

**The consumer payments system
and RBA reform program**

**A review for the
Australian Consumers' Association**

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Summary

The consumer payments system and the reform process

- This paper considers the main electronic consumer payment mechanisms in Australia, especially the debit networks (EFTPOS and ATMs), credit card networks and scheme debit. In many but not all retail situations, these payment mechanisms are substitutable with each other, and with currency.
- The payments system exhibits several weaknesses for consumers, including excessive cost, an interchange fee structure (between network providers) which encourages credit card use, pricing complexity to the consumer, and important pockets of monopoly – where there are no options to make payment.
- The RBA has, since 1999, been working to reform the payments system. Besides direct intervention to reduce interchange fees, the RBA's reforms have focussed on increasing transparency – through efforts to expose underlying payment costs to consumers; and competition – as with the recent proposal to reduce barriers to entry in EFTPOS acquisition.
- The market for payment services has a number of characteristics – many of which are recognised in RBA discussion papers – which taken together make the market a significant challenge for reform. These include complexity, especially in relation to pricing; ongoing monopoly in specific retail situations for certain payment mechanisms; network characteristics; the impact of currency as a substitute payment mechanism and the uncertain impact of technological change.

Conclusions and recommendations

- The RBA seeks to reform the payments system by increasing transparency and competition. We are concerned that the necessary conditions for success are currently not met.
- Limited substitutability undermines direct competition and requires consumers to use a range of payment mechanisms, including credit cards or scheme debit.

Recommendation 1: The RBA should explore avenues for removing existing (and new potential) pockets of monopoly in the payment system that undermine direct competition and reduce utility by forcing consumers to subscribe to multiple payment mechanisms.

- Pricing complexity in consumer payments is profound, with efficient decisions requiring detailed knowledge of conditions on multiple products and one's own precise financial status including balances and transactions conducted.
- It is unclear exactly how consumers respond to these pricing signals as individuals and in aggregate, but these responses will determine the effectiveness of the policy.

Recommendation 2: The RBA should conduct or commission econometric analysis of consumer payment choices under 'real payment scenarios' and the impact of these decisions on payment system competition and market development.

- In order to reduce overall system cost, the RBA has targeted the scheme debit product by prohibiting the 'honour all cards' rule.
- This is intended to prevent an increase in scheme debit market share at the expense of EFTPOS, which might occur because card issuing banks encourage this behaviour as it generates interchange fee revenue.
- However this product provides benefits for consumers by allowing access to parts of the economy in which the credit card networks hold strong market power, particularly 'card not present' transactions.
- The proposed remedy for the scheme debit/EFTPOS market share issue may have unintended consequences, including increased credit card use.

Recommendation 3: The RBA should apply a test to all potential reforms, including those aimed at cost reduction, to ensure that they do not compromise other important aims, including reducing the bundling of payment system access with credit.

- The Bank’s efforts to-date to make the costs to merchants of credit card transactions transparent to consumers appear to have met with limited success. While merchants are now allowed to explicitly charge for credit card purchases, few do so.
- The reluctance to make credit card charges explicit may be due to a higher opportunity cost than was previously recognised, in the form of the cost to consumers and merchants of handling currency.

Recommendation 4: The RBA should consider the impact of the costs of handling currency to consumers and merchants on competition in the consumer payments market.

- The global electronic consumer payments network has evolved since the 1950s with private financing.
- However, the system now constitutes essential infrastructure for the modern economy as the RBA has recognised by ‘designating’ the credit card schemes and EFTPOS network. Further, aspects of the system exhibit limited competition. The Bank has prohibited certain behaviour and set limits on interchange pricing.
- An alternate model for management of the policy area might focus on a competitive licensing arrangement or ‘public private partnership’.
- Such an approach would define the schemes as private providers of public infrastructure which might allow the RBA to contribute to system design positively (“this is what is required”) as well as negatively (“this behaviour is prohibited”) while still encouraging investment in technological improvement.

Recommendation 5: The RBA should explore potential for licensing the consumer payments market.

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1. Introduction

In recent decades, as bank interest margins have come under greater competitive pressure, banking profitability has increasingly come to be driven by fee income. The fees – whether levied on accounts or transactions – are a largely unavoidable cost to the consumer of participation in the payment system. According to the Australian Bankers' Association (ABA):

“customers pay to have a bank account where money remains safe and secure and is available when they want it, just the same way that drivers pay a fee to park their car” (SMH, 13/1/2006).

The analogy between the payments system and pay-parking could be extended. The consumer payment system is essential commercial infrastructure operated as a tollway by the banks and credit card schemes. Although bearing some characteristics of a public good¹, the system has been developed and marketed by private firms with – until recently – only sporadic regulatory intervention.

The Reserve Bank of Australia (RBA) has, since 1999, been driving a major consultative project to reform the consumer payments system. In the course of this project, the RBA has reviewed and ‘designated’² credit card schemes, the EFTPOS network, ‘scheme debit cards’³ (operated over credit card networks), and has reviewed (but not designated) ATM networks.

¹ The term ‘public good’ is economic jargon for a good which is non-rivalrous (does not exhibit scarcity when consumed) and non-excludable (impossible to prevent people benefiting from it). Payment systems are non-rivalrous, as their consumption by one user does not prevent consumption by another. The payments systems are not non-excludable, however, as individual use can be charged for.

² Designation of a payment system by the RBA is an action subject to the *Payment Systems (Regulation) Act 1998* that explicitly brings the payment system under its regulatory auspices, enabling the RBA to impose regulatory change, such as an access regime or standards, if it believes it is in the public interest to do so.

³ Also called ‘signature debit’ (as opposed to PIN debit).

These systems all involve transfers over electronic networks between banks⁴ on behalf of the direct parties to transactions. An example (see Figure 1, page 5 below) is the transfer of the value of a purchase made by EFTPOS from the account of the purchaser (held with the card ‘issuing’ bank) to the account of the vendor (held with the transaction ‘acquiring’ bank). Although ultimately borne by consumers, the costs of providing these networks are distributed in the first instance between the providers through the net transfer of fees called interchange fees. Interchange fees, determined by negotiation between credit card schemes, banks and retailers, have been a central focus of the RBA’s reform efforts.

As part of the project, the RBA has implemented a range of reforms in relation to the designated payment systems. This new interventionist attitude has been adopted after the Australia Competition and Consumer Commission (ACCC) and the Payments System Board (PBS) published the ‘Joint Report’ – *Debit and Credit Card Schemes in Australia: A Study of Interchange Fees and Access* (RBA/ACCC, 2000) – finding “shortcomings in competition in the provision of card services, which have raised the cost to the community of the retail payments system” (RBA, 21/4/2001).

The reform effort continues, with public submissions most recently sought on a proposal to reduce barriers to entry to potential new EFTPOS transaction acquirers (RBA, 20/12/2005).

The cheque settlements system is not included in the reform program. Currency (notes and coin) also receives no explicit consideration in the process. The reform process could potentially have some bearing on currency if ATM networks were designated.⁵ However, despite having some concerns with ATM networks, notably fees on ‘foreign’ ATM transactions, the RBA decided not to designate ATMs, noting the wishes of participants to pursue voluntary reform (RBA, 9/9/2004).

The author’s brief is to consider the likely impact of developments in the payment system on consumers given the RBA’s reform program. The following sections provide an overview of the payment systems, a description of the RBA’s approach to

⁴ Unless explicitly stated, the term ‘bank’ is used to describe both banks and non-bank depository institutions.

⁵

reform in general terms, consideration of the unique characteristics of the ‘payment system market’, and conclusions including reflections on the potential of the RBA’s reform approach.

2. The consumer electronic payment system in brief

The RBA reform program is concerned with electronic payment mechanisms used by consumers. These mechanisms are used to make transfers from a financial account held by the consumer. Transfer is most commonly authorised via ‘presentation’ of a plastic card which carries account information. The card information is read by machine and the card is validated either with a pin number or signature. However, credit cards can also be used in remote ‘card not present’ transactions – such as over the phone or internet – without being presented and without either form of validation.

An important feature of the payments network in Australia, as in many other countries, is the delineation between the global credit card scheme networks (Visa and Mastercard) – to which banks subscribe for access as acquirers and/or issuers, and the debit account networks (EFTPOS and ATM) – which are direct connections between domestic bank networks arranged through bilateral negotiation.⁶

In general, transactions made with credit cards operate over credit card networks and EFTPOS transactions made with debit cards (typically connected to savings or checking accounts) operate over distinct debit networks. This picture is complicated by several factors. First, a single plastic card can be both a credit card and a debit card. Second, the credit card schemes offer a ‘scheme debit’ product which is processed over the credit card network but accesses funds in a transaction account. This account may or may not have a line of credit attached to it, which is separately negotiated between the customer and their bank. Third, ATM transactions made using debit *and* credit cards issued overseas (i.e. on the Mastercard Cirrus or VISA Plus networks) are processed on the credit card scheme networks.

⁶ Charge card networks (prominently Diners’ Club and American Express) are also independent networks. These have relatively small combined market share (16.5%) and have received relatively little consideration in the reform program until recently. They are beyond the scope of this paper.

When a transaction is 'acquired' by a bank from a merchant (or ATM), it is switched onto whatever network is appropriate depending on what accounts the card is connected to and the choices made by the consumer.

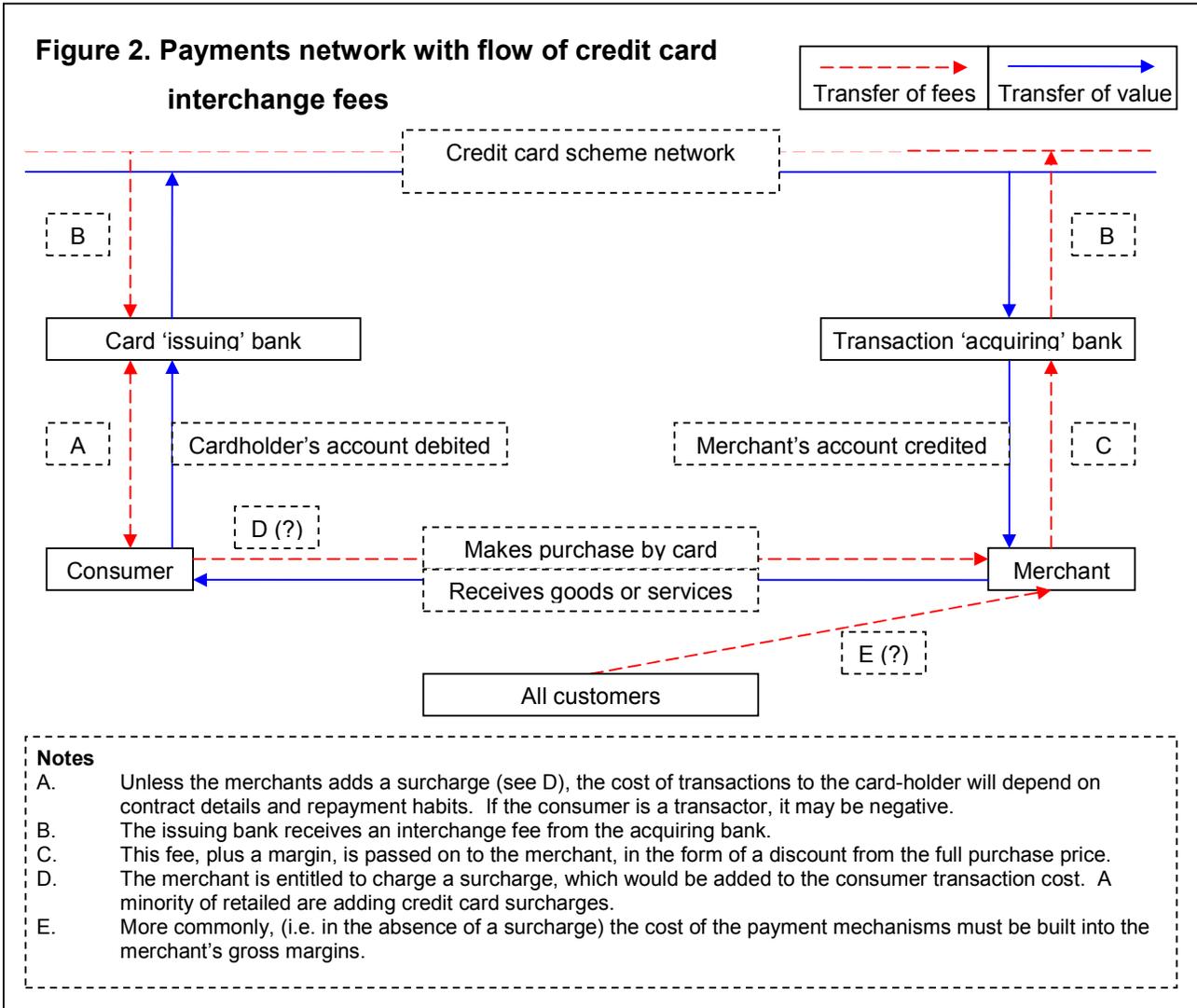
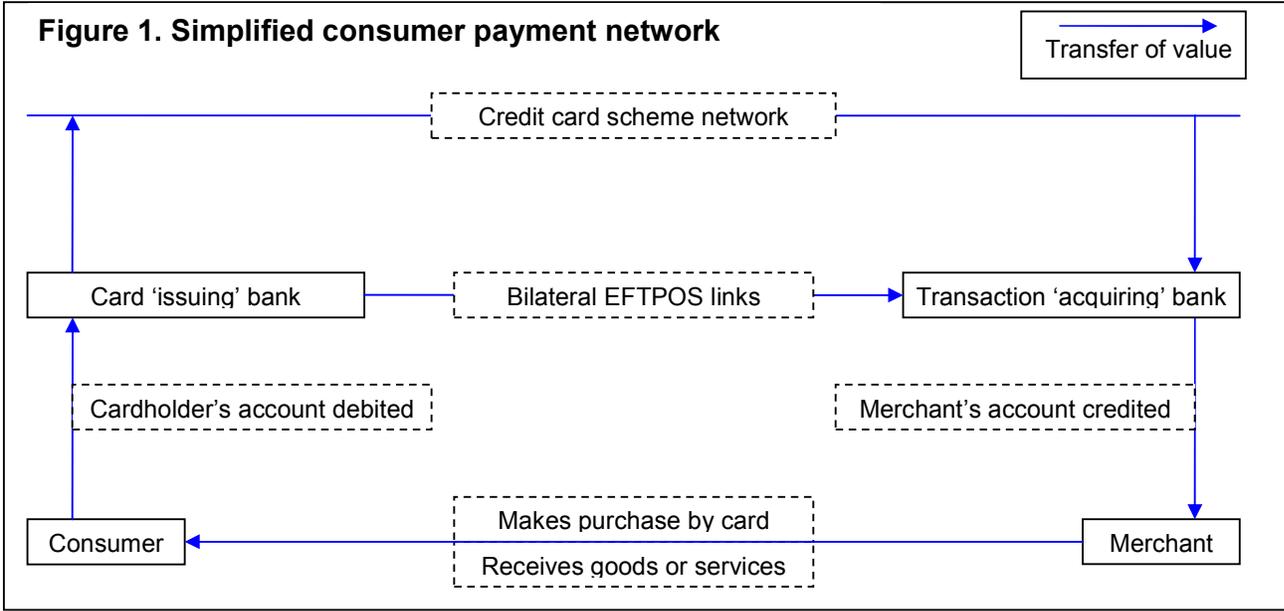
Figure 1 (below) is a depiction of the two networks, with the arrows representing transfer of transaction value. The delineation between the credit card and EFTPOS networks is not primarily a physical delineation. While Visa card transactions, for example, are processed through one of Visa's three global processing centres, the encrypted messages which enable transactions to be completed over either network are captured by the same terminal, and can travel over a variety of telecommunication network infrastructure, including ordinary phone lines, wireless, voice over internet, leased lines or proprietary networks. All transactions are switched to the appropriate network by the acquirer.

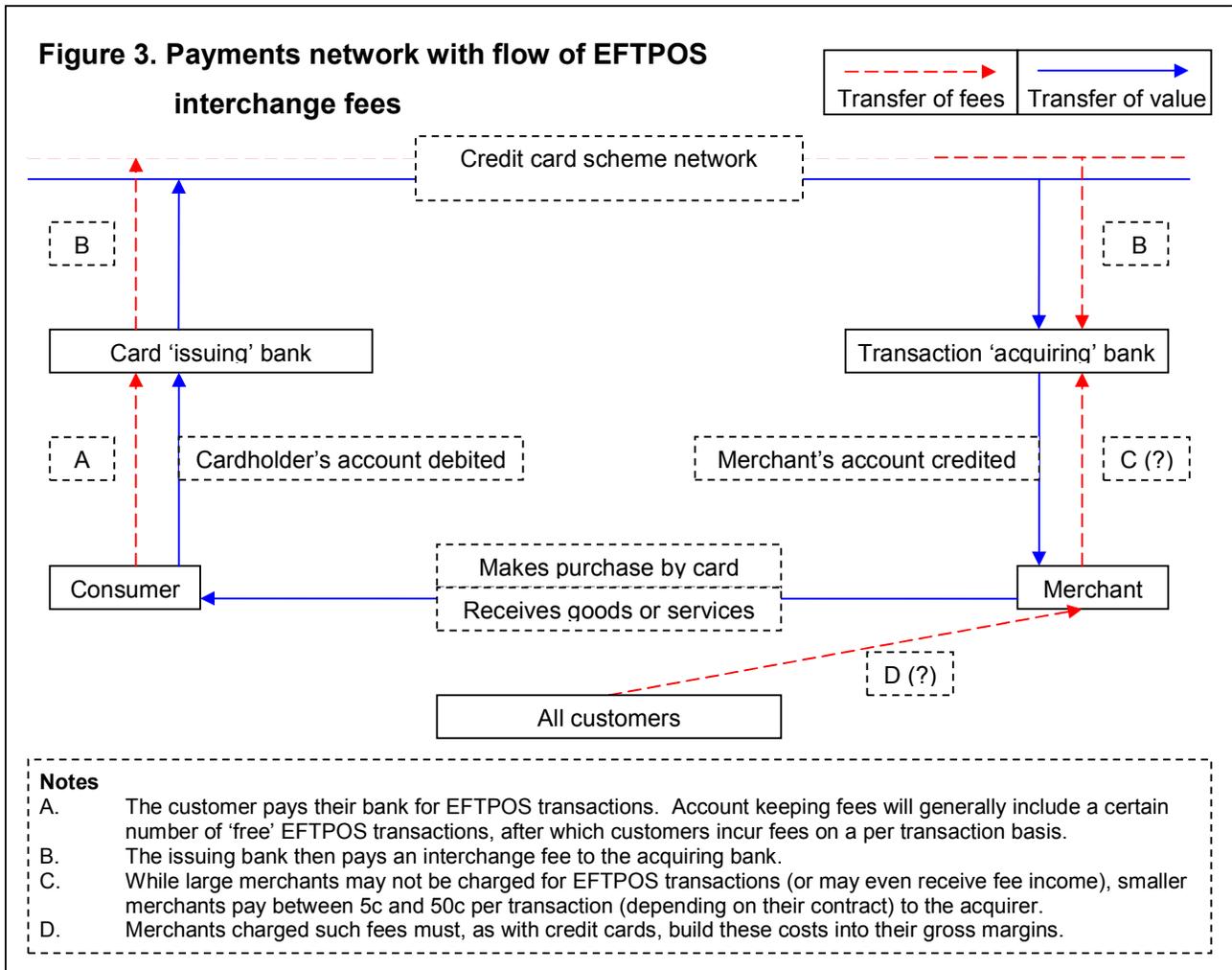
The more important delineation reflects the contractual arrangements between the parties involved in providing the network, and the distribution of costs between the parties. The system of cost distribution that has evolved for the credit card networks (see Figure 2) involves an interchange fee being transferred from the acquiring bank (representing the merchant in the transaction) to the card issuing bank (representing the consumer in the transaction). It moves in reverse to the flow of transaction value, and the fees are a percentage of transaction value: around 0.94 per cent previously, reduced to around 0.54% following an earlier round of RBA reforms (PSB, 2005: 4).

These fees, plus a margin added by the acquirer, are passed on to the merchant in the form of a discount from the full value of the transaction. Average margins of around 0.40% have resulted in an average merchant discount (post-reform) of just below 1 per cent (PSB, 2005: 10). Costs to individual merchants can differ markedly from the average.

Scheme debit transactions have attracted similar fees, though a regime currently proposed by the RBA would see interchange fees on these transactions fall to a fixed fee of around 15c per transaction (RBA, 24/2/2005).

It was a feature of the contract imposed on merchants by the credit card networks (until prohibited by the RBA in recent reforms) that merchants could not, in turn, pass these costs on to consumers.





EFTPOS networks do not operate with interchange fees in most countries; however, in Australia and New Zealand (see Figure 3), an interchange fee is paid in the opposite direction to that for credit cards – from issuer to acquirer. The fees are a fixed amount per transaction and are significantly lower than those for the credit card networks (currently 20c with a likely range of 4-5c if the regime proposed by the RBA is adopted) (RBA, 20/12/2005).

The justification for the size and direction of credit card interchange fees has long rested on an argument that this method of cost distribution is a subtle solution to the problem of how to promote participation by both merchants and consumers in this 'two-sided' network market. The argument is explained in section 4.2 below. The RBA, to its credit, has found the argument unpersuasive; concluding instead that far from requiring special arrangements to promote growth, the regulatory challenge for this mature, global duopoly is how to limit its market power.

Evaluation of cost and fee structures is made more complicated by the bundling of services with credit cards, including mitigation of credit risk for the merchant and the risk of non-delivery or defective goods for the consumer. As has been discussed at length elsewhere (including in the *Joint Report*), evaluation of the value for consumers associated with credit cards is further complicated by a range of positive features (especially interest free periods and loyalty program benefits) and negative features (credit card account fees, penalty fees and relatively high interest rates on outstanding balances).

The aggregate cost to the consumer of holding a credit card will depend on the exact card conditions and on how the card is used, especially on the extent to which account balances attract interest charges and penalties. The cost to ‘transactors’ (who pay off their credit card balances in full each month) may be zero or even negative after the benefits of interest-free periods and loyalty programs have been taken into account; whereas for ‘revolvers’ (who carry ongoing credit balances), the sky is the only limit.

The characterisation of credit card users into distinct groups of transactors and revolvers is encouraged by the availability of data such as that collated by Roy Morgan which indicates that since 2000, between 60 and 65 per cent of credit cards are repaid in full each month (currently 64 per cent) with the remainder having balances outstanding at the end of each month (Visa, 11/2005: 3). It is not clear from this data, however, whether the cards paid off in any given month belong to the same people. A more valuable breakdown would show the amount of months in a year each card-holder has an outstanding balance. An appropriate analysis would characterise those within a range of, say, 0-2 as transactors and, say 10-12 as revolvers.⁷ Choice, as the leading consumer advocate, is keenly interested in credit card repayment habits and the resulting cross-subsidies being well understood.

Access to the international credit card network offers convenience for travel and remote purchases (over the phone or internet) for which there is no effective

⁷ Despite having a dataset uniquely suited to such an analysis, Visa has published on this issue without adding much clarity. Visa cites evidence that 70 per cent of card holders pay off their balances in full ‘at least once a year’, and these could be considered neither transactors nor revolvers (NECG, 2002: 30). The intention of this statement is to challenge the notion of transactors and revolvers altogether, in order to undermine the RBA’s argument on cross-subsidies.

substitute. The implication of this is that access to these parts of the payment system is offered to the consumer as a bundled product including access to credit.

The notable exception to this general rule is scheme debit. Using this product (which has a fairly low profile in Australia) consumers face low direct costs, as the cards are often issued without extra fees and are not automatically bundled with a line of credit that attracts high interest rates. The credit card schemes support these products because they extend the credit card brands to include a customer base which might otherwise be excluded and they operate under similar interchange arrangements to normal credit cards which reinforces the schemes' primary business model.

The RBA has a legitimate concern with scheme debit: issuing banks encourage consumers to make debit purchases using this method rather than EFTPOS (although most scheme debit cards can operate in both ways) because although it increases overall system cost, the interchange fees on scheme debit flow to the issuing bank, rather than in the opposite direction.

In summary, a primary concern for regulators here (and overseas) is the system of incentives that (1) shifts the cost of the payment system (especially expensive credit card and scheme debit) to merchants but prevents them being passed onto consumers directly, resulting in cross subsidies from consumers using 'cheaper' payments methods; and (2) is dependent for profitability on undisciplined use of credit cards by a subset of customers.

3. The Reserve Bank of Australia's reform approach

Consumer payment systems – both electronic and traditional – entail various capital and operating costs. Historically, these have been obscured or hidden from consumers whilst transactions are being conducted, but recouped from them through a variety of discrete means: by merchants through the margin on goods and services; by banks through interest differentials and account-keeping fees; and by the government through general revenue.

The Bank's current approach to electronic payments emphasises fair pricing, transparency and competition.⁸ An important example of the RBA's emphasis on fair pricing is it setting maximum prices in regards to various interchange services. These have, as discussed above, reduced the fees merchants pay on credit card transactions by around 40 per cent. The maximum allowed prices are based on surveys of network providers' actual costs and the reports of independent experts. The costs included in the calculation, the level of those costs and the formulae used in the calculation are all subject to ongoing review.

The emphases on transparency and competition have longer term goals, being reliant for actual outcomes on dynamic market forces. The Bank hopes that allowing and encouraging providers of consumer payment systems to make costs explicit to consumers when conducting transactions will enable consumers to exercise informed choice, which will put competitive pressure on the providers of the payment mechanisms.

In keeping with the goal of transparency, some aspects of the contracts between payment network participants that underlie the previous operation of the system have been prohibited, with further similar changes mooted. These include scheme rules which prevent merchants making costs associated with payment explicit, and the 'honour all cards rule' which forces merchant subscribers to a credit card scheme to accept all cards on that scheme, irrespective of the issuer or the product.

A proposed regulatory change on which community submissions are currently being sought – to reduce barriers to entry to new entrants to potential EFTPOS acquirers – fits into this category of reform, as it will potentially increase competition and dynamism within the EFTPOS network. The Access Regime proposed by the RBA, in combination with the EFTPOS Access Code of the Australian Payments Clearing Association (APCA), will give potential market entrants the right to establish direct

⁸ In the words of the Payments System Board of the RBA:

The Board has largely focused on two central issues. The first is the promotion of price signals to users of payment services that encourage efficient payment choices. This has largely, although not exclusively, involved the regulation of interchange fees. And the second is the removal of various restrictions in the payments system that effectively limit entry and stifle competition. (PSB, 2005: 1)

connections with existing participants (currently there are 11) and establish a maximum price for that connection (\$78,000). The RBA's Access Regime also has provisions aimed at preventing obfuscation in negotiation to delay or prevent market entry (RBA, 20/12/2005).

In summary, beyond direct price fixing aimed at curbing apparent monopoly rents, the goal of the reform is that transparency and competition will drive institutional and technological change.

4. The 'market' for payment services

The market for electronic payment services in any developed economy is complex. The aim of this description is to provide a basis for consideration of how the market might be expected to develop given the RBA's current reform emphases on competition and transparency.

4.1 Complexity and situation-specific substitution

An important source of system complexity in the 'market' for consumer payment services is the range of constituent payment mechanisms. The various payment mechanisms are exact or close substitutes in certain retail payment situations. For example, while approaching the supermarket checkout with cash, a debit card, a credit card, a scheme debit card, and a store card, payment can often be made via all five mechanisms.

In these situations, consumers could, conceivably, if presented with discrete transaction costs, weigh up the costs and benefits of each payment mechanism and make choices between them which would bring competitive pressure to bear on the providers of those services.

To make efficient choices at the margin, consumers would need to be abreast of a number of payment mechanism characteristics and their own precise financial status. Relevant parameters to an efficient choice may include knowledge of the fee structures on multiple accounts, the balances in a number of accounts, the numbers of transactions executed already during the current month on various accounts, the value of loyalty program benefits and interest free periods and the interest rates on deposits and outstanding balances on credit cards.

Consumers are not uniform in their approach to complex product choices. While some consumers make an attempt to optimise through research and analysis, others use ‘rules of thumb’ with varying degrees of rationality and may overestimate the value of loyalty programs and other potentially misleading marketing signals. The proportions of consumers that would make efficient decisions and those who would not could not be estimated without thorough econometric analysis. Similarly, to estimate the competitive impact of these decisions in aggregate would require careful scrutiny. Assuming efficient outcomes from choices in this market is optimistic policy making.

Another significant obstacle to effective competition is that, in a range of retail situations, the different payment mechanisms are not close substitutes. The level of possible competition ‘at the checkout’ between payment mechanisms is dependent on the specific circumstances of the merchant and consumer. For example, from an Australian consumers’ perspective, there is little or no choice for payment in the following situations (the main or only payment option is in brackets):

- i) small retail transactions, especially of less than \$10 (currency);
- ii) a retail transaction where ‘cash-out’ is required (EFTPOS);
- iii) retail transactions over the phone or internet (credit card or scheme debit);
- iv) transactions on credit (credit card);
- v) retail purchases overseas (credit card or scheme debit); and
- vi) certain road tollways (‘e-tag’ or equivalent⁹).

These are not obscure or unlikely scenarios. It is reasonable to say that most consumers would find themselves in most of these retail situations within a given year.

⁹ Due to the increasing prevalence of toll roads with electronic payment systems in some Australian cities, pre-paid proprietary electronic payment devices, such as ‘e-tags’ are desirable, and increasing essential, payment devices. While nominally free, the time value of money on pre-paid balances provides an opportunity cost to the subscriber and a benefit to the provider. The ‘e-tag’ is discussed in Appendix B.

The list reveals the fragmented nature of the existing payment system. This fragmentation reduces utility for consumers, as it requires subscription to multiple payment mechanisms to take advantage of all benefits of the payment system, and even to participate in certain areas of economic activity.

It is also a potential obstacle to the current reform approach working as planned because it means that competitive pressure to improve performance and efficiency may be slight. While there are clearly areas of direct overlap and competition, there are also significant areas of consumption in which certain payment mechanisms enjoy stable monopoly.

4.2 Network businesses

A second set of issues arise from the fact that payment systems are network businesses. The term network business is commonly associated with capital intensive infrastructure industries such as transport, telecommunications or power distribution. The similarity is not immediately obvious because, in comparison to road, power or telephony networks, payment systems have very low ‘hard infrastructure’ costs, essentially for terminal hardware and network switching capabilities.

However, payment networks do require ‘soft infrastructure’ in the form of a critical mass of use and acceptance. For a payment system to be effective, a significant proportion of consumers must be willing and able to pay with it and merchants willing and able to accept it.¹⁰ The implications of this ‘two sided market’ characteristic for the appropriate distribution of network costs can be debated at length – partly due to the difficulties in calculating and justifying any particular solution.¹¹ But one

¹⁰ Exactly what proportion is a very interesting question, and one presumably asked constantly by the many entrepreneurs currently launching new payment systems targeting e-commerce and m-commerce. Diners’ Club reportedly launched in 1950 with 200 customers and acceptance at only 27 New York restaurants (APACS, UK: http://www.apacs.org.uk/payment_options/plastic_cards_2.html), but this occurred in what, in retrospect, was a payment card vacuum. The gains to individual merchants and consumers of signing up to new payment mechanisms now that credit card and debit card networks are ubiquitous would be much lower.

¹¹ The *Joint Report* (RBA/ACCC, 2000: 27) provides a list of notable academic contributors on this subject. Recent papers by several of those authors and other payments specialists are available at the

undeniable implication is that changes to a payment system require changes of behaviour among a great many independent actors, and will consequently be incremental *at best*. It is altogether conceivable that – for want of the coordination required to shift a critical mass of participants’ behaviour – a system could reach an inefficient and impractical but nonetheless stable ‘equilibrium’ which could not be shaken by competitive pressure.

In economic jargon, much of the economic benefits from a shift to a more efficient system may be described as ‘externalities’ because they cannot be captured by those individuals who initiate the change and therefore bear the highest costs associated with change. However, the investment decisions of individuals are based on the returns they estimate they can capture, so total investment in payment system change from society’s perspective is likely to be sub-optimal. Some investments in payment systems which would improve society’s welfare are therefore not made.

4.3 Market power

Overlaying issues relating to network externalities are the market structures of the three most important industries involved in payment system provision: credit card networks, financial services and retail trade. The credit card networks are a global duopoly with a clear global market leader, Visa. The other two industries are oligopolistic, consisting of a few large players with significant market power and many small competitors with, at best, localised influence.

The three-layered oligopolistic structure for payments services deserves detailed study; only a few issues are mentioned here. First, the geographic scope of the market is global. The Bank is in dialogue with regulators overseas, and this is to be supported. It is worth stressing, however, that consumers (who travel or shop online) experience the payment system on a global basis, the scheme networks operate on that scale, and the most effective regulatory intervention would match these operations. The issues with the payment system which confront Australian consumers are mostly common to consumers around the world.

website of a 2005 conference on interchange fees sponsored by the Federal Reserve Bank of Kansas City (<http://www.kc.frb.org/FRFS/PSR/2005/05prg.htm>).

A second issue is how the benefits of change (driven by, for example, new technology or regulation) are distributed to various market participants given the layers of market power. In a perfectly competitive market, prices approach marginal cost, so that new operational efficiencies are quickly passed onto consumers. In a market featuring players with significant market power, the benefits of changes in operations or circumstances may be captured for extended periods.

An obvious expression of market power of the credit card schemes is their ability to maintain interchange fees despite significant reductions in key costs. One obvious example is a fall in cost associated with protecting against credit risk when improved communication technologies made instantaneous balance checking the norm. The inflexibility in interchange fees reflecting this market power has been a source of concern among regulators since the Prices Surveillance Authority conducted a credit card inquiry in 1992 (PSA, 1992; cited in the *Joint Report: 2*).

However, it is unclear due to the complex interplay of market power in the three markets whether more regulation aimed at increased transparency will have intended impacts. The RBA estimates its limits on credit card interchange fees have saved merchants \$500 million (RBA, 2/2005: 12). However, the level of benefit to an individual merchant depends on their size and bargaining power in the market for credit card acquisition. Similarly, the extent to which the merchant can capture that benefit also depends on their level of market power in retail. The evolution of the payment system may be likened to a geopolitical negotiation in which the terms for all nations are set in deals brokered only by the major powers.

The relevance of relative market power between the levels of providers in the payments system is apparent in banks being able to impose fees for electronic payments on smaller merchants with higher margins than those charged to larger merchants. The general issue for the RBA's regulatory approach is whether market power will prevent the price signals being sent to consumers that might drive competition. The Bank need also be wary that regulation can, while limiting marketing power, also institutionalise it.

A third and related concern is that market power might lead to underinvestment in new technology. The credit card schemes argue that interchange fee margins must be maintained in order to encourage investment in the system (The Age, 17/1/2006), but

it may also be true that the parties in the best position to invest in system innovation will not do so if it would risk undermining a privileged negotiating position. This could be described as strategic underinvestment.

4.4 Reduced transparency and competition due to the hidden cost of currency

An important goal of the RBA's reform efforts is to make the costs of electronic payments explicit to consumers in the expectation that this will drive competition between them, and between them and other payment mechanisms, such as cash. To this end, the RBA has prohibited the no surcharge rule that prevented merchants explicitly charging consumers for transactions.

Merchants are now allowed to charge consumers what transactions cost them: zero for cash (assuming cash is 'free'), a small fixed fee for EFTPOS, and 1-2% for credit or scheme debit. Consumers could then weigh up the costs and benefits, and presumably, some marginal users of credit cards would switch to EFTPOS or cash. A loss (or potential loss) of market share by credit cards might be expected to prompt price reduction or quality improvement.

However, if merchants and/or consumers found payment with currency to be costly or inconvenient, the outcome might be quite different. Currency must be withdrawn from or deposited at ATMs or bank tellers, attracting account and transaction fees, and has a number of other weaknesses: it may be lost or stolen, it does not earn interest, it is anonymous, and it makes payments difficult to reverse if and when a transaction should be undone.

Intuitively, the costs to merchants of handling cash would vary depending on the volume and value of transactions conducted and other factors such as time constraints and exposure of the business to crime. Cash handling at supermarket chains is highly systematic, benefits from economies of scale, and has been significantly reduced by the EFTPOS 'cash-out' capability, which means far less cash must be retrieved from supermarkets each trading period.¹²

¹² In a study of an American supermarket dating back to 1992, the estimated cost of cash was the lowest of the various forms of payment offered at that time (Clarke, 1994).

For small businesses with long trading hours, such as convenience stores, service stations, and chemists, the disadvantages of payment in cash in terms of security risk are significant. Since 1 January 2003, retailers have been able to explicitly charge for payment mechanisms – besides cash. Explicit charges on credit cards would encourage payment by an alternate mechanism. In the short term, customer irritation might represent one obstacle to the introduction of surcharges. In the medium to long term, decisions would be driven by underlying cost. If the cost of cash payment to the merchant is actually higher than the cost of credit cards, then the merchant would presumably choose not to penalise credit card use.

Australian Convenience Store News noted in mid-2003 that no major service stations chains, and very few individual service stations, had introduced explicit credit card charges (ACSN, 2003). NECG (5/2005: 48) cite more recent and generally applicable data which suggests that by late 2004, 70 per cent of merchants never used a surcharge and 19 per cent only ‘sometimes did’.

Some businesses *actively discourage* payment in cash. Public transport systems encourage payment using prepaid disposable magnetic stripe tickets (and smart cards in other countries) as an alternative to cash payment. The superior value reflects both a volume discount and the congestion cost associated with drivers and conductors handling cash. Similarly, toll roads discourage payment with cash to reduce congestion costs.

It is worth noting also that some merchants that have started to explicitly charge customers for credit card transactions – notably Qantas and Telstra – operate under conditions which are atypical. They are very large retailers, primarily direct providers and sellers of services to consumers (as opposed to operating in a wholesaler/retailer market structure) and provide services for which cash payment is currently, or increasingly, unusual. Particularly in the case of online airline ticket sales, an explicit charge can be expected to have very little impact on choice of payment as there is no widely used lower cost alternative to credit cards (or scheme debit).

In summary, the extent to which competition will drive the price of payments systems down may be limited by the direct and indirect cost to consumers of currency. If currency was itself evolving, reflecting the improved security and convenience that could be delivered by appropriate application of new technology, it would put real

pressure on the private providers of electronic payments to improve their products or cut costs. In any case, the RBA's efforts to make credit transaction charges explicit are not obviously a source of increased competition in the payments system.

4.5 Technological change

Technological change is a *potential* source of profound dynamism in the payments system market. There is rapid technological change in a number of areas of direct relevance to payment systems, including processing power, biometrics, encryption, databases, miniaturisation (microtech and nanotech) and telecommunications. cAs has been mentioned in the discussion of market power above, it remains unclear whether appropriate investments will be made in the technology, and whether efficiencies gained will be passed onto consumers.

More generally, technological change offers real benefits for consumers, as well as posing considerable threats to consumers' interests. On the positive side, technological change could and should make payments cheaper and more convenient for consumers. There is no insurmountable technical obstacle, for example, to (1) a consolidation of payment systems; (2) a safe, cheap 'smart-card' alternative to cash; and (3) the unbundling of credit from access to the payment system.

On the negative side, the integral role of the consumer payments system in (obviously) consumer payments, makes the generation of valuable marketing data automatic, and encourages providers to link use of payment mechanisms to marketing schemes. An attractive avenue for the marketing of any consumer good or service is through connection to a ubiquitous method of payment. It has the potential to build practical and psychological associations between brands and the act of payment. The link between payments mechanisms and product marketing might also be potentially beneficial to vendors due to favourable characteristics of the payment mechanism, such as removal of credit risk through immediate or guaranteed payment, or 'inertia payments' on direct debit.¹³

¹³ Inertia payments are one term used to describe unintended payments made after the expiry of a contractual arrangement with a vendor because a regular direct debit does not expire with the contract.

5. Conclusions

Consumers face a payments system that is sub-optimal in a number of seemingly correctable respects. The system is more expensive than can be justified on the basis of an analysis of underlying costs. It is fragmented, requiring use of multiple payment mechanisms when there are no insurmountable technical obstacles to a consolidated payment mechanism. Access to some important new areas of economic activity requires subscription to proprietary networks, notably credit card networks. The development of new payment mechanisms tied to specific services, such as ‘e-tags’, highlight the potential for further payment system fragmentation, diminishing substitutability and competition. Finally, the distribution of cost within the consumer payment system is complicated and perverse, favouring high cost payment mechanisms, especially credit cards, at the expense of lower cost mechanisms.

Consumers would be better served by the payment system if:

- prices reflected costs;
- the system was consolidated – allowing full global access using one mechanism; and
- the bundling of payment system access with other products, particularly credit, was entirely optional.

The reform approach of the Reserve Bank of Australia includes the imposition of limits to interchange fees, which has resulted in significant reductions in cost. Proposed changes would see further reductions in cost. In regards to the long term development of the payments system, the RBA has made focussed interventions to increase transparency and competition. These include reducing barriers to entry in payments system provision and attempts to make costs explicit to consumers. The following conclusions and recommendations are designed to ensure the necessary preconditions for the success of a strategy based on transparency are met. The guiding principle is that for consumers to make purchasing decisions which drive improved performance in the payments system, as in other markets, they must *have choices and understand them*.

While the payment system includes many payment options, the range of options available when making purchases is situation specific. There are payment situations

with several exact or close substitutes, and others with none. While important areas of economic activity can be accessed with only one payment mechanism, competition between the payment mechanisms will be compromised. The impact of direct competition in large parts of the economy will be substantially reduced if small but important payment scenarios constitute payment monopolies.

There are signs that the trend in respect of substitutability is in the wrong direction, with more proprietary payments systems emerging in recent years. Competition in the payment system would be enhanced if this trend were reversed, by, for example, improving access to internet commerce using debit cards.

Recommendation 1: The RBA should explore avenues for removing existing (and new potential) pockets of monopoly in the payment system that undermine direct competition and reduce utility by forcing consumers to subscribe to multiple payment mechanisms.

An important area of uncertainty regarding the RBA's approach is how consumers respond to the complex mix of pricing signals in payment mechanisms, and what the aggregate impact of these decisions is.

Recommendation 2: The RBA should conduct or commission econometric analysis of consumer payment choices under 'real payment scenarios' and the impact of these decisions on payment system competition and market development.

The ability of the credit card networks and banks to bundle access to part of the payments system with credit is bound up with the issue of fragmentation. There seems to be little reform activity oriented directly to tackling this problem. Indeed, some current reforms may undermine minor elements of the system which currently offer refuge to consumers.

Scheme debit card transactions are processed by the credit card networks and attract higher interchange fees than EFTPOS transactions. The Bank has targeted this product by prohibiting the 'honour all cards' rule, because issuers of scheme debit cards often encourage customers to choose scheme debit over EFTPOS to generate a flow of interchange fees back to the issuer.

This approach risks removing an important benefit of scheme debit for consumers: access to parts of the payment system for which *debit cards are not substitutes* using a product *not bundled with credit*. It would seem a reasonable principle to adopt in the reform process that existing weaknesses in the system be addressed in ways that do not remove existing benefits.

Recommendation 3: The RBA should apply a test to all potential reforms, including those aimed at cost reduction, to ensure that they do not compromise other important aims, including reducing the bundling of payment system access with credit.

The Bank's efforts to-date to make the costs to merchants of credit card transactions transparent to consumers appear to have met with limited success. While merchants are now allowed to explicitly charge for credit card purchases, a minority do so. In some notable exceptions, explicit credit card charges have been introduced where there is no alternative method of payment. The reluctance to make credit card charges explicit may be due to a higher opportunity cost than was previously recognised, in the form of the cost to consumers and merchants of handling currency. It may be that a necessary precondition for significant competitive pressure to be brought to bear on the credit card networks is a more 'competitive' currency.

Recommendation 4: The RBA should consider the impact of the costs of handling currency to consumers and merchants on competition in the consumer payments market.

The RBA, by designating the schemes and following up with specific reforms, has acted to increase efficiency of this essential infrastructure where the market had failed to do so. Going forward, it would be worth investigating the potential to address this market failure through a new relationship between the RBA and the schemes (and potentially other network providers) based on the concept of the RBA offering a license to provide consumer electronic payment network services on a competitive basis.

Such an approach would define the schemes as private providers of public infrastructure. This approach might allow the RBA to contribute to system design

positively (“this is what is required”) as well as negatively (“this behaviour is prohibited”). Such an approach might, for example, better facilitate the unbundling of network provision and credit.

Recommendation 5: The RBA should explore potential for licensing the consumer payments market.

Beyond these recommendations, it is important to make a final reiteration of the global nature of the marketplace and the need for a matching regulatory approach. The RBA takes a leading role in dialogue with regulators in other jurisdictions and it would seem also that operational cooperation would be appropriate given the reach of the scheme networks.

Sources

- ACSN (Australian Convenience Store News), 3/2003, 'To Charge or not to Charge', ACSN. <http://www.c-store.com.au/>.
- Clarke, R., *Price Chopper Supermarkets: Integrated POS Services and Advanced EDI*, Computer Science, ANU. Available online at <http://www.anu.edu.au/people/Roger.Clarke/EC/PriceChopper.html>.
- NECG, 2002, *Subsidies between and within payment mechanisms: fact or fiction?*, Visa. Available online at www.visa.com.au.
- NECG, 2005, *Early evidence of the impact of Reserve Bank of Australia regulation of open credit card schemes - Is the market responding as the RBA predicted?*, Visa. Available online at www.visa.com.au.
- PSA (Prices Surveillance Authority), 1992, *Inquiry into Credit Card Interest Rates*, Canberra, October.
- RBA (Reserve Bank of Australia), 20/12/2005, *Media Release: Reform of Debit Card Systems in Australia*, RBA. Available online at <http://www.rba.gov.au/>.
- RBA (Reserve Bank of Australia), 9/9/2004, *Media Release: Reform of Card Payment Systems in Australia*, RBA. Available online at <http://www.rba.gov.au/>.
- RBA (Reserve Bank of Australia), 21/4/2004, *Media Release: Designation of Credit Card Schemes in Australia*, RBA. Available online at <http://www.rba.gov.au/>.
- RBA (Reserve Bank of Australia), 2/2005, *Reform of the Eftpos and Visa Debit Systems in Australia – A Consultation Document*, RBA. Available online at <http://www.rba.gov.au/>.
- RBA (Reserve Bank of Australia), 24/2/2005, *Media Release: Payment System Reform*, RBA. Available online at <http://www.rba.gov.au/>.
- RBA (Reserve Bank of Australia), 20/12/2005, *Media Release: Reform of Debit Card Systems in Australia*, RBA. Available online at <http://www.rba.gov.au/>.
- RBA (Reserve Bank of Australia) and ACCC (Australian Competition and Consumer Commission), 2000, *Debit and Credit Card Schemes in Australia: A Study of*

Interchange Fees and Access. RBA and ACCC. Available online at www.rba.gov.au.

The Age, 17/1/2006, 'NZ ahead of Australia in smart card use'. Available online at <http://www.theage.com.au/>.

SMH (Sydney Morning Herald), 13/1/2006, 'Bank fees can cost you a small fortune', SMH. Available online at www.smh.com.au.

Visa, 11/2005, *Australian CardTrack*, Visa. Published online at http://www.visa.com.au/newsroom/CardTrack_homepage.shtml.

Appendix A. The payment mechanism ‘wish-list’

The payments system has a range of weaknesses, but each of the payment mechanisms that constitute the system have strengths that would be present in a hypothetical perfect payment mechanism.

Table 1. A list of desirable payment mechanism features

Global acceptance, including in person, remotely (phone and online), and in automated transactions (payphones, tolls, vending machines)
Rapid transaction speed
Immediate settlement
Low cost
Effortlessly transportable
Anonymity, or otherwise, as required (by consumer)
Linkage to debit or credit accounts, as required
A high level of security for the holder, payer, and payee
Technical flexibility, as required, through integration with personal items, such as mobile phones, organisers, access devices (electronic keys), watches etc.
Commercial flexibility, as required, through integration with other products, such as interest free offers, loyalty programs, discount programs, etc.

Appendix B. The e-tag

The inclusion of the e-tag in the list of payment situations with only one payment option might seem surprising at first glance, as this and other equivalent systems represent a small proportion of overall consumer expenditure. The reason for inclusion is that they powerfully symbolise five key aspects of the contemporary payment system market:

- i) the systems are a new feature of the landscape, and thus symbolise potential dynamism¹⁴;
- ii) the systems feature new technology;
- iii) the systems are proprietary and are a part of the marketing strategy in a consumer market and so are representative of how market power *in the payments market* might be used as a source of market power *in a consumer market*; and, in two related points,
- iv) the systems can generate significant community and political attention and opposition; and
- v) the systems represent further fragmentation of the payment system, which arguably decreases overall system utility for the community.

The extent to which the e-tag represents important aspects of the payments market suggests that a detailed case study might be enlightening in respect of future market development and reform options.

¹⁴ Another area of dynamism is internet payment systems.