiations for these agreements and the possibility of the exercise of bargaining power by some of the larger players means that the setting of a multilateral fee may also have

²²³ [www.offt.gov.uk/Business/Competition + Act/Decisions/LINK + Interchange + Network + Limited.htm](http://www.offt.gov.uk/Business/Competition+Act/Decisions/LINK+Interchange+Network+Limited.htm)

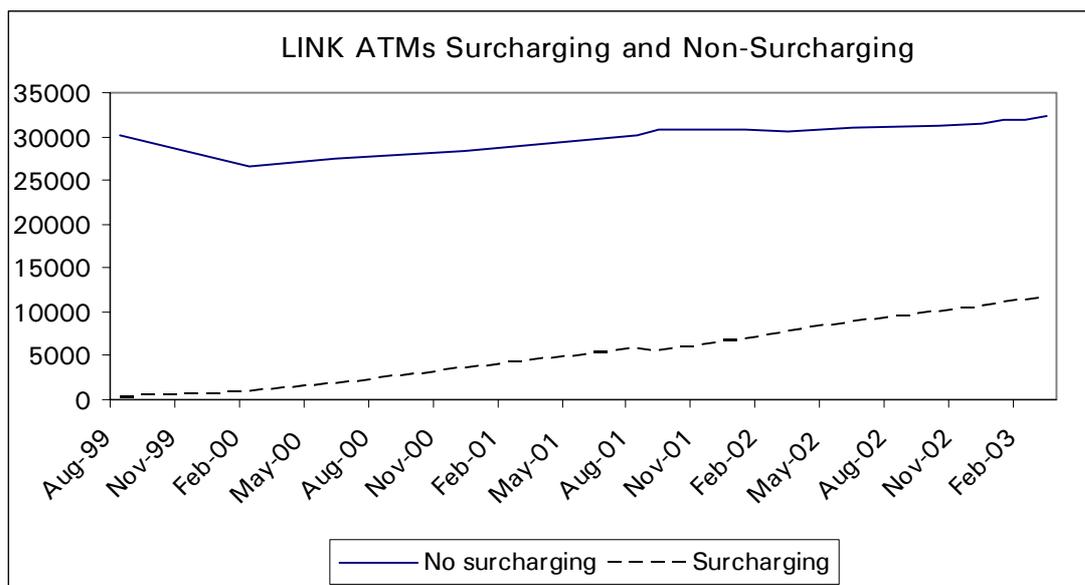
²²⁴ The switching and settlement fee is paid by the card issuer to LINK for the costs of routing information about shared transactions from the ATM used by the cardholder to the card issuer's own computer network.

advantages in that it reduces costs for new entrants thereby increasing the network size to the benefit of cardholders.

- 12.9 In addition, in the absence of a collective agreement on fees each member of a network individually has the incentive to set their own fee without taking into account the effect of this on the whole system and so to set their fees excessively high. If all members were to act according to their own individual interest, all fees would be excessive (and likely to be greater than would collectively be desired as an organisation) and this might prevent the network from working by reducing demand for such services.
- 12.10 The structure of the LINK interchange fee that applied in the past involved a system of volume discounts for issuers and a premium for large acquirers. This pricing structure tended to favour the large banks over small banks and those members who only acquired or only issued.²²⁵ A new structure of interchange fees agreed in 2000 involves a flat rate MIF with separate MIF amounts payable depending upon whether the ATM is located in a bank branch or not and whether cash is advanced or some other transaction takes place via the ATM e.g. a balance enquiry. The MIF, determined by the LINK board, is set on the basis of an independent cost study commissioned by LINK, carried out annually, and subsequent approval by members of the board. The MIF set by the LINK Board in 2000 was a flat rate of 28 pence for branch ATMs; 40 pence for non-branch ATMs; and 50 per cent of the cash withdrawal MIF for non-cash transactions such as balance enquiries (14 pence and 20 pence, respectively). Subsequent independent cost studies have led to changes in these figures. The currently applicable fees were supplied by LINK on a confidential basis to this study. The structure of the fees is similar to those described above.
- 12.11 An ATM owner can also charge final customers directly for use of its ATM (these are known as acquirer charges) and the card issuer can charge the final customer for transactions made using that card (these are known as issuer charges). The LINK scheme rules provide that acquirer and issuer charges can be levied for cash withdrawal transactions. The acquirer charge is sometimes referred to as a 'surcharge'. The rules also provide that if the acquirer imposes a surcharge on the cardholder for use of the ATM, the acquirer cannot then receive any MIF for the service (and similarly if the acquirer receives a MIF it cannot also raise a surcharge). It is also the case that acquirer and issuer cannot both levy a charge on a transaction, and where charges are levied they must be non discriminatory. In the case of debit cards, if there is a conflict, such as when both acquirer and issuer wish to levy a charge, the acquirer charge takes precedence.

²²⁵ The Cruickshank Report, D4.40 – D4.48

DIAGRAM 12.1: LINK ATMs SURCHARGING AND NON-SURCHARGING



Source: LINK

12.12 The combination of a flat-rate, cost-based MIF with the ability to override the MIF with a surcharge means that there are alternative means for cost recovery by ATM providers. The growth in the number of ATMs in the UK has almost entirely come from a growth in the number of ATMs in ‘convenience locations’ such as petrol stations or local stores. These convenience location ATMs typically are operated by independent providers such as MoneyBox, Omni Cash and Securicor. These independent ATM deployers are new entrants into the scheme since prior to the amendments to LINK’s rules ATM acquirers were required to also issue cards. They have on average substantially lower volumes of transactions than ATMs based in bank branches and typically levy a surcharge for each transaction. Approximately a quarter of all ATMs now levy a surcharge. The growth in the number of surcharging ATMs is illustrated in the diagram above. However, because of the much lower volumes of transactions that surcharging ATMs attract, the proportion of ATM transactions that attract a surcharge is much lower than a quarter. According to LINK, as at September 2002, almost all of the main banks and building societies did not levy an issuer charge for ATM transactions. That most bank final customers can now acquire cash from other bank ATMs without a charge being levied is one of the factors behind the growth in shared transactions. This situation contrasts with the more widespread issuer charging a few years ago.²²⁶

12.13 A MIF, or other wholesale price agreed between members of a network, could raise competitive concerns if it were used as a device to co-ordinate retail prices. In the case of ATM transactions most issuers do not charge a per

²²⁶ The Cruickshank Report pages 286-293.

transaction fee, preferring to recover their costs as part of the general banking package. ATM providers may seek to levy a per transaction charge but many do not, and the large majority of transactions do not levy a surcharge. Therefore the current effect of the MIF on direct retail charges is very small.

Other fees

- 12.14 The LINK system itself charges fees for the payment system services it provides. The switching and settlement fee is the fee paid by the card issuer to LINK for the costs of routing information about the transaction between the ATM used by the final customer and the card issuer's own computer network. It is paid to LINK by the card issuer on shared transactions. The switching and settlement fee is the primary means by which LINK covers its costs of operation and the costs of upgrading the processing capacity of the LINK system. The switching and settlement fee is calculated by estimating the number of transactions that are likely to take place in the forthcoming year against the running costs of LINK and its required income level. The fee rate is reviewed and amended annually. Relative to the MIF payments between members of the scheme the cost of the switching and settlement fee is low and there are no restrictions on how card issuers should recover this cost.
- 12.15 LINK also provides its members with a 'gateway service' to other networks (principally to the Visa and MasterCard networks). The gateway fee covers the cost of the provision of this service and is levied on each transaction that uses the gateway. Most members do not make use of this service but instead establish their own connections. There are no rules that restrict a member's ability to establish a direct connection if they wish. In its decision under the Competition Act in October 2001 the OFT concluded that neither the switching and settlement fee nor the gateway fee appreciably restricted competition.

ANNEXES

A GLOSSARY

ACH	Automated clearing house. An electronic clearing system in which payment orders are exchanged among financial institutions, primarily by using magnetic media or via telecommunication networks, and handled by a data-processing centre.
APACS	Association for Payment Clearing Services.
ATM	Automated Teller Machine: A computerized self-service device permitting the holder of an appropriate card and Personal Identification Number (PIN) to withdraw cash from their account and access other banking services.
BACS	Bankers' Automated Clearing Services. A clearing system that provides an automated clearing service in the UK for direct debits, direct credits and standing orders.
BACSTEL-IP	A new delivery channel, being developed by BACS as part of the NewBACS programme. This will provide for direct corporate users secure, online access to BACS.
BIC	Bank Identifier Code. A universal means of identifying financial institutions in order to facilitate the automated processing of telecommunication messages in financial environments.
Bilateral Netting	An arrangement between two parties to net their bilateral obligations. The obligations covered by the arrangement may arise from transfers.
CCCL	Cheque and Credit Clearing Company Ltd. A clearing system for cheque and credits. Credit transfers are pre-printed credit transactions in paper form.
CEC	Clearing Exchange Centre. Centre where cheques are sorted between members and distributed.
CHAPS	Clearing House Automated Payment Scheme. A clearing system for real time gross settlement payments.
CHAPS Euro	A service providing real-time transmission of euro-dominated payments.
CHAPS Sterling	A service providing real-time transmission of sterling dominated

	payments.
Clearing	The process of transmitting, reconciling and, in some cases, confirming payment orders or security transfer instructions prior to settlement, possibly including the netting of instructions and the establishment of final positions for settlement.
Collecting Branch	The branch which obtains for its final customers' accounts the proceeds of cheques and other payment instruments which have been deposited with the branch.
Debit card	A payment card linked to a bank or a building society account, used to pay for goods and services by debiting the holder's account; also combined with other facilities such as ATM and cheque guarantee functions.
Deferred net settlement	Settlement of obligations or transfers between or among parties on a net basis at some later time.
EBA	Euro Banking Association.
EBPP	Electronic Bill Presentation and Payment. A service that enables billers to generate and deliver bills and statements to final customers via the banks' online banking applications.
EDS	Electronic Data Services. A cheque and credit outsourcing company.
EMU	European Monetary Union
EPC	European Payments Council.
FPSD	Future Payment Systems Development. An APACS project to address the concept of a generic payment infrastructure that could support multiple payment systems.
IBAN	International Bank Account Number. A universal means of identifying financial institutions in order to facilitate the automated processing of telecommunication messages in financial environments.
IBDE	Interbank Data exchange. Allows the electronic transfer of cheque details.
Indirect member	A type of member in a funds transfer system in which there is a tiering arrangement. Indirect members are distinguished from settlement members by their inability to perform some of the system activities (e.g. inputting of transfer orders, settlement) performed by settlement members. Indirect members thus require the services of settlement members to perform those activities on their behalf.

Inter-bank clearing	The process of clearing payments between two settlement members.
Interchange fee	A transaction fee set by the network organisation and paid by the card-issuing institution to the acquiring institution for the cost of deploying and maintaining ATMs and EFTPOS terminals.
Interoperability	A situation in which payment instruments belonging to a given scheme may be used in other countries and in systems installed by other schemes. Interoperability requires technical compatibility between systems, but can only take effect where commercial agreements have been concluded between the schemes concerned.
IPLS	Intelligent Processing Solutions Ltd. CCCL outsourcing company.
ISC	Infrastructure Services Company. Company responsible for the operation and development of BACS' infrastructure.
Micropayments	Very small payments. For example receiving a joke via the internet costing 10p.
MIF	Multilateral Interchange Fee. Fee paid by the merchant acquirer to the issuer.
Mobile payments	A payment carried out using a mobile phone.
MSC	Merchant Service Charge. The merchant acquirer pays the retailer the retail price less the MSC.
Multilateral netting	An arrangement among three or more parties to net their obligations. The obligations covered by the arrangement may arise from financial contracts, transfers or both. The multilateral netting of payment obligations normally takes place in the context of a multilateral net settlement system. Such netting is conducted through a central counterparty. The multilateral net position is also the bilateral net position between each member and the central counterparty.
NewBACS	BACS' technological renewal programme. Phase one of the programme tackles problems relating to the ageing delivery channel between members and BACS' payment engine. The initiative upgrades BACSTEL to BACSTEL-IP. Phase two upgrades member data management processes, while phases three and four will build and introduce a new electronic payment engine.
NewCHAPS	CHAPS' technological renewal programme. The migration from proprietary standards and networks to the more generic SWIFT

	network. Implemented August 2001.
OFT	Office of Fair Trading.
Payment instrument	Any instrument enabling the holder/user to transfer funds e.g. cash, direct debit, standing order and cheque.
Payment message	An order or message to transfer funds (in the form of a monetary claim on a party) to the account of the beneficiary. The order may relate either to a credit transfer or to a debit transfer.
PE-ACH	Pan-European automated clearing house.
PKI	Public Key Infrastructure. A set of cryptographic techniques in public keys are used for encrypting and decrypting data. The public key is made available to communicating entities.
RTGS	Real time gross settlement. The continuous (real-time) settlement of funds transfers individually on an order-by-order basis. Each individual payment is settled in real time across member settlement accounts.
SEPA	Single European Payment Area.
Settlement Member	A member of an operational clearing able to make and receive payment for the values of its clearings at the Bank of England.
Settlement	An act which discharges obligations in respect of funds transfers between two or more parties. A settlement may be final or provisional.
SOS	Single Obligation Structure. Operation procedure under EURO1. Members agree to enter into a contractual agreement that on each settlement day, at any given time, each member will have only one single payment obligation or claim with respect to the community of other members as joint creditors/debtors.
Sponsoring relationship	A facility extended by a settlement member to a non settlement institution, allowing the latter to obtain clearance of items on behalf of themselves and their customers.
STEP1	An EBA system: a short-term offering for low-value, non-urgent credit transfers, based on the EURO1 technical platform.
STEP2	An EBA system: a high volume, low value, non-urgent commercial and retail euro processing service. It is being introduced in phases, with the first phase processing cross-border credit transfers, which are settled in EURO1. Later phases are expected to deal with debits as well as credits, and then to incorporate domestic, alongside cross-border payments.

SWIFT	Society for Worldwide Interbank Financial Telecommunication. A cooperative organisation created and owned by banks which operates a network to facilitate the exchange of payment and other financial messages between financial institutions throughout the world. A SWIFT payment message is an instruction to transfer funds; the exchange of funds (settlement) subsequently takes place via a payment system or through correspondent banking relationships.
TARGET	Trans European Automated Real-Time Gross Settlement Express Transfer System. A system which interlinks the national real-time gross settlement systems of EU Member States through a central message switch.

B TERMS OF REFERENCE

OFT market investigation into payment systems

- B.1 On 27 November 2002, the OFT announced its intention to examine recent payment system developments and their implications ahead of the Government's planned introduction of legislation. After consultation with interested parties, these terms of reference confirm the objectives and timing of OFT's market investigation.
- B.2 The publication of the Cruickshank Report in March 2000²²⁷ identified a number of competition, efficiency and incentive issues in the UK's main payment system markets. The Government has recently reaffirmed its commitment to legislating for the OFT to be granted sectoral regulatory powers which will enable it to promote effective competition in these markets.

Objectives of the investigation and report

- B.3 The main objective of the OFT investigation is to assess whether, and the extent to which, recent developments have affected the competition, efficiency and incentive issues relating to payment systems. Developments since March 2000 have included changes to self-governance, self-regulation initiatives, and the application of the Competition Act to cases involving payment systems. In particular, the investigation will aim to:
- review and explain the underlying characteristics, ownership, operation and pricing of the credit card, ATM and clearing system networks
 - assess how the recent developments have affected each payment system's incentive structure and, in particular, the incentive to provide non-discriminatory access (e.g. agency fees), cost-reflective wholesale charges (e.g. interbank payments), and innovate on cost and quality (e.g. clearing cycles)
 - assess the impact of any changes to the incentive structure on downstream competition and final customers
 - assess how developments at the European level are likely to affect the competitive pressure on UK systems
 - assess how and why any retail practice (e.g. 'free-in-credit' charging)²²⁸ may have contributed to any problems at the payment system level
 - review the conclusions in the light of international comparisons of payment systems

²²⁷ The Cruickshank Report.

²²⁸ i.e., where personal consumers do not pay directly for making payments if their current account is in credit.

Background: OFT's framework for assessing payment systems

- B.4 'The lack of competition identified in the money transmission market are caused by the underlying economic characteristics of payment systems. Network effects mean that there is a natural limit to the extent to which competition is possible between payments systems. As a result, inefficiencies can persist for years, and payment systems can be run in the interests of those who control them rather than in the public interest'. [Cruickshank Report, March 2000, p.ix]

The Implications of network effects

- B.5 While they all involve transferring funds from one end-user to another end-user, UK payment systems are very diverse. But while they vary in terms of function, cost structure and the relationship between members, they share in common the important characteristic of network effects. These arise when the value to a participant or final customer of access to a network depends on the number of other users with access to the same network.
- B.6 Network effects have important implications for the provision of payment systems. Their presence means that a degree of cooperation between banks or other participants is unavoidable for the payment system to function effectively. Moreover, they mean that competitive pressure payment systems face from alternative systems or the threat of new systems is limited. There are high barriers to switching customers²²⁹ (who tend to prefer larger networks) from one instrument to another, and the costs of duplicating and achieving the necessary critical mass for new system providers are usually prohibitive. To compete in retail banking, for example, a new entrant realistically must gain access to existing schemes and their infrastructure.

Serving consumers well

- B.7 To serve consumers and other users well, competition in the retail provision of payment transfers must deliver downward pressure on prices and costs, and through innovation, improve the quality of the services provided. Clearly also important to the intensity of retail competition is the ability of institutions with new offerings to enter the market by accessing the system easily and fairly.
- B.8 Retail competition, however, is dependent on the payment system and its ability to deliver efficient and transparent charges for access and use, and innovation and cost reductions. The incentives for delivering these are, in turn affected by the features of networks described above – cooperation and limited inter-system competition – and in particular, the incentives of the scheme's existing members. The specific arrangements of the governance of the scheme's

²²⁹ The customers who would face barriers in this context are the banks and institutions who provide services to final customers.

network infrastructure may currently dampen incentives for payment systems to make changes that might improve this situation or facilitate greater retail competition.

- B.9 In March 2000 Cruickshank²³⁰ concluded from his review of the markets and the above network features that the UK payment systems were failing in terms of delivering price transparency, good governance, non-discriminatory access and efficient wholesale pricing. While some failures may remain, since the time Cruickshank's conclusions were published, payment systems have undertaken various self-regulatory (and de-regulatory) actions. In addition, under the Competition Act 1998,²³¹ the OFT has issued a decision in relation to the LINK ATMs;²³² and is considering the notification by MEPUK of its domestic rules.²³³

Timing

- B.10 The OFT will publish a report outlining its assessment and conclusions in the Spring.

Office of Fair Trading

January 2003

²³⁰ See footnote 1.

²³¹ The Competition Act came into full force on 1st March 2000.

²³² Link Interchange Network Limited, 16 October 2001, CP/0642/00/S

²³³ Notification by MasterCard UK Members Forum Limited (formerly known as MasterCard/Europay UK Limited), Case/0090/00/S, 1 March 2000.

C METHODOLOGY: QUESTIONNAIRES AND MEETINGS

C.1 In addition to meeting representatives of APACS, BACS, CHAPS and CCCL, the OFT sent a questionnaire to a number of settlement members, indirect members, and other industry members as listed below.

Settlement members

- Abbey National
- ABN AMRO Bank
- Alliance & Leicester plc
- Bank of America
- Bank of Scotland
- Bank of Tokyo-Mitsubishi
- Barclays Bank
- Citibank
- Cooperative Bank
- Den norske Bank
- Deutsche Bank
- Dresdner Bank
- HSBC
- JP Morgan AG
- Lloyds TSB Bank
- National Australia
- Nationwide Building Society
- Northern Rock plc
- Royal Bank of Scotland
- Standard Chartered Bank
- Wachovia Bank

Indirect members

- Abbey National
- AIB UK Plc.
- Alliance & Leicester plc
- American Express Bank Limited
- Australia and New Zealand Banking Group Limited
- Bank Leumi
- Bradford & Bingley plc.
- Bristol & West plc.
- C Hoare & Co.
- Citigroup Europe
- Commonwealth Bank of Australia
- Credit Agricole Indosuez
- Deutsche Bank
- Marks and Spencer Financial Services
- MBNA Europe Bank Limited
- Norddeutsche Landesbank Girozentrale
- Northern Rock plc.
- Prudential Banking Plc
- Westpac Banking Corporation
- Yorkshire Building Society

Members that received the Innovation questionnaire

- Abbey National
- ABN AMRO Bank
- AIB UK plc.
- Alliance & Leicester plc.
- American Express Bank Limited
- Australia and New Zealand Banking Group Limited
- Bank of America
- Bank of Scotland
- Bank of Tokyo-Mitsubishi
- Bank Leumi
- Barclays Bank
- Bradford & Bingley plc.
- Bristol & West plc.
- C Hoare & Co.
- Cheltenham & Gloucester plc
- Citigroup Europe
- Commonwealth Bank of Australia
- Co-operative Bank
- Credit Agricole Indosuez
- Den norske Bank
- Deutsche Bank
- Dresdner Bank
- HSBC
- JP Morgan
- Lloyds TSB Bank
- Lombard North Central
- Marks and Spencer Financial Services
- MBNA Europe Bank Limited
- National Australia Group
- Nationwide Building Society
- Norddeutsche Landesbank Girozentrale
- Northern Rock plc.
- Prudential Banking plc.
- Royal Bank of Scotland
- Standard Chartered Bank
- Wachovia Bank
- Westpac Banking Corporation
- Yorkshire Building Society

Merchant Acquiring Banks

- AIB UK Plc.
- Alliance & Leicester plc
- Bank of Ireland
- Barclays
- Bank of Scotland
- Citigroup
- HSBC
- Lloyds TSB
- National Australia Group
- Omnipay
- Royal Bank of Scotland

Meetings held with:

- Abbey National
- Allied Irish Bank
- Amex
- APACS
- BACS
- Bank of England
- Barclays Bank
- British Bankers Association
- British Retail Consortium
- CCCL
- CHAPS
- Citibank
- Consumers' Association
- Cooperative Bank
- Bank of Finland
- Finnish Bankers' Association
- Deutsche Bank
- Financial Ombudsman Service
- Financial Services Consumer Panel
- First data
- HSBC
- Link
- Lloyds TSB Bank
- National Consumer Council
- Nationwide Building Society
- Prudential/Egg
- Royal Bank of Scotland
- Switch
- Visa

D QUESTIONNAIRE: TARIFFS AND COSTS – SETTLEMENT MEMBERS

OFT market investigation into payment systems

In conducting its investigation it will be important for the OFT to understand to the fullest extent possible the nature of your payment systems business, in particular your relationships with your customers (including other banks and building societies), with outsourcers, and with the central clearing schemes. The following questions are designed to inform that understanding.

In your answers please indicate whether you are specifically referring to BACS, CHAPS, or cheque clearing. (Please answer these questions in your capacity as a settlement member for one or more these schemes only).

Respondent information:

1. Please state the name of your organisation, your name and position in the organisation, and your contact details.

Centralised payment systems

Understanding the costs and benefits of operating centralised multi-lateral clearing arrangements is a key objective of the OFT investigation. The questions in this section are designed to understand the benefits you perceive from settlement membership of the central clearing schemes.

2. For each payments transmission service type can you describe the benefits of a centralised system over bilateral arrangements between banks/building societies?
3. Can you estimate the magnitude of the liquidity benefits for your institution?
4. What are the advantages of being a member of the central clearing systems yourself rather than using another bank as your agent?

Indirect members

Some banks and building societies access the central clearing schemes via agency relationships with other institutions. This section is aimed at understanding the importance of these agency relationships and the terms on which agency services are provided.

5. Please identify any banks or building societies for whom you provide clearing services on an agency basis?
6. Please set out your fee structure for each of these customers?
7. Is agency business a core area for you?
8. What proportion of your payments service revenues can be attributed to your agency customers?

Other user tariffs

Customers' access to payment services, and the efficient use of those services, will be shaped by the structure of tariffs. The questions in this section are aimed at understanding the structure of your payment system tariffs.

9. To the extent that you have standard tariffs for the different types of payment transmission service, can you provide these for each of the last 3 years?
10. Do your terms for individual customers or individual transactions regularly depart from these standard tariffs? For example, do large users receive negotiated bulk discounts? If so, can you provide details of the range of discounts offered?
11. What is the basis for offering discounts to individual customers?
12. Have you set your fee structure deliberately to attract (or retain) volumes of particular payments transmissions to your system? If so, how?
13. If you were to increase the fees on any your payment service products by 10 per cent, how would you expect any resulting change in transaction volumes to vary by product/transaction size?

Volumes and revenues

For some payment services, a small proportion of transactions accounts for a very high proportion of total value. To understand this issue in greater detail it will be useful to compare the distribution of payment transactions by volume and value. Additional data on the distribution of revenues can provide helpful insight into the relative importance of different types of business

14. For each of the last three years and for each type of payment service, can you provide a breakdown of payments traffic (both by volume and by value) into transaction size bands?
15. Can you provide a breakdown of your revenues from payments transmission services on the same basis, for each of the last three years?

Service performance

A key attribute of any payment system is the time take for money to be transferred from the payer's account to the payee's account. This time lag is therefore a potentially important aspect of service performance, and a possible source of competitive differentiation between service providers. Here we are mainly interested in cheque clearing, real time gross settlement, direct credit, direct debit and standing orders.

16. Can you provide details of the relevant processing time-line for each of the different types of payment transmission (cheque clearing, etc), based on your **actual** performance. For example:

- How long after an instruction is received does a payment **from** one of your customers leave his or her account?
 - After how long is payment transferred to the recipient's bank?
 - How long after a payment for one of your customer's is received from the sender's bank does it reach the recipient's account?
17. Where the time-line varies according to customer or transaction type, please identify any significant point of difference.
 18. Do you have processing time standards? Are customers compensated if standards are not met?
 19. How much money (as a per cent of the transaction fee) is earned by your bank on a typical transaction as a result of the time lags in the transmission process?
 20. Can you identify any aspects of service provision that differentiate your payment transmission services from those of your competitors?

Payments infrastructure

The questions in this section are designed to obtain information on the systems and processes you have in place to provide payment services.

21. For each payment transmission service can you identify the principal assets (including personnel) used by your bank to process payment transmissions?
22. Are there any differences in the transmission processes used for large versus small transactions (assuming the same service is required)?
23. Are there any differences in the transmission processes for different users?
24. To what extent do you believe the hardware and software you use is unique to your bank?

Economies of scale and scope

One factor likely to shape the fundamental economics of operating payment services is the extent to which the investment required to provide these services are independent of the volume of business actually undertaken. We would also like to understand the extent to which the infrastructure used to provide payment services can be shared in common across different services and customer types, and the economies that can be realised as a result.

25. What proportion of the costs of operating payment transmission services are independent of the actual volume of transmissions?
26. Does this vary by payment service?
27. To what extent is the infrastructure used for undertaking one transmission service also used to provide:
 - (i) other payment transmission services, and

(ii) other banking services generally?

28. In such cases, how are infrastructure costs allocated across transactions?
29. Can you identify cost savings from regular dealings with the same customer?
30. Are there cost savings across services if a customer takes up more than one service on a regular basis?
31. How are infrastructure costs allocated across customers?

Wholesale charges

Scheme member institutions' use of central clearing services is likely to be influenced by the structure of the charges levied for those services. Furthermore, to the extent that members pass through these charges, they will shape the tariffs faced by final customers.

32. For each transmission service can you identify the structure of charges that you pay (i) to the central clearing schemes, and (ii) to the Bank of England?

Outsourcing

It appears that some of the processing functions associated with payment systems are increasingly being outsourced. The questions in this section examine this issue.

33. Do you outsource any of your clearing services?
34. If so, what functions do you outsource, and to whom?
35. What factors determined (i) your decision to outsource, and (ii) the choice of firm to undertake the outsourced business?

Costs

The relationship between the fees charged for particular services and the costs incurred is fundamental to the economic analysis of competition and efficiency. The questions in this section aim to explore the sources of cost variation across services and the extent to which the costs of providing a particular service are reflected in the charges levied on the consumers of that service.

36. Do you believe that your payment transmission tariffs cover your overall payment system costs?
37. Do you believe that all per transaction fees cover the incremental cost of processing those transactions?
38. For a given type of payment, are there factors other than the value of the transmission which affect the incremental cost of a transmission?
39. Can you identify the principal sources of costs of operating your payments systems?

Please note that we may choose to refer to comments received in response to this questionnaire in our report on this study. In deciding whether to do so, we will have regard to the need for excluding from publication, so far as that is practicable, any information, relating to the private affairs of an individual, a company or a particular body of persons, which, if published, would or might, in our opinion, seriously and prejudicially affect the rights of that individual, company or body of persons ('confidential information').

If you consider that your response contains such information, that information should be marked 'confidential information' and an explanation given as to why you consider it is confidential.

The Director General of Fair Trading must reserve the right to disclose any information provided by you (including confidential information) for the purposes set out in sections 133(2)-(4) of the Fair Trading Act 1973, where he considers such disclosure to be appropriate. In particular, the Director may choose to put information provided by you to third parties, such as other Government Departments, other contributors to this study and/or consultants engaged by them, for the purpose of facilitating the carrying out of this study.

E QUESTIONNAIRE: TARIFFS AND COSTS – INDIRECT MEMBERS

OFT market investigation into payment systems

In conducting its investigation it will be important for the OFT to understand to the fullest extent possible the nature of your payment systems business, in particular your relationships with your customers, and with the banks who provide your access to the central clearing schemes. The following questions are designed to inform that understanding.

In your answers please indicate whether you are specifically referring to BACS, CHAPS, or cheque clearing. (Please answer these questions in your capacity as an indirect member for one or more of these schemes only).

Respondent information:

1. Please state the name of your organisation, your name and position in the organisation, and your contact details.

Access to centralised clearing systems

One of the main objectives of the OFT investigation is to understand whether arrangements for accessing the clearing systems result in discriminatory treatment of different institutions, particularly between those that are members of the various clearing schemes and those that obtain clearing services via an agency relationship with a member bank.

2. What motivated your decision to access the centralised clearing systems via an agency relationship rather than as a direct member?
3. What are the principal disadvantages of not being a direct member of the central clearing schemes?
4. Which member bank acts as your agent? How did you choose this bank?
5. How long are you committed to this relationship? Please provide details of any other banks with whom you have had an agency agreement over the next 3 years.
6. What is the structure of the fees you pay for these services?
7. How is settlement risk covered in your relationship with your agent bank?
8. Do you foresee any obstacles if you wanted to become a member of any of the central clearing system?

Tariffs

Customers access to payment services, and the efficient use of those services will be shaped by the structure of tariffs. The questions in this section are aimed at understanding the structure of your payment system tariffs.

9. To the extent that you offer the different payment transmission services to your customers on the basis of standard tariffs, can you provide these for each of the last three years?
10. Do your terms for individual customers or individual transactions regularly depart from these standard tariffs? For example, do large users receive negotiated bulk discounts? If so, can you provide details of the range of discounts offered?
11. What is the basis for offering discounts to individual customers?
12. Have you set your fee structure deliberately to attract (or retain) volumes of particular payments transmissions to your system? If so, how?
13. If you were to increase the fees on any your payment service products by 10 per cent, how would you expect any resulting change in transaction volumes to vary by product/transaction size?

Volumes and revenues

For some payment services, a small proportion of transactions accounts for a very high proportion of total value. To understand this issue in greater detail it will be useful to compare the distribution of payment transactions by volume and value. Additional data on the distribution of revenues can provide helpful insight into the relative importance of different types of business.

14. For each of the last 3 years and for each type of payment service, can you provide a breakdown of payments traffic (both by volume and by value) into transaction size bands?
15. Can you provide a breakdown of your revenues from payments transmission services on the same basis, for each of the last 3 years?

Service performance

A key attribute of any payment system is the time take for money to be transferred from the payer's account to the payee's account. This time lag is therefore a potentially important aspect of service performance, and a possible source of competitive differentiation between service providers. Here we are mainly interested in cheque clearing, real time gross settlement, direct credit, direct debit and standing orders.

16. Can you provide details of the relevant processing time-line for each of the different types of payment transmission (cheque clearing, etc), based on your **actual** performance. For example:

- How long after an instruction is received does a payment **from** one of your customers leave his or her account?
 - After how long is payment transferred to the recipient's bank?
 - How long after a payment for one of your customer's is received from the sender's bank does it reach the recipient's account?
17. Where the time-line varies according to customer type, please identify any significant point of difference.
 18. Do you have processing time standards? Are customers compensated if standards are not met?
 19. How much money (as a per cent of the transaction fee) is earned by your bank on a typical transaction as a result of the time lags in the transmission process?
 20. Can you identify any aspects of service provision that differentiate your payment transmission services from those of your competitors?

Economies of scale and scope

One factor likely to shape the fundamental economics of operating payment services is the extent to which the investment required to provide these services are independent of the volume of business actually undertaken. We would also like to understand the extent to which the infrastructure used to provide payment services can be shared in common across different services and customer types, and the economies that can be realised as a result.

21. What proportion of your costs of providing payment transmission services are independent of the actual volume of transmissions?
22. Does this vary by payment service?
23. To what extent is the infrastructure used for undertaking one transmission service also used to provide:
 - A other payment transmission services, and
 - B other banking services generally?
24. In such cases, how are costs allocated across transactions?
25. Can you identify cost savings from regular dealings with the same customer?
26. Are there cost savings across services if a customer takes up more than one service on a regular basis?
27. How are costs allocated across customers?

Costs

The relationship between the fees charged for particular services and the costs incurred is fundamental to the economic analysis of competition and efficiency. The questions in this section aim to explore the sources of cost variation across services and the extent to which the costs of providing a particular service are specifically reflected in the tariffs levied on consumers of that service.

28. Do you believe that your payment transmission revenues cover your overall payment system costs?
29. Do you believe that all 'per transaction' fees cover the incremental costs of processing those individual transactions?
30. For a given type of payment, are there factors other than the value of the transmission which affect the incremental cost of a transmission?
31. Can you identify the principal sources of costs in providing payment transmission services?

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F QUESTIONNAIRE: INNOVATION

OFT market investigation into payment systems

Payment system innovation

In your answers please indicate whether you are specifically referring to BACS, CHAPS or CCCL.

Organisation Details

1. Please state the name of your organisation and its status within each of the BACS, CHAPS and CCCL schemes.
2. Your name, position in the organisation, and contact details.

The impact of innovation

One of the key sets of issues the OFT is investigating in this study is whether there are inherent disincentives to innovate at the payment system level and the extent to which any such disincentives affect competition in retail provision and market entry. (Retail provision is defined as a service or product offered to final final customers and includes the provision of CHAPS service to final business customers.)

3. In your view what is the likely impact of NewBACS and NewCHAPS for both your organisation and the industry generally. How are these changes likely to affect retail competition in the near future? Would you have liked these developments to have gone further? If so, how?
4. In terms of your own organisation, how important is innovation at the payment system level in terms of gaining competitive advantage at the retail banking level (and in terms of intensifying competition more generally at the retail level)?
5. State examples of potential payment system developments or innovation (eg high volume, small value RTGS and EBPP) that might yield more retail competition? Please explain why.
6. Are there examples of markets needs from business or personal customers that cannot currently be fulfilled?

Barriers to innovation

7. Are the examples in [5] likely to happen in the near future, and to your satisfaction?

If yes, please go to [8], if No, please go to [9].

8. Please explain the timescale for these changes and who or what has driven them. **Please go to [13].**
9. In your view what are the barriers to these innovation(s) taking place?

(please tick)

- (a) there is lack of agreement as to the extent of customer (i.e., end-user) demand for the innovation
- (b) there are no clear business cases for any participant in the scheme (eg because the IT costs of development are prohibitive relative to any competitive advantage any participant might achieve)
- (c) there is a conflict of interest within the scheme (i.e., there is only a business case for certain types of participant in the scheme (eg smaller participant or indirect clearers))
- (d) participants cannot agree on the technology or operational methodology for implementing the innovation
- (e) the current technology simply does not allow for the innovation.
- (f) other (please explain).

10. Please add any comments to supplement your answer to [8]. Do you expect any of the above problems to be resolved without regulatory intervention?

Governance

11. Do you think that any planned or recent changes to the governance of the scheme and supporting infrastructure might affect any of the problems highlighted above (please also take into account any changes in APACS)? Please explain.

If no, please go to [12], if yes, go to [13].

12. Is there an unplanned but hypothetical governance model that you think would radically alter the incentives to innovate in payment systems? Do you think the industry is ever likely to achieve this model, or do you think direct regulatory intervention is required? Please explain.

Potential solutions

One policy idea suggested to the OFT is to establish open and generic standards for payment instructions and other payment messages, applicable to all existing payment schemes (and any prospective new payment schemes). It has been suggested to the OFT that the benefits would include the need for less cooperation and lower cost in developing new payment instruments; and the increased ability of a small group of smaller banks to gain competitive advantage through upgrading/changing their payment facility (without whole-scheme consensus). Another proposal is to abandon 'free-in-credit' charging and require banks to make cost reflective charges to all customers making the choice of payment instruments. This might help the business cases for individual banks who wish to innovate or reduce costs. (Please note that these are merely ideas presented to the OFT and they do not currently reflect OFT views or policy).

13. Please explain whether, and why, you agree or disagree that each of these two proposals would improve innovation and, ultimately, retail competition.
14. Would the generic messaging system facilitate innovation by an individual company or a small sub-set of participants at the retail level without the need for whole-scheme consensus? Please explain, or give a hypothetical example of how this would work in practice.
15. In your view, would the above proposals only ever be achieved through regulatory intervention? Would this be welcomed? Please explain.
16. Are there other proposals which you think might achieve similar improvements in the incentive to innovate at the payments systems level?

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G QUESTIONNAIRE: MERCHANT ACQUIRERS

OFT market investigation into payment systems

Merchant acquirers

This questionnaire is intended to cover the acquisition of merchants for the purpose of any or all of credit card, debit card and charge card transactions. We would be grateful if you could break down your responses by debit, credit and charge card accordingly.

Respondent information

- 1 Please state the name of your organisation, your name and position in the organisation, and your contact details.

Scope of activities

- 2 Which card schemes do you acquire merchants for?
- 3 For each card scheme please indicate the number of merchants who you have acquired for, in each of the last three years. Please give separate figures for credit cards, charge cards and debit cards
- 4 Please indicate the proportion of merchants for whom you act as a 'one stop shop' for merchant acquiring. i.e. if you acquire a merchant for one scheme the merchant also uses you as the acquirer for the other schemes you acquire for.
- 5 Please indicate the proportion of merchants for whom you act as a 'one stop shop' for all banking. i.e. those merchants for whom you provide both merchant acquisition services and other general banking services.
- 6 For each card scheme please indicate the number and value of transactions that you have acquired, in each of the last three years. Please give separate figures for credit card, charge card and debit cards and for each scheme
- 7 Please indicate whether there are any card schemes that you acquire merchants for but which you do not also act an issuer for cards of that scheme.

Nature of operations

- 8 What are the main cost components of the merchant acquiring business?
- 9 Do you carry out transaction processing in house or is this activity contracted out, either to the scheme or to third parties? Please explain your reasons for using in house or contracted out transaction processing.
- 10 Which other aspects of the merchant acquiring process do you contract out? Briefly explain you reasons

Competitive strategy

- 11 Briefly explain your competitive strategy in the merchant acquiring market. (e.g. do you compete across the board, focus on niche market or certain types of merchants, compete on quality, compete with innovative developments, etc?)
- 12 If it is your objective to increase your market share in the merchant acquisition market, please explain the main factors that limit your ability to increase market share?
- 13 Please indicate any recent developments that have affected or anticipated future developments that will affect
 - Your competitive strategy in the merchant acquisition market
 - The merchant acquisition market in general.

Pricing structure

- 14 Where there is a standard tariff structure for merchant service charges for certain types of merchants please provide the OFT with details of the tariff structure(s). What proportion of merchants are on the standard tariff?
- 15 Where merchant service charges are individually negotiated or are tendered for please indicate the basis components that comprise the overall merchant service charge. Where possible please provide (anonymised) sample tariff structures.

Disclosure of information

Please note that we may choose to refer to comments received in response to this questionnaire in our report on this study. In deciding whether to do so, we will have regard to the need for excluding from publication, so far as that is practicable, any information, relating to the private affairs of an individual, a company or a particular body of persons, which, if published, would or might, in our opinion, seriously and prejudicially affect the rights of that individual, company or body of persons ('confidential information').

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H MEMBERSHIP TO APACS, BACS, CCCL, CHAPS STERLING AND CHAPS EURO.

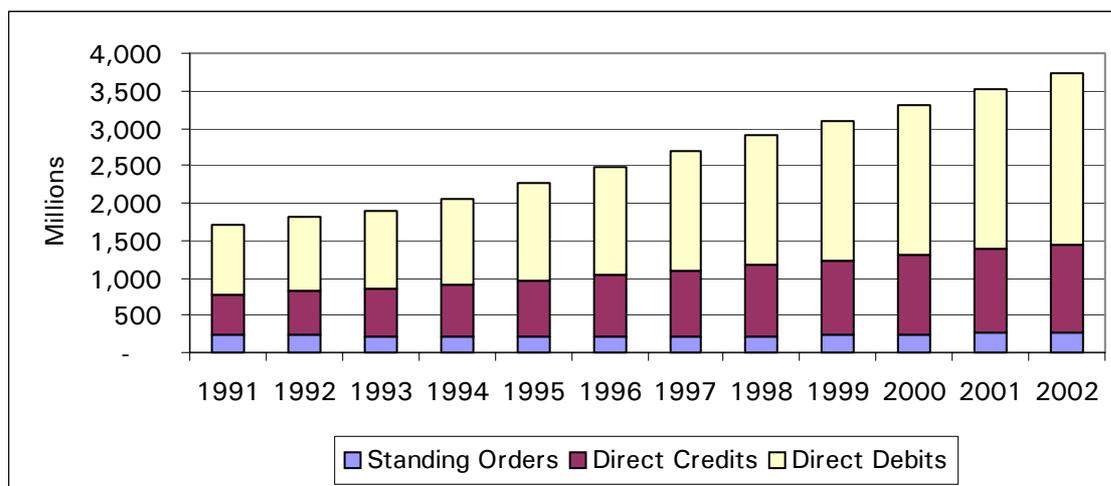
MEMBERS	APACS	BACS	CCCL	CHAPS Sterling	CHAPS EURO
Abbey National Plc	X	X	X	-	X
ABN Amro Bank N.V	X	-	-	X	X
Bank of America NA	X	-	-	-	X
Bank of England	X	X	X	X	X
Bank of Scotland (HBOS)	X	X	X	X	X
Bank of Tokyo-Mitsubishi Ltd	X	-	-	-	X
Barclays Bank	X	X	X	X	X
Capital One Bank (Europe) Plc	X	-	-	-	-
Citibank	X	-	-	X	X
Clydesdale Bank Plc	X	X	X	X	-
Cooperative Bank Plc (The)	X	X	X	X	X
Coutts & Company	X	X	-	-	-
Den Norske Bank AS	X	-	-	-	X
Deutsche Bank	X	-	-	X	X
Dresdner Bank AG	X	-	-	-	X
Egg Banking Plc	X	-	-	-	-
Girobank Plc	X	X	X	-	-
HFC Bank Plc	X	-	-	-	-
HSBC Bank Plc	X	X	X	X	X
JP Morgan AG	X	-	-	-	X
Lloyds TSB Bank Plc	X	X	X	X	X
MBNA Europe Bank Ltd	X	-	-	-	-
Morgan Stanley Dean Witter Bank Ltd	X	-	-	-	-
National Australia Bank Ltd	X	-	-	-	X
National Westminster Bank Public Ltd company	X	X	X	X	X
Nationwide Building Society	X	X	X	-	-
Northern Rock Plc	X	X	-	-	-
Royal Bank of Scotland Public Ltd company (The)	X	X	X	X	X
Royal Mail Group Plc	X	-	-	-	-
Standard Chartered Bank	X	-	-	X	X
Wachovia Bank, National Association	X	-	-	-	X
Woolwich Plc	X	-	-	-	-
Total	32	14	12	13	20

Source: APACS website as at 28/01/03. <http://www.apacs.org.uk/>

I BANKERS' AUTOMATED CLEARING SERVICES (BACS)

- I.1 BACS is an automated clearing house, responsible for bulk clearing of electronic payments between bank accounts. It is the sole processor of all the United Kingdoms' direct debit, direct credit and standing order payments.
- I.2 BACS is a retail-orientated scheme, involving payments such as wages, utility bills, insurance premiums and other subscriptions.²³⁴ The use of automated services has increased substantially between 1991 and 2002. It has continued to growth since 1991, with continual growth in recent years. Direct debit transactions have increased by 150 per cent between 1991 and 2002, with a 13.9 per cent increase from 2000 to 2002.²³⁵ Throughout the same time period direct credits transactions have encountered significant growth with a 113 per cent rise. Between 2000 and 2002 this growth has continued with an 11 per cent increase.²³⁶
- I.3 The use of standing orders payments has remained a relatively popular payment instrument with transaction levels remaining relatively constant. 234 million items were processed in 1991, increasing to 273 million in 2002.²³⁷

DIAGRAM I.1: BACS ANNUAL CLEARING VOLUMES 1991 – 2002



Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk

- I.4 The transactions that BACS predominantly handle are large volume and low value. The average transaction passing through clearing banks in 2002 was

²³⁴ Source: APACS www.apacs.org.uk

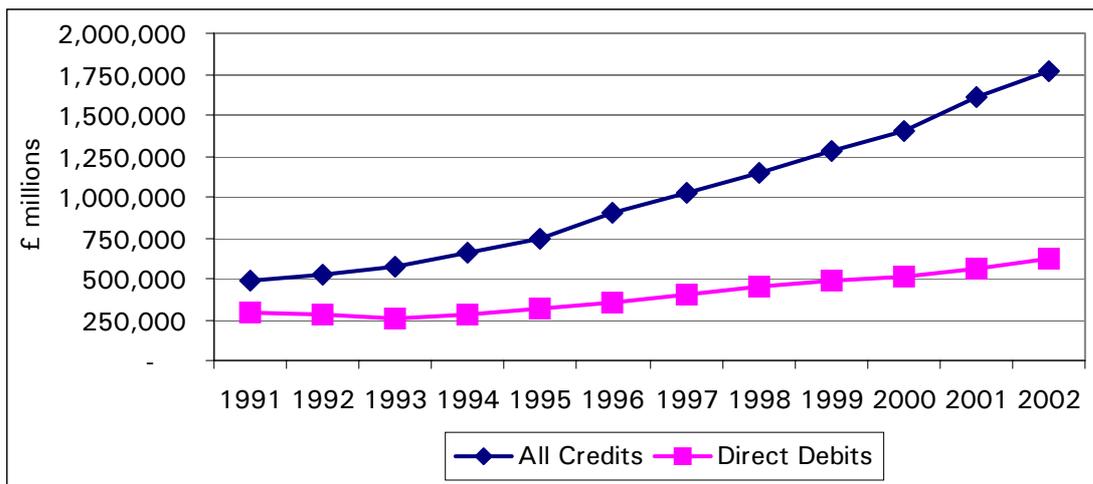
²³⁵ 916 million direct debit items were processed in 1991. This increased to 2,288 million in 2002. Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk

²³⁶ 551 million direct credit items were processed in 1991. This increased to 1,173 million in 2002. Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk

²³⁷ Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk

£638²³⁸ but there are no restrictions in terms of the size. Due to the large volumes of items processed, annual transaction values are high. The total value of direct debit transactions has increased between 1991 and 2002, from £287,827 million to £616,893 million, a 114 per cent rise.²³⁹ There has been a greater increase in the value of all direct credits transfers. Throughout the same period total values processed increased from £484,059 million in 1991 to £1,764,625 million in 2002, a rise of 265 per cent. Growth in recent years, between 2000 and 2002 has been 25.6 per cent.²⁴⁰

DIAGRAM I.2: BACS ANNUAL CLEARING VALUES 1991 – 2002.



Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk

Membership

- I.5 BACS is owned and run by its members. Rules governing the members of BACS are set by BACS Ltd. The board of BACS Ltd is made up of settlement members: at present there are 14.²⁴¹
- I.6 BACS has a two-tier structure of settlement and ‘indirect’ members. Many settlement members provide access to indirect members by a sponsoring relationship. ‘Indirect’ members include a multitude of financial institutions, utility companies, local councils and supermarkets to name a few. There are in the region of 60,000 of these ‘indirect’ organizations that exist.²⁴² Users are allocated a BACS user number by their sponsor and are able to submit payment instructions directly to the system or via their sponsor. Banks can not join BACS

²³⁸ Source: APACS clearing statistics 2002.

²³⁹ Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk

²⁴⁰ Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk

²⁴¹ See www.apacs.org.uk and annexe H for BACS membership list.

²⁴² Source: Payment and settlement systems in selected countries, (CPSS Publications No. 53) April 2003 United Kingdom, page 410.

without holding an account at the Bank of England where inter-bank settlement takes place. The Bank of England does not involve itself in settling the accounts of these 'indirect' members.²⁴³

I.7 New entrants into the BACS system need to meet a number of objective criteria. They are required to:

- be a credit institution in EU or EEA member state
- hold a settlement account with Bank Of England
- be able to pay the entry fee

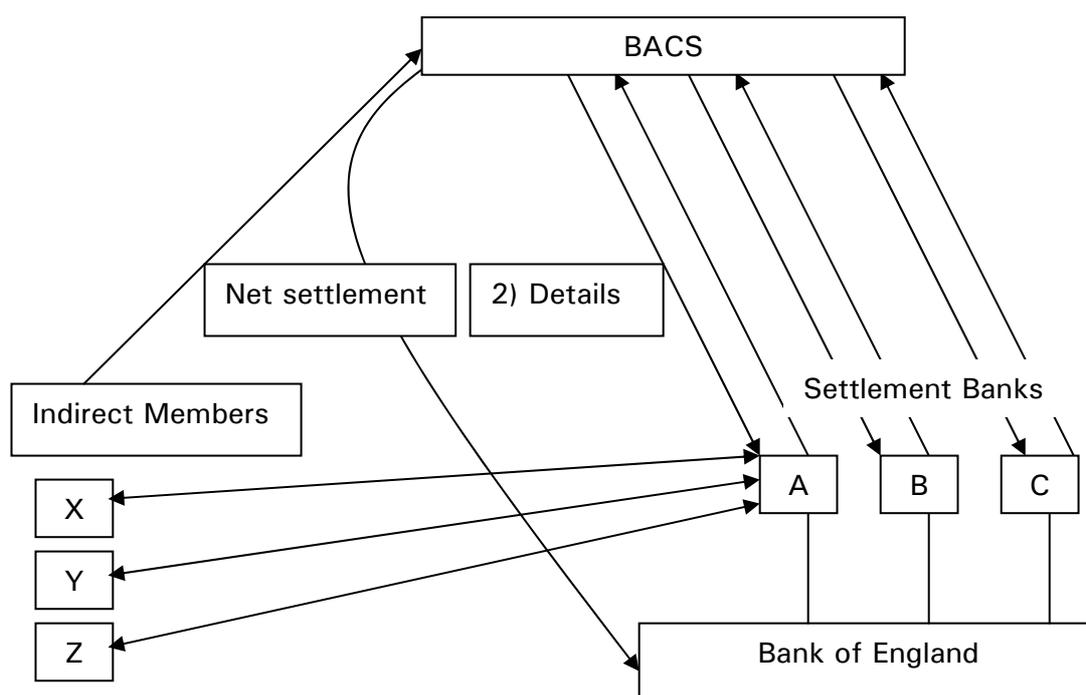
Processing cycle

I.8 BACS transfers are exclusively inputted through telecommunications links. The NewBACS programme, under phase 1, upgrades the existing delivery channel, BACSTEL, to an internet-based payment service known as BACSTEL-IP. BACS operates on a three day clearing and settlement cycle. This can be explained with reference to diagram I.3. As mentioned above BACS has 14 settlement members and 60,000 indirect members. To emphasize the processing cycle, and for simplicity, this section concentrates on describing the process for direct debit payments and assumes that there are only 3 settlement members in the system.²⁴⁴

²⁴³ Source: Payment and settlement systems in selected countries, (CPSS Publications No. 53) April 2003 United Kingdom and BACS.

²⁴⁴ Direct credits are processed in exactly the same way. Standing orders are slightly different with a float being held over the three day processing cycle, see chapter 7.

DIAGRAM I.3: BACS PROCESSING CYCLE



→ Information flow

I.9 Banks A, B and C are settlement members with X, Y, and Z as indirect members. X, Y and Z may take the form of utility companies, banks, large corporations, local councils and/or supermarkets.

Day 1

I.10 Settlement members and indirect members submit direct debit payment details to the BACS system by no later than 10.30pm on day 1.

Day 2

I.11 Payment transfers require the sorting of payment information between collecting and paying accounts. BACS sorts the information transmitted on day one and forwards the payment information onto the necessary settlement member. This process must be completed by 6 am of day 2. Banks A, B and C receive a report confirming each submission and then process the payment data. BACS transmits the netted value of all transactions (credits and debits) to the Bank of England for settlement.

Day 3

I.12 Banks A, B and C's accounts are credited with the relevant payments and simultaneously all accounts are debited by 9.30 am. The netted value of payments received by the Bank of England by BACS in day 2 are settled by this time between banks A, B and C.

Future developments

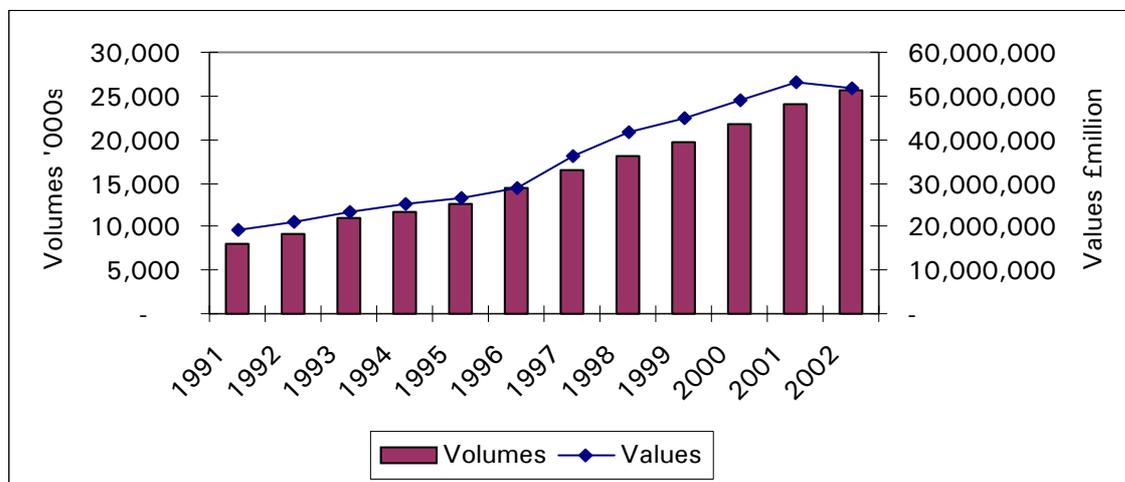
- I.13 BACS have introduced a technological renewal programme, known as NewBACS. The new programme will be introduced in four phases, with full implementation due in 2005. Phase one includes the upgrade of the existing, telecoms-based member delivery channel to BACS and its payment services. It will be replaced with the latest technologies, including internet Protocol, and fully utilise Public Key Infrastructure (PKI). Phase two will upgrade member data management processes and phases three and four will build and introduce a new electronic payments infrastructure. A number of innovations have already been implemented, phase 1, but later phases have only been partially signed off by the BACS Board and some are yet to be decided upon.²⁴⁵

²⁴⁵ Source: BACS press release 21/02/02 www.bacs.co.uk

J CLEARING HOUSE AUTOMATED PAYMENTS SYSTEM (CHAPS)

- J.1 CHAPS offers two separate clearing systems, one in sterling the other in Euros.
- J.2 CHAPS Sterling is a real time gross settlement system (RTGS) for credit transfers in sterling. The system was introduced in 1984 as a multilateral end of day net settlement system, moving to real time in 1996. The system was also updated under the NewCHAPS programme to operate on the same technical platform as CHAPS Euro.²⁴⁶
- J.3 CHAPS handles low volume, high value transfers. In 2002 the average sterling transaction value was £2.6 million,²⁴⁷ but there is no restriction on transaction values. CHAPS can be used to facilitate the transfer of low value retail funds, for example domestic property deals. Payments are irrevocable.
- J.4 In 2002, 25 million sterling transactions passed through the system, holding a value of £51,896,045 million. This is a substantial increase compared to the eight million processed in 1991 at a value of £19,049,637.²⁴⁸ The market is still growing with payment volumes increasing over recent years. Average monthly transactions increased by 574,000 between January 2000 and December 2002.²⁴⁹

DIAGRAM J.1: VOLUME AND VALUES OF CHAPS STERLING TRANSACTIONS 1991-2002



Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk.

²⁴⁶ Source: Payment and settlement systems in selected countries, (CPSS Publications No. 53) April 2003 United Kingdom.

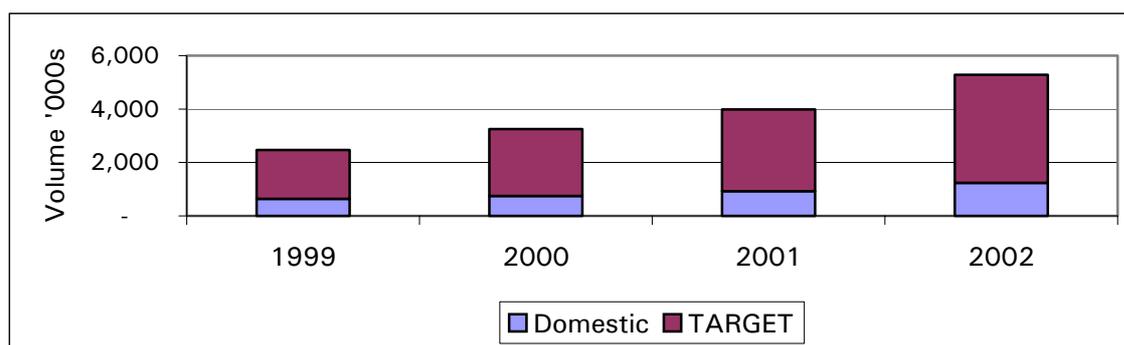
²⁴⁷ Source : APACS Payments market report 2002 page 37

²⁴⁸ Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk.

²⁴⁹ There were 1.6 million transactions in January 2000 which increased to 2.1 million in December 2002. Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk

- J.5 CHAPS Euro was established in 1999 to enable its members to make large real time payments in euros across the UK. Average values tend to be slightly higher than sterling payments, in 2002 the average domestic value was £3.3 million. The systems usage is continually growing. In 1999, 642 domestic items were processed at a value of £3,088,919 million. This increased to 1,237 million items in 2002, valued at £ 4,166,494 million.²⁵⁰
- J.6 CHAPS Euro can now facilitate cross-border payments in Euros to 15 other European banking systems through the TARGET²⁵¹ system. TARGET, which is a pan-European system connects the various European RTGS systems with the UK CHAPS system. Since the launch in 1999, annual TARGET transactions have increased by 121 per cent, annual items increased from 1,826 million in 1999 to 4,045 million in 2002. The average transaction value is also a lot higher than domestic euro transfers: in 2002 the average value was £6.5 million.²⁵²
- J.7 CHAPS Euro is the second largest component of the TARGET system after the German RTGS system, accounting for approximately 18 per cent of traffic.²⁵³

DIAGRAM J.2: VOLUME OF CHAPS EURO TRANSACTIONS 1999-2002



Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk

Membership

- J.8 The CHAPS Clearing Company Ltd establishes the operational rules for CHAPS Sterling and CHAPS Euro. Similar to BACS, CHAPS members who are responsible for the networks' development sit on the board. Presently CHAPS Sterling operates with 13 members and CHAPS Euro has 20 members. The majority of the clearing banks belonging to CHAPS Sterling also belong to CHAPS Euro.²⁵⁴

²⁵⁰ Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk.

²⁵¹ See chapter 6, paragraphs 6.21 and 6.22 for a full description on TARGET.

²⁵² Source: APACS.

²⁵³ Source: APACS

²⁵⁴ See annexe H for CHAPS membership list.

J.9 Both CHAPS systems run on a two-tier membership structure. Settlement members can provide indirect access to additional users via agency agreements. Presently, there are 425 indirect members connected to the CHAPS Sterling system and a further 100 or so in CHAPS Euro.²⁵⁵

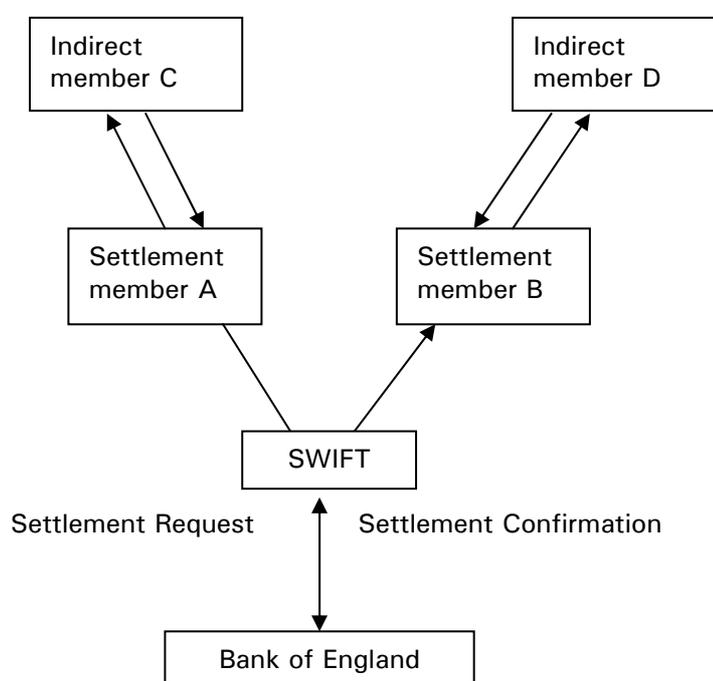
J.10 New entrants into the CHAPS system need to meet a number of objective criteria:²⁵⁶

- be a credit institution in EU or EEA member state.
- hold a settlement account with Bank of England.
- have the ability to comply on a continuous basis with the technical and operation of the NewCHAPS system as set out in the reference documents.
- be a shareholder of the company.
- be able to pay an entry fee of £100,000.

Processing cycle

J.11 Both CHAPS systems operate on a common technical platform. This platform is based on the SWIFT FIN Y-Copy Financial Application Service. SWIFT acts as a secure messaging network, facilitating the transfer of electronic payment messages from one settlement member to another.

DIAGRAM J.4: ILLUSTRATES HOW THE CHAPS SYSTEM OPERATES.



²⁵⁵ European Central Bank Blue Book June 2001, page 498, 2001 data.

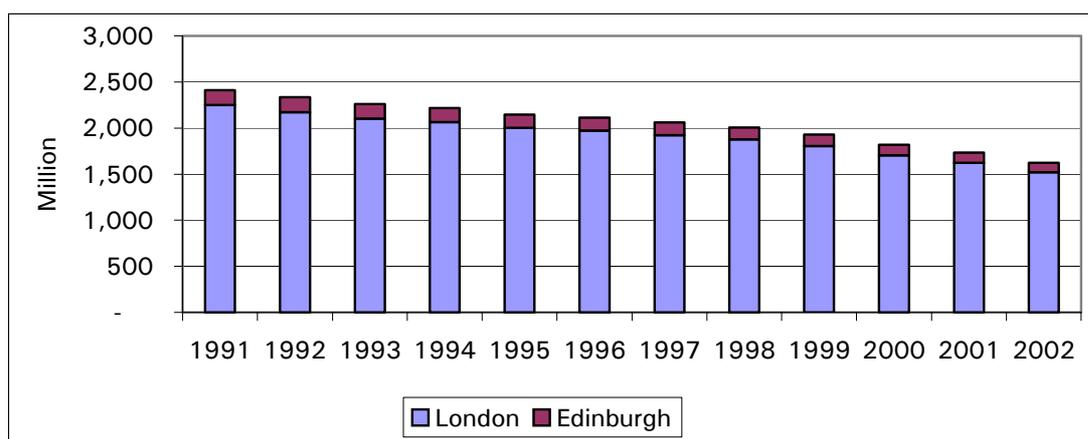
²⁵⁶ CHAPS Clearing Company Ltd, NewCHAPS Rules, Version 1.1, September 2002.

- J.12 Both systems start operations at 6am and the latest members can initiate payments is 4pm that day. Late paying banks can use the Enquiry Link to make payments up to 5pm under the Late Transfer Scheme. The Enquiry Link facility also enables settlement members to manage their outgoing payments, providing the banks with details of account balances and summaries of CHAPS payments. The Enquiry Link facility is linked to the Bank of England's RTGS system.
- J.13 From the diagram above, settlement member A submits a payment request to settlement member B. Before this request is received by bank B, the SWIFT secure network holds the information in the FIN Copy service, and transmits a request to the Bank of England. This is to verify that bank A has sufficient funds in order to pay bank B. Once this verification is complete, the Bank of England returns a message to SWIFT to release the information held in FIN Copy to bank B. Bank B receives the message with the assurance that transfers have been completed.
- J.14 Settlement between banks A and B and the Bank of England concludes once SWIFT releases the message to bank B. The whole process takes less than a minute and is irrevocable.
- J.15 Indirect members C and D can also participate in this system via agency agreements with banks A and B respectively.

K CHEQUE AND CREDIT CLEARING COMPANY LTD (CCCL)

- K.1 CCCL is responsible for cheque and paper credit clearings in the UK (except Northern Ireland). Credit transfers are pre-printed credit transactions in paper form.
- K.2 Like BACS, CCCL handles predominantly large volume low value transactions. The average value of a single item processed by CCCL is slightly higher than the value of a single BACS transaction, in 2002 the average transaction value was £770.²⁵⁷
- K.3 Cheque usage in the UK has declined in recent years. Between 1991 and 2002 the total number of items processed fell from 2,412 million to 1,623 million, a fall of 33 per cent. This trend is continuing with a 10.8 per cent reduction in usage between 2000 and 2002. Volumes are expected to decline even further with the introduction of automated credit transfers for all benefit payments in 2003.²⁵⁸

DIAGRAM K.1: CHEQUE INTER-BANK VOLUMES 1991- 2002.



Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk

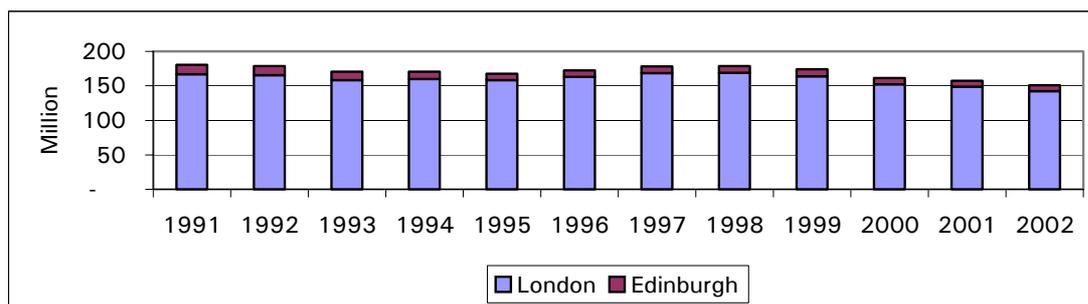
- K.4 There has been also been decline the number of paper credits items processed, in 2002 only 151 million inter-bank payments passed through the system compared to 180 million in 1991.²⁵⁹

²⁵⁷ Source : APACS Payments market report 2002 page 37

²⁵⁸ Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk

²⁵⁹ Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk

DIAGRAM K.2: CREDIT INTER-BANK VOLUMES 1991 – 2002.



Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk

Membership

K.5 CCCL is owned and run by its members, which are a number of banks and building societies. Both the cheque and credit clearing have the same members and these members cannot opt out of one or the other scheme. Yet, both the CCCL clearings are subject to their own rules, which are set by the board of CCCL.²⁶⁰

K.6 Membership of CCCL is currently at 12, one of which is the Bank of England.²⁶¹

K.7 The two-tier system is prevalent in CCCL clearings, with both settlement and indirect members accessing the system.

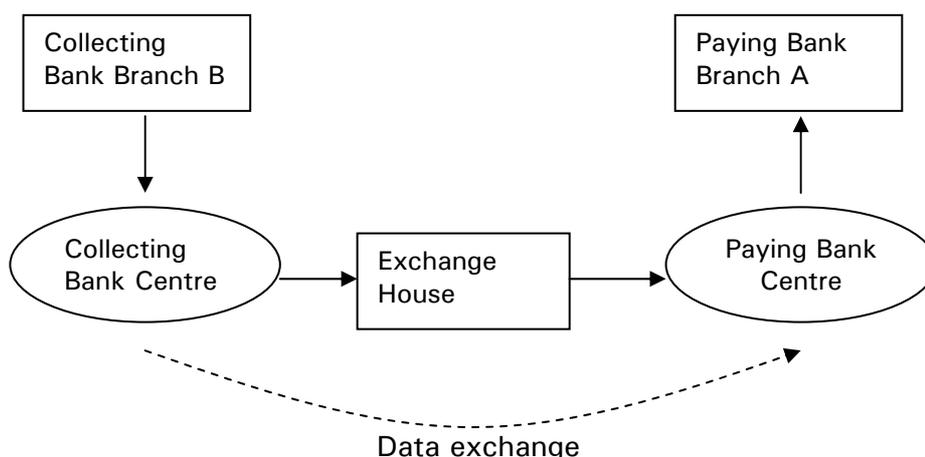
Processing cycle

K.8 The clearing process for cheques involves the transmission and settlement of payments between accounts held at different banks and different branches of the same account. This process operates on a 3-day cycle.

²⁶⁰ Members of the company operate as settlement members of both cheque clearing and credit clearing. Source: Payment and settlement systems in selected countries, (CPSS Publications No. 53) April 2003 United Kingdom.

²⁶¹ See annexe H for CCCL membership list.

DIAGRAM K.3: SIMPLIFIED CHEQUE/CREDIT PROCESSING CYCLE



Day 1

K.9 Bank A’s customer pays customers of bank B. At the end of the day bank B processes their received cheques. Each receiving bank records the values of cheques received for that day.

Day 2

K.10 Bank B’s clearing centres²⁶² receive all the cheques processed the previous day. The information from all these cheques is transmitted electronically through a secure data exchange network, known as the Inter Bank Data Exchange (IBDE), to bank A’s clearing centre, allowing bank A to begin to update its customer’s account.

K.11 The clearing centres send the cheques to one of the two Clearing Exchange Centre (CEC), one in London and the other in Edinburgh, where the cheques are sorted between members. This process occurs between 6.30am and 11am. The CEC’s send the cheques to bank A’s clearing centre to verify settlement values between A and B.

Day 3

K.12 Bank A receives the cheques drawn against it²⁶³ and makes a decision about whether to pay or return them to the collecting bank. Inter-bank settlement, for the netted values of cheques exchanged between A and B takes place now over their Bank of England accounts. The cut off for this is 11am.

²⁶² These clearing centres can be either run by the banks themselves or outsourced to other agencies to do the work.

²⁶³ In 1996, the Deregulation (Bills of Exchange) Order removed the need for cheques to be passed to the paying bank in physical form. Electronic transmission of cheque data is now valid with many banks retaining cheques at the clearing centres.

Outsourcing

K.13 Outsourcing has become an increasingly cost-effective means to process CCCL transactions due to the increasing unit costs associated with lower transaction volumes.²⁶⁴ A long-term goal of outsourcing companies is that transactions are processed on an On-We basis. That is, the processing of cheques takes place internally within the outsourcing firm. At present this is not possible as the individual banks which outsource to the same firm operate on different technological platforms. Processing still has to go through the Inter Bank Data Exchange (IBDE) system which is operated by CCCL. It is only transactions where collecting and paying bank are the same that an internal process can take place. This is known as an On-Us process. For On-Us items, the debit and credit may well appear on both payer's and payee's statements on the day when the transaction is deposited, although this does depend on internal procedures at each of the members. Within the UK there are two outsourcing companies, Intelligent Processing Solutions Ltd (IPLS) and Electronic Data Services (EDS). IPLS is owned by Unysys, which hold a 51 per cent share and Lloyds, Barclays and HSBC, which hold a 49 per cent stake between them. IPLS has 7 client banks: Lloyds, Barclays, HSBC, HBOS, Clydesdale, Cooperative and Girobank; and it is estimated that iPLS account for 67 per cent of all transactions. EDS have 2 client banks, Royal Bank of Scotland and Natwest and are considered the second largest, processing 26 per cent of the total.

²⁶⁴ Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk

L CLEARING SYSTEMS ANNUAL VOLUMES AND VALUES

TABLE L.1: CLEARING SYSTEMS ANNUAL VOLUMES (MILLIONS)²⁶⁵

	BACS	Cheque	Credit	CHAPS sterling	CHAPS Euro	TOTAL
1991	1,701	2,412	180	8	-	4,301
1992	1,820	2,334	179	9	-	4,342
1993	1,904	2,262	171	11	-	4,347
1994	2,058	2,218	171	12	-	4,457
1995	2,268	2,147	168	13	-	4,594
1996	2,476	2,112	172	14	-	4,775
1997	2,683	2,060	178	17	-	4,938
1998	2,905	2,006	178	18	-	5,108
1999	3,095	1,930	174	20	2	5,221
2000	3,316	1,820	161	22	3	5,323
2001	3,527	1,733	157	24	4	5,445
2002	3,735	1,623	151	26	5	5,539

TABLE L.2: CLEARING SYSTEMS ANNUAL VALUES (£MILLIONS)

	BACS	Cheque	Credit	CHAPS sterling	CHAPS Euro	TOTAL
1991	771,886	1,179,021	111,678	19,049,637	-	21,112,222
1992	802,998	1,146,362	108,292	20,928,202	-	22,985,854
1993	836,174	1,165,138	104,187	23,544,879	-	25,650,378
1994	940,842	1,181,093	98,797	25,052,771	-	27,273,504
1995	1,054,603	1,205,037	96,637	26,719,032	-	29,075,308
1996	1,249,901	1,269,980	99,386	28,881,151	-	31,500,418
1997	1,431,780	1,319,796	99,415	36,032,447	-	38,883,438
1998	1,602,325	1,336,503	96,582	41,501,380	-	44,536,791
1999	1,761,475	1,342,927	92,350	44,703,912	22,110,168	70,010,832
2000	1,922,377	1,329,940	86,177	49,145,830	25,315,521	77,799,845
2001	2,166,065	1,318,581	84,417	52,912,886	32,014,931	88,496,879
2002	2,381,518	1,284,522	80,467	51,896,045	30,382,489	86,025,041

²⁶⁵ Source: APACS Monthly Clearing Statistics (1991-2002) www.apacs.org.uk. CCCL – inter-bank figures.

M SMALL BUSINESS CUSTOMERS – CHARGES

Bank	Standing Charge £ per quarter	Cheque p	Direct Debit p	Standing Order p	Credit p	Auto-Credit p	CHAPS £	Interest (on 10k)	Restriction
Alliance & Leicester									
Business Current Account	5.25	0.65	0.65	0.65	0.65	0.65	20.00	1.25	Turnover < 500k
Business Current Account	75.00	0.00	0.00	0.00	0.00	0.00	20.00	1.25	Turnover 100-500k
Flat Free Current Account	30.00	0.00	0.00	0.00	0.00	0.00	20.00	1.25	Turnover < 100k
Bank of Scotland									
Business Current	0.00	0.47	0.30	0.45	0.47	0.30	15.00	1.75	
Treasury Cheque	0.00	0.40	0.00	0.00	0.00	0.00	15.00	0.00	
Barclays									
Business Tariff	0.00	0.54	0.54	0.54	0.75	0.15	20.00	1.25	
Small Business Tariff	7.50	0.64	0.45	0.45	0.64	0.45	20.00	0.00	Not new business

Bank	Standing Charge £ per quarter	Cheque p	Direct Debit p	Standing Order p	Credit p	Auto-Credit p	CHAPS £	Interest (on 10k)	Restriction
Free Automated Transaction Tariff	0.00	0.54	0.00	0.00	0.75	0.00	20.00	0.00	20 transactions free per quarter
Clydesdale									
Current Account	0.00	0.49	0.30	0.49	0.49	0.30	22.50	0.00	
Co-operative									
Business	15.00	0.60	0.40	0.40	0.70	0.20	20.00	0.00	
HSBC									
Small Business Tariff	7.50	0.60	0.35	0.35	0.60	0.35	20.00	1.25	Turnover < 100k
Lloyds TSB									
Business Extra	7.50	0.59	0.30	0.30	0.70	0.15	20.00	1.25	Turnover < 1million
NatWest									
Standard	17.25	0.67	0.40	0.40	0.67	0.22	23.00	1.25	Turnover < 1million

Bank	Standing Charge	Cheque	Direct Debit	Standing Order	Credit	Auto-Credit	CHAPS	Interest (on 10k)	Restriction
	£ per quarter	p	p	p	p	p	£		
RBS									
Business Current	0.00	0.46	0.31	0.45	0.46	0.27	20.00	1.25	Scotland