Deloitte Access Economics

Innovation in the Australian Payments System—Perspectives on Governance

Prepared for ePAL
(eftpos Payments Australia Limited)

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Deloitte.

Deloitte Access Economics Pty Ltd
ACN: 149 633 116

Level 1, 9 Sydney Ave
Barton ACT 2600
PO Box 6334
Kingston ACT 2604

Tel: +61 2 6175 2000
Fax: +61 2 6175 2001
www.deloitte.com.au

Mr Bruce Mansfield
Managing Director
eftpos Payments Australia Limited
Suite 2, Level 12,
50 Margaret Street
SYDNEY NSW 2000

31 August 2011

Dear Bruce

Innovation in Australia's payments system – perspectives on governance

Please find attached our report on governance aspects of innovation in Australia's payments system.

With a covering letter from you on behalf of the company, we trust that our work might form part of ePAL's submission to the Reserve Bank's *Strategic Review of Payments Innovation*.

Yours sincerely,

Professor Ian Harper
Director
Deloitte Access Economics Pty Ltd

Contents

Glossary

ACCC	Australian Competition and Consumer Commission
APCA	Australian Payments Clearing Association
APRA	Australian Prudential Regulation Authority
ASIC	Australian Securities and Investments Commission
ASX	Australian Securities Exchange
ATM	Automated teller machine
EFTPOS	Electronic funds transfer at point of sale
FSI	Financial System (Wallis) Inquiry (1996-97)
ICT	Information and communications technologies
ISO	International Standards Organisation
NFC	Near-field communication
NPCI	National Payments Corporation of India
PSB	Payments System Board (of the RBA)
RBA	Reserve Bank of Australia
RBI	Reserve Bank of India
SEPA	Single European Payment Area
SMS	Short message service
UK	United Kingdom

Executive Summary

Retail payments systems around the world are experiencing fundamental transformation. The shift towards electronic payments and away from paper; the emergence of new instruments and payment channels; increasing participation by non-traditional players; and changing market structures are all dimensions of this new environment.

The core challenge is to design a governance structure that will allow the payments system to adopt new technologies smoothly and securely, while continuing to deliver efficient and stable outcomes into the future. Payments systems, like other networked markets, generally require a certain degree of co-operation to achieve such an outcome.

There is inherent tension between the private interest of payments system participants to compete and the demands of the public interest that they co-operate. This often requires some form of intervention to facilitate co-ordinated outcomes. An optimal path for the evolution of Australia's payments system depends on securing the right balance between co-operation and competition.

This report responds to the Reserve Bank of Australia's *Strategic Review of Innovation in the Payments System: Issues for Consultation*. The discussion focuses on issues surrounding an appropriate governance framework to promote innovation in Australia's payments system. The report does not deal directly with ownership of payments system infrastructure, although it argues strongly against nationalisation.

Widespread adoption of new payments technologies has lagged their availability, and in this context a number of central banks have sought to examine their role in fostering safe and efficient payments systems. While Australia's payments system faces many of the same barriers to innovation as its overseas counterparts, there are also specific challenges born of the historical evolution of Australia's payments system.

In particular, Australia's bilateral payments infrastructure is unusual in an international context and amplifies the need for a strong governance structure to co-ordinate the adoption of new payments technologies. Already there are signs that the development of Australia's payments system lags that of other developed countries.

This report explores the relative merits of governance structures along a spectrum of public intervention in the development of Australia's payments system. The discussion concludes that a hybrid model based on an appropriate mix of private sector and public sector governance has more to recommend it than either extreme of purely private or purely public sector governance.

Whatever the mix of public and private sector engagement, the single most valuable contribution the RBA can make to the continuing development of Australia's payments system is to provide clear direction towards a workable governance structure with broad industry support, together with concrete milestones to mark progress along the way.

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1 The evolving payments landscape

Retail payments systems around the world are experiencing fundamental transformation. The driving force is the rapid evolution of information and communications technologies (ICT). Payments systems are, after all, mechanisms for transmitting and receiving instructions to transfer value between the parties to an exchange of goods and services.

For centuries such instructions were embedded within physical tokens—gold coins and paper notes, for example. Written instructions to transfer funds between bank accounts, i.e., cheques, developed out of bills of exchange which date from medieval times. In the modern era emerging digital ICT, including electronic networks, the Internet and mobile telephony, have revolutionised telecommunications. Payments systems have been swept along with this incoming tide.

There is a steady evolution of payments methods away from paper-based systems towards electronic transfers; new payments instruments, technologies and channels are emerging; and non-financial institutions have become a growing presence in payments systems when they were once the preserve of banks, especially central banks. The dominance of telecommunications giants and digital services corporations in the emerging ICT space has led them naturally to explore a sideways move into payments.

Such developments have released enormous dynamism in payments systems around the globe. What was once an arcane backwater, albeit indispensable to the smooth operation of economies and their financial systems, has come to the foreground of technological development. Accompanying this trend has been the emergence of powerful network economies of scale in payments processing, and increasingly complex webs of interrelationships among market participants.

It is against this backdrop that central banks around the world have taken the opportunity to review the evolution of their payments systems. Central banks have their historical roots in payments systems, since they grew out of the former "clearinghouse associations" established by groups of private bankers in the nineteenth century to exchange claims on one another. Crises of confidence in payments systems have also been the root cause of banking crises down the years, and central banks therefore take a special interest in payments system issues as part of their mandate to assure financial stability.

The Reserve Bank of Australia's (RBA) Strategic Review of Payments Innovation launched in mid-2010 fits within this historical and international context. A primary goal of the Review is to determine whether Australia's payments system is evolving in an efficient and cost effective manner.

A key aspect of the Review is an examination of appropriate governance structures for payments systems. Governance becomes important because the network economies unleashed by modern ICT require some degree of co-operation among industry participants to ensure their optimal exploitation. The resulting tension between co-operation and competition becomes a natural focus of any attempt to review the evolution of payments systems within the new ICT context.

Balancing co-operation and competition for maximum social benefit turns on the nature of the governance arrangements set in place within payments systems. This issue is the subject of our report, which is structured as follows:

Chapter 2 identifies some respects in which the evolution of Australia's payment system appears to lag developments elsewhere in the world. Concerns that such emerging gaps might indicate inappropriate governance structures in Australia's payments system lie at the core of the RBA's motivation in conducting its Review.

Chapter 3 briefly analyses potential obstacles to the optimal evolution of Australia's payments system and highlights the tension between co-operation and competition which is exacerbated by network economies of scale.

Chapter 4 focuses directly on alternative governance structures and considers the strengths and weaknesses of different degrees of public intervention in the evolution of payments systems.

Chapter 5 concludes the report with a recommendation that hybrid governance models like that recently adopted in India are worthy of closer scrutiny as the RBA considers the appropriate path forward for Australia's payments system.

2 Emerging innovation gaps

Payments technologies have evolved rapidly over the past two decades in tandem with the emergence of new information and communication technologies (ICT)—most notably the Internet and mobile telephony. Examples include Internet funds transfers, mobile payments, electronic purses and real-time payments systems.

Widespread adoption of new payments technologies has lagged their availability, however. Even though new payments technologies offer potential efficiency gains to payments providers and users, the bulk of Australian payments are still processed in traditional ways. There is still a clear trend away from paper-based payments methods in favour of electronic alternatives, and the use of cheques is declining quite rapidly. Yet the rate of adoption of new technologies is in some respects surprisingly slow. Rates of adoption may pick up as next- and later-stage adopters, who tend to be the majority of users, join the smaller numbers of early adopters.

This observation is not unique to Australia. Payments systems are derivatives of telecommunications systems more broadly. As noted above, they are at base mechanisms for transmitting and receiving messages—in this case, specifically about the transfer of economic value between parties to an exchange. Modern telecommunications systems are subject to powerful network economies of scale which—unsurprisingly—also emerge in payments systems as they deploy the latest developments in ICT.

Network effects play havoc with the traditional economics of competition and efficiency—both static and dynamic efficiency. Unbridled competition can actually hamper the adoption of efficiency-enhancing innovation. Even when individual players perceive benefits to themselves, their unwillingness to allow others to share in the benefits of innovation at their expense can sap the energy and incentive of each player to adopt new technologies.

Co-operation on the other hand, so often viewed as a source of inefficiency on account of the potential for collusion, can deliver welfare-enhancing co-ordination across networks and facilitate the adoption of new technologies. The difficulty lies in harnessing the power of competition alongside the power of co-operation to drive optimal rates of innovation. This is where appropriate governance mechanisms come to the fore, as discussed in Chapter 4 below.

Innovation is necessary for payments systems to deliver efficient outcomes over time. Pressures for change are building in many countries around the world, and central banks, including the RBA, are examining ways to facilitate innovation in modern payments systems.

Several countries have already made progress in updating payments infrastructure and strengthening governance structures to facilitate the adoption of new payments technologies. These examples bear closer scrutiny in the context of the RBA's review. This chapter identifies areas where Australia is at risk of lagging behind other countries in the adoption of new payments technologies.

2.1 Faster payments

Australia's retail payments system operates on a deferred settlement basis. Cleared funds are only required to be available on the next business day following presentation of payment instructions. While this tends not to be a problem for regular payments, where people can anticipate the delay, there are instances, e.g., emergency relief payments as in the recent Queensland floods, where deferred settlement can cause inconvenience if not distress.

Elsewhere in the world, countries have adopted, or are in the process of adopting, systems that allow funds to be cleared shortly after payment instructions have been initiated. For example, the UK, South Africa and India have achieved, or are close to achieving, real-time payments. This innovation seems some way off in Australia's case and the time lag is a matter of concern to authorities.

At the very least a move to faster payments in Australia would require financial institutions to update their internal systems to cope with more regular settlements of retail transactions. Such a restructure requires co-ordination across the retail payments system, which plays directly into concerns over misaligned incentives to co-ordinate that are examined in more detail in Chapter 3 of this report.

2.2 Mobile payments

The evolution of money transfer schemes to the mobile channel is one of the most active areas of innovation, especially in the developing world where telephony has leap-frogged fixed-line technology and migrated directly to mobile platforms. The global ubiquity of mobile phones, growth in remittances and the shift away from paper-based payments technologies have all helped catalyse the emergence of mobile payments.

While this technology is more commonly applied in developing countries with large unbanked populations, the growing popularity of online commerce in the developed world raises the likelihood of mainstream adoption. Mobile devices can support different types of payments, including payments triggered by SMS and Internet payments initiated by mobile access to the world-wide web. Mobile phones can also emulate a contactless card and initiate contactless transactions when placed near a terminal that receives information via radio signal.

Person-to-person mobile payments systems typically experience fewer problems associated with network economies (discussed in Chapter 3) since vast cellular telephony networks act as an established base to which access is secured by telecommunications regulators. Operators of mobile payments systems do not face the need to develop their own installed base and negotiate interoperability protocols, etc. To a substantial extent this can be sidestepped using the telecommunications messaging protocols already in place. In addition, person-to-business mobile payments have often developed at a later stage once person-to-person payments are well established.

Several different business models have emerged in mobile payments systems overseas, including bank-centric, mobile-operator led and partnership led models (Boer and de Boer 2010). Some models engage the major cards payments systems as the funding mechanism and payment channel. Mobile operator-led models, which do not involve a financial institution in payment delivery, clearing or settlement, have been the dominant choice in developing markets due to their ability to reach large numbers of unbanked people. Bank-led models, where financial institutions offer mobile payments as a new channel to existing services, have been less common.

Box 2.1: Mobile payments in the developed world

The use of mobile payments, particularly those using near-field communication (NFC), has enjoyed varying success across the developed world. Japan leads the field, followed by South Korea, while the major English-speaking countries (the US, UK and Canada) lag behind.

The Japanese and South Korean markets for mobile payments are supported by technology-enabled consumers, widespread adoption of technology by merchants, infrastructure for both banking and mobile phone services and a dominant player in the mobile phone market that has been willing to invest in establishing the field.

In Japan 22% of the population uses NFC technology for mobile payments. There are over 600,000 storefronts enabled with the technology to accept NFC payments, ranging from vending machines to JR-East to McDonald's. DoCoMo, Japan's dominant mobile network operator, has played an important role in pioneering the development of this technology, which is now used by all major Japanese mobile network operators.

The market has been slower to take off and the infrastructure is less advanced in South Korea, where 4% of the population use NFC technology for mobile payments and 500,000 merchants are equipped with the technology to process mobile payments. The market is largely controlled by the dominant mobile network operator, SK Telecom.

Growth of mobile payments in English-speaking countries has been much slower to take hold. There appears to be little consumer demand for this service and a reluctance by merchants to invest in the technology until critical mass appears likely to develop. Typically, technology standards have been harder to establish in these countries due to the absence of a dominant player with an interest in establishing the market.

Minor exceptions include the London Underground's 'Oyster' cards which, with their NFC technology, can also be used to make payments in some stores close to Underground stations; the INTERAC Flash in Canada; and a handful of other models, such as PayPal Mobile, which have been developed but are yet to gain traction.

Source: Deloitte Consulting (2011)

Widespread adoption of mobile payments technology in developed countries has typically been slower to emerge. Yet a number of developed countries are further down the development path than Australia (see Box 2.1). It is often harder to introduce innovations into mature markets where legacy options dominate consumers' choices. In addition, established players are often reluctant to consider new offerings that might cannibalise their existing business.

The emergence of mobile payments raises the prospect of digital giants like Google, Apple and Microsoft entering the payments business. Prospective tie-ups between hardware manufacturers, software designers and telecommunications companies raise all sorts of possibilities for mobile payments to leap over legacy systems based on fixed-line telecommunications and established networks.

Such developments pose new challenges to banking and competition regulators as well as incumbent players in established payments systems. Optimal governance structures for Australia's payments system need to encompass future possibilities that potentially extend beyond familiar practice, as well as addressing the challenge of how best to govern payments systems which involve emerging players from other industries.

2.3 Cross-border payments

Another development as yet over the horizon for Australia but where movement is occurring elsewhere in the world is the adoption of common standards across national borders. The International Standards Organisation (ISO) has developed a framework for payments messaging standards that is gaining acceptance. In particular, the standard has been adopted by the European Payments Council for use throughout the European Community.

There are clear benefits associated with adoption of a common set of standards for the payments system, not least in facilitating innovation. Common standards across borders would ease access to the Australian payments system by overseas providers and also allow Australian firms to compete outside Australia. There is generally more to be gained from competing on the basis of common standards than competing to establish standards (Schrade 2011).

There is perhaps more incentive for an industry to adopt common standards where major participants are subsidiaries or branches of multinational groups and the gains are more easily internalised. Card schemes have enjoyed greater success in adopting uniform standards, such as the roll-out of chip-enabled cards in some countries. However, the Australian payments system as a whole has not yet reached this point. A forward-looking governance framework would need to consider the impact of ongoing globalisation of the Australian economy on the appropriate standards required of the Australian payments system.

At some point there may be more to be gained than lost from moving to international standards. This is another issue where the private commercial interest of incumbent players may conflict with the public interest, requiring a robust governance framework to balance the two.

3 Impediments to innovation

Endemic network effects in payments systems present a challenge to the adoption of new technologies and innovation more generally. Although a competitive environment is often the most effective way to spur innovation in standard markets, some degree of co-operation is generally required in markets with strong network economies of scale. Accordingly, the way the payments system is governed and the way collective decisions are taken and enforced can significantly affect how the system evolves.

3.1 Co-operation and competition in networks

In most industries firms make investment decisions without needing to co-ordinate with other industry participants, and the outcome is generally in the public interest. However, in payments systems, as with other networked markets, some degree of co-operation is usually required to ensure that benefits accrue to users.

Payments products and services typically require a critical mass of participants on both sides of the market. Merchants must be willing to accept certain forms of payment for consumers to choose to buy their wares; but sufficiently many consumers need to use a particular payments system before merchants will be prepared to invest in the necessary infrastructure to accept it.

Private incentives do not account for such “network effects”, which means that innovations that benefit both consumers and merchants may not be adopted. Closely related to network effects are co-ordination problems. For example, an infrastructure upgrade must be agreed by all participants in a network, and as a result each participant effectively has the power to veto or delay decisions that affect every other member of the network.

There are various reasons why participants might want to delay an upgrade, including different technology cycles or strategic interests. Co-ordination problems can be exacerbated if relative benefits and burdens fall unevenly across network participants. In this way co-ordination problems can produce outcomes where the individual benefits to participants of innovation and change are less than the benefits to society at large, including users and the participants themselves.

In such circumstances welfare-enhancing innovation fails to materialise and the system is “locked” in a socially sub-optimal equilibrium. Contactless cards provide one example of an innovation requiring co-operation among participants for the benefits of additional choice and functionality to be fully realised by users.

The Australian Payments Clearing Association (APCA), the central body governing five of Australia’s largest payments streams, has been a successful forum for working through issues and achieving co-operation. However, as discussed in the following section, APCA’s particular governance structure and lack of formal authority has meant that progress in achieving co-operative outcomes has been slow, which has in turn tended to inhibit innovation.

These difficulties are not unique to Australia, and are faced by payments systems around the world. However, co-ordination is arguably harder to achieve in Australia than in other countries due to the architecture of Australia's legacy payments systems. Unlike most other developed countries, Australia's payments infrastructure is based largely on bilateral links rather than a central hub. The implications of this legacy architecture are discussed in the next section.

3.2 Payments system architecture

Internationally there are two main types of payments systems: those built around bilateral links and those built around a central hub. In Australia the EFTPOS system, cheque system, ATM system and direct credit and debit systems all operate on a bilateral basis, while credit card and BPAY systems operate under a hub model (Lowe 2005). Australia's reliance on bilateral relationships is unusual by international standards, where centralised systems are more common.

As noted in Lowe (2005), there are advantages to bilateral arrangements but they also pose significant challenges, particularly for innovation. Australia's bilateral arrangements were effective in developing payments systems like EFTPOS and ATM networks. Rather than requiring universal agreement for a new payments system to emerge, several institutions co-ordinated to make a start and when the innovation proved successful, it was adopted more widely. Bilateral systems can also be cheaper to operate and may reduce systemic risk because they are not exposed to the catastrophic failure of a single 'hub'.

On the other hand, the primary disadvantage of a bilateral system is that tends not to be conducive to technological innovation. Every large bank has an agreement with other banks about how to handle payments, and the more participants there are in the payments system, the more complex it becomes and the more difficult to change.

Adding to this, there is often no single entity responsible for co-ordinating a bilateral system. Most hub systems in other countries have a central business entity at their core that is responsible for system-wide co-ordination and promotion. Without a strong central entity that has an incentive to promote system-wide improvements and the power to influence collective decisions, innovation can be much harder to achieve.

It is generally also harder for a new participant to gain access in a bilateral system. In a centralised system, a new participant need only connect to the central hub; whereas in a bilateral arrangement, it typically negotiates individual relationships with every other participant.

Discover Financial Services in the United States and China's UnionPay are two examples of hub networks that operate successfully overseas. Both debit card platforms operate on a central switch and have expanded internationally in recent years through bilateral arrangements with overseas institutions.

Another example of a multi-lateral system is the Single European Payment Area (SEPA) in Europe. While much progress has been made through multi-lateral standard-setting in Europe, there is nevertheless some concern about the pace of progress towards implementing innovative payments mechanisms, including mobile payments (see Box 3.1).

Box 3.1 SEPA – Europe's retail payments system

Similar to Australia, Europe has faced challenges associated with integrating legacy infrastructure and systems into a more integrated retail payments system. Prior to the launch of the euro in 1999 and cash changeover in 2002, retail payments were handled and processed in different ways across European countries, making it more difficult to make cashless payments across borders.

To address this problem, SEPA project was launched in 2002 aimed at moving towards more integrated retail payments systems. The purpose of SEPA is to create a common set of payments instruments for euro-denominated transactions, with the long-term aim of creating a dynamic retail payments system that optimises the use of available technologies.

SEPA incorporates common standards and business models, legal frameworks, and infrastructure capable of handling the various schemes. Significant progress has been made but there remains some way to go.

The launch of direct debit in 2009 allowed customers to send and receive direct debit payments to and from anyone within the euro area for the first time. The move towards common standards has allowed companies like Trionus, a connectivity network owned by a number of banks and payment processors, to gain more traction than a single country scheme could have done. SEPA's governance structure has also been improved by creating the SEPA Council, which provides a formalised arena for a dialogue among consumers, retailers, SMEs, corporate and public administrators.

Despite this progress, SEPA has not yet achieved the results that were initially expected of it. SEPA migration is a self-regulatory process and progress has been slower than anticipated, with SEPA credit transfers still not in general use. The provision of innovative payments services, particularly mobile payments services, is another key challenge still to be addressed within SEPA. The challenge for SEPA is multiple relevant regulators in multiple sovereign jurisdictions, a factor that exists in part in Australia.

Source: European Central Bank (2009, 2010)

3.3 Governance matters

Because so many elements of a payments system require collective action, the way the system is governed can have an important influence on how it evolves. Milne (2007) identifies a spectrum of governance models that have been adopted internationally to help overcome co-ordination problems in payments systems and strengthen incentives to innovate.

At one end is the market-oriented approach, where there is minimal shared infrastructure; interoperability standards allow institutions to update their payments infrastructure independently of other participants; and customers are charged directly to allow institutions to recoup the cost of innovation.

At the other end of the spectrum are governance arrangements like those in the UK that allow households, businesses and governments to influence the organisation of payments systems. Such a governance structure can overcome problems of co-ordination and exert pressure on industry participants to adopt improvements in infrastructure and services that serve the wider public interest.

Australia's bilateral system architecture does not lend itself to the establishment of a central governing body, and indeed there is none in existence. APCA establishes rules and procedures that assist the efficiency and safety of five key payments systems but APCA has no formal authority. Voting rights are determined by market share but subject to "speed limiters", which ensure that voting rights do not maintain a one-to-one relationship to market share.

Accordingly, major changes can only occur when the majority of member institutions agree but large institutions can effectively veto proposals. Similarly, access arrangements are heavily influenced by incumbent participants, although RBA-sanctioned access regimes and codes are in place for EFTPOS and ATMs.

The key issue in determining the future of Australia's payments system is how it should be governed to secure maximum benefit for participants, users and the wider economy. While this issue is not unique to Australia, as argued above, our legacy systems prescribe a starting point that few other countries share. Overseas examples will inform the Australian debate but the most effective prescription is likely to be a home-grown solution.

Some broad options and principles to guide thinking about governance models for Australia's payments system are considered in Chapter 4.

4 Alternative governance models

4.1 Historical context

The governance of Australia's payments system reflects the history of its development. Until the creation of the RBA's Payments System Board in the wake of the Wallis Inquiry (FSI), the Australian payments system was governed by its participants through a private company, the forerunner of today's APCA. Indeed, the RBA itself was a shareholder of the company, reflecting its need to clear cheques on behalf of its client, the Australian Government.

Such a governance structure contributed to stable outcomes in the payments system. Stability of the payments system was the key objective sought by public policymakers ever since the disastrous runs on banks during the economic depressions of the 1890s and 1930s. Keeping management of the payments system in the hands of the banks, who were in turn closely regulated by the central bank, was the key means by which the authorities sought to guard against systemic crises in the payments system.

This approach was questioned by the Campbell Inquiry (1979-81) which recognised the potential cost in lost competitiveness and innovation of allowing banks to dominate payments, and of acquiescing in the RBA's focus on systemic stability to the exclusion of efficiency. The Campbell Inquiry recommended moves to open up Australia's payments system to non-bank participants. However, little of substance occurred until the advent of the Payments System Board with its express legislative mandate to ensure competitiveness and efficiency as well as stability in Australia's payments system.

Tension between the twin objectives of stability and efficiency (both static and dynamic efficiency) has characterised the evolution of Australia's payments system. So long as stability was regarded as the most important goal of public policy in payments, little concern was expressed over the occasional complaints of non-banks that they were precluded from accessing the payments system directly and therefore hampered in their ability to compete with banks and/or develop innovative solutions in the payments arena.

It is not that the domination of banks left Australia with an out-dated payments system. On the contrary, Australian banks introduced new payments mechanisms including credit cards and EFTPOS without encouragement from the authorities and purely as a result of their own competitive instincts. However, evidence that Australia's payments system now lags behind comparable countries elsewhere in the world is beginning to emerge, as discussed in Chapter 2 above.

Two factors forced a change of direction in public policy towards the payments system. The first was a reappraisal of the benefits of competition as a spur to efficiency and innovation in the financial system generally. A more efficient and innovative financial system confers cost advantages which compound more broadly across the economy and contribute to improvements in aggregate productivity and living standards.

On the other hand, as amply demonstrated during the Global Financial Crisis, improvements in competitiveness and efficiency can sometimes occur at the expense of stability—and financial instability brings its own costs to be offset against the benefits of improved competitiveness and efficiency.

The second factor underlying changed attitudes towards payments system governance was the advance of technology. Developments in ICT find immediate application in payments systems because payments systems are essentially mechanisms for communicating instructions to transfer value between parties to an exchange. The advance of technology alerted policymakers to the potential for technical efficiency gains to be reaped from existing payments providers and, more importantly, widened the pool of potential providers of payments services beyond the traditional players.

Even without a reappraisal of the relative importance of competition and efficiency compared with stability in payments systems, the possibility of lower costs and innovative payments solutions flowing from developments in ICT would have redressed the balance. There was bound to be a reassessment of the appropriate governance structure for payments systems in a world where new providers sought to offer new payments solutions in competition with incumbent providers.

The advent of more sophisticated ICT also unleashed powerful network effects, as it did in telecommunications more broadly. As explained in Chapter 3 above, network effects complicate the competitive dynamics of markets where they are present. The link between competition and efficiency is no longer so straightforward, and co-operative outcomes begin to emerge as efficiency-enhancing to the extent that they facilitate network economies of scale. Yet classical incentives for co-operation to induce collusion are not entirely lacking, and so the need to strike a careful balance between co-operation and competition becomes the key to achieving welfare-maximising outcomes.

The overriding question for public policy is how such a balance should be struck and by whom. Can market participants be relied upon to reach a compromise between co-operation and competition which comes close enough to a socially optimal outcome? Or must there be some degree of intervention by a public authority to cajole or direct private players towards outcomes that their private instincts would never allow them to adopt unaided?

The central issue for the future of Australia’s payments system is its governance structure. What is the appropriate governance structure for an industry, like payments, which is subject to strong network effects that interact with legacy relationships—relationships forged in earlier times when network effects were weaker and the focus on systemic stability over competitiveness and efficiency was stronger?

While the question of who owns payments system infrastructure is related to how the system is governed, this report proceeds on the basis that governance is the primary issue. Apart from outright nationalisation, considered but rejected below, private ownership of payments system infrastructure is compatible with a range of governance structures. Public policy objectives can be met through private enterprise provided the industry governance structure is correctly set.

4.2 How much intervention is needed?

4.2.1 'Light touch'

In principle Australia's payments system could be left to govern itself. This was effectively what happened for most of its history, leading up to the creation of the PSB. Short of repealing the powers of the PSB, it is not possible to return to this historical position. The RBA through the PSB has a legal obligation to oversee the conduct, structure and performance of the Australian payments system. Any model of self-regulation must be understood in this light: the PSB exists and the RBA has a mandate to regulate the payments system in the public interest.

Nevertheless, one possible model of governance would involve the RBA paring back its oversight of the system to the bare minimum and allowing self-regulatory arrangements to evolve. At one level such a solution rejects the arguments advanced in the Wallis Report that the payments system needs official oversight, since otherwise incumbent players enjoy too much market power. At another level the RBA taking a pro-active stance could scuttle any chance of a suitably public-spirited self-regulatory governance framework emerging of its own accord.

Certainly the RBA acted early and decisively in intervening in card payments systems soon after the formation of the PSB. While the merits of the form and extent of the RBA's intervention are still debated, there is no doubt that the intervention altered the competitive dynamics of credit versus debit cards, and that there is a credible case that the public interest was advanced in the process.

Having shown its strength, should the RBA withdraw to the sidelines? On the one hand it could be argued that the RBA's demonstrated capacity and willingness to act will make self-regulatory arrangements more likely to evolve—no-one wants to give the RBA a pretext for intervention, and yet everyone is aware that the Bank can and will intervene if necessary. Could the mere threat of intervention catalyse the emergence of workable self-regulatory governance arrangements?

Such an outcome is certainly possible—indeed this is essentially the status quo. Aside from its initial foray into card payments, the RBA has held back, waiting to see whether self-regulation will emerge and satisfactorily deliver the objectives of public policy. However, anecdotal evidence—including the RBA's decision to hold its Review—suggests that progress is slow.

There are ongoing concerns within the industry over the power of incumbents to set standards, especially as they relate to interoperability. And to date no industry body has developed sufficient authority and credibility in the eyes of participants to command broad-based loyalty.

There is a counter-argument to the notion that a pro-active RBA will catalyse industry self-regulation. It may be that the more the RBA appears likely to intervene, the less effort industry participants invest in resolving the most difficult issues they face. Some industry participants might even welcome intervention in the expectation of getter a better (or cheaper or quicker) deal out of an arbitrated solution than working the hard angles of negotiation.

It is difficult to declare self-regulation a failure when players see RBA intervention as a live option. Those who might welcome such intervention have an incentive to “bring it on”, while those who disdain it see little point in expending effort on an industry solution when disaffected parties can appeal to the RBA to intervene.

The dilemma for the RBA is how *credibly* to refrain from intervention so as to create the incentive for parties to negotiate an industry-led self-regulatory solution while at the same time meeting its legislative obligations to promote the public interest. ‘Light touch’ regulation is either too light to secure the public interest or not light enough to induce industry players to invest the time, energy and resources needed to produce a workable and widely respected self-regulatory governance framework.

4.2.2 Public authority/ownership

At the other end of the spectrum, the RBA could displace the private sector and assume responsibility for standard-setting and administration of the payments system, either itself or through a dedicated public authority operated as a subsidiary. It is even conceivable that the RBA could establish itself as the sole owner and operator of all payments system “switches” so that it had direct oversight and control of all aspects of the various payments streams. It is not clear how such a nationalised solution would operate in card payments, however, when the major schemes are multinational corporations.

Outright nationalisation of Australia’s payments system seems an unattractive governance model on various grounds, not least the impact on the primary mission and focus of the central bank. Moreover, if the optimal governance structure is one that promotes dynamic efficiency, i.e., innovation, in payments systems, public ownership of the payments platform seems both unnecessary and highly unlikely to succeed.

Experience across the economy suggests that public ownership is not a recipe for risk-taking and innovation—the incentives facing public officials and elected politicians are poorly aligned to commercial realities. By and large the privatisation of public trading corporations has been conducive to the public benefit, as such entities respond to commercial pressures to perform more efficiently and seek out new ways to satisfy customer demands.

Defying the logic and experience of privatisation would be highly unlikely to move Australia closer to the global frontier in payments system innovation and efficiency. Nationalisation of Australia’s payments system is one governance model that should be rejected outright.

On the other hand, establishing a public authority to set standards and administer payments streams without actually owning or operating the infrastructure is at least worthy of consideration. The strength of such an arrangement is that the issue of who sets the standards and how they are set becomes clear. It is also clear that the body has “teeth” in that it administers the law on behalf of the RBA and is ultimately, through the RBA, answerable to the Parliament.

The weakness of public authorities is that they are inevitably exposed to political pressure unless they enjoy significant independence enshrined in their enabling Acts, and even then have exercised their independence vigorously over time. The RBA itself qualifies as the most independent public authority in Australia outside the Courts. This independence is conferred by the law but has also been carefully husbanded over the years by successive Governors and Boards.

It is unclear whether even a subsidiary of the RBA dealing in matters other than monetary policy (the independent setting of which has wider implications for Australia's economic performance) would enjoy a measure of immunity from the political process. If not, governance of the payments system might be exposed to too much pressure from political interference, especially from parties keen to influence the direction of payments system evolution.

The RBA is already subject to representations from various parties seeking to influence the PSB and the Bank more broadly on questions of payments system policy. Given its position as Australia's central bank and its hard-won reputation for independence, the RBA is ideally placed to resist political pressure of the formal or informal kind. A newer public authority, even a subsidiary of the Bank, might not fare so well, at least in the early years.

Perhaps inevitably the alternative of a public authority as governance model would see the RBA itself assume this role—as administrator and standard-setter if not owner and operator. There seems little to gain and much to lose from separating this function from the Bank itself, if this were the preferred model. Public authorities take on lives of their own, and the RBA might be rightly wary of outsourcing governance to a subsidiary.

However, the impact of establishing formal public administration of these functions—whether through the RBA itself or a subsidiary—while it resolves the issue of authority, would be no more likely to deliver the drive for innovation than outright public ownership. In the end innovation is the product of market incentives combined with commercial pressure. Even with the best intentions, a public authority is not structured to respond to market incentives (and arguably should not be) and is generally unfamiliar with commercial pressure.

What a public standard-setter might gain in authority it would lose in commercial orientation and performance. Certainly if the key objective of reform is to promote innovation in the Australian payments system, opting for administration by a public authority (let alone public ownership) seems like a step in the wrong direction.

4.2.3 Hybrid model

The weakness of the 'light touch' governance model is that industry self-regulation may simply be incapable of striking the appropriate balance between co-operation and competition in the payments system in a way that promotes both efficiency and innovation. Incumbents may not be able to justify investments which promote entry and innovation by competitors on commercial grounds. New entrants may find it easier and cheaper to plead for intervention than to come to some compromise position with incumbents.

The problem with the 'light touch' governance model is that it may get stuck in a sub-optimal configuration where incumbents block developments which threaten their market power and new entrants either give up or survive as marginal players, unable to achieve their market potential. The public interest is not served by such an outcome and the RBA is right to raise the question in its Review of what might be done.

On the other hand, transferring responsibility for governance into public hands risks throwing the baby out with the bathwater. There will be clarity about the rules and the penalties for breaching them. Access and equity will be at a premium but at the cost of diminished dynamic efficiency. Muting commercial incentives by substituting public administration and ownership for commercial decision-making seems hardly conducive to innovation.

Is there a middle way? A hybrid governance model would seek to combine the strengths of self-regulation and public administration—commercial acumen on the one hand with procedural justice on the other.

A hybrid governance model could involve the creation of a private entity to assume responsibility for standard-setting and administration of payments streams (much like the incumbent APCA but with an expanded membership) with sufficient authority to enforce its decisions delegated from the RBA. To prevent aggrieved parties simply appealing to the RBA, protocols would be established under the delegation of powers to define circumstances in which decisions might be referred to the higher authority.

The governing council or board of such a body would be accountable to the RBA for the administration of its charter but also respond to its member/owners, who would appoint directors subject to the veto of the RBA. In most respects the body would operate as a private company, capable of raising capital and of suing and being sued. Yet it would exercise regulatory authority under delegation from the RBA as one of its chief functions. More broadly, it would seek to advance the interests of its members who would be drawn from all quarters of the payments system.

Whether the body would own payments system infrastructure or merely govern the operation of infrastructure owned by others could be determined by the body itself. Incumbent infrastructure might best be left in the hands of its current owners while newly developed infrastructure might be jointly owned through the company, whose members would share costs and revenues in accordance with their ownership rights.

Determining the membership of such a company and the rights and obligations of its members would be vital to its success. Membership would need to be open to all those with a legitimate commercial interest in the payments system (including non-traditional players as they emerge). Participation and voting rights would need to be calibrated appropriately to reflect the company's joint function as a facilitator of commercial outcomes but also as an overseer of public policy objectives. The place of consumer and/or community representatives would need to be considered, as would arrangements for engagement with the regulator.

The effectiveness of private companies as co-ordinators of competitors in the interests of setting common standards is evidenced by the international card payments schemes. While there have been concerns expressed by authorities, including in Australia, about potentially collusive aspects of such co-operation, there is no doubt that banks and similar organisations, otherwise fiercely competitive, were brought to agreement on standards through the impetus of co-operative governance mechanisms.

Having said this, the difficulty of designing an acceptable constitution for such a body should not be underestimated. The breadth of interests to be encompassed is significant, and for all their effectiveness at harnessing the collective interests of competitors, card payments schemes exercise no public policy role. Adding this extra dimension to the commercial agenda of system participants is a tall order.

It may be that competitive pressure overwhelms the ability of such a body to reach a compromise solution on certain highly contentious issues. The current example of contactless or 'combo' cards may be a case in point, where the different interests of the various players are so diametrically opposed that nothing short of an arbitrated outcome will break the log-jam. Another possible example is mobile payments.

As discussed in Chapter 2 above, Australia appears to be lagging in the development of mobile payments and yet the potential for new payments mechanisms to exploit this platform is substantial. A hybrid regulatory solution must allow/encourage participation by new providers of payments services, including telecommunications, software and digital services providers. The regulatory body must be sufficiently flexible to accommodate new interests as they emerge but also carry sufficient authority to police the integrity of the system in the public interest.

In determining the extent of delegated authority from the RBA to the industry body and the reserve powers withheld by the Bank, careful consideration would need to be given to the class of problems likely to be soluble through this mechanism. Standard-setting, interoperability and access ought to be at the easier end of the spectrum, whereas pricing of payments services may prove a bridge too far. As in the case of interchange fees, for some issues there may be no feasible alternative to the regulator mandating a solution, although this would hopefully be a rare occurrence. Accommodating new payments providers and platforms, as required by mobile payments, for example, might also call for the exercise of greater authority than the industry body could normally muster.

Especially in the case of access and pricing decisions, there will also need to be some resolution of boundary issues between regulators—in this case between the RBA and the Australian Competition and Consumer Commission (ACCC). The ACCC has responsibility for administering competition laws which, among other things, prohibits anti-competitive behaviour in markets. While the laws envisages circumstances in which co-operation among competitors may promote the public interest rather than undermine it, such matters are sufficiently nuanced and penalties sufficiently severe that some understanding must be reached between regulators to ensure progress.

Memoranda of understanding have already been drawn up among the RBA, the Australian Securities and Investments Commission (ASIC) and the Australian Prudential Regulation Authority (APRA) to minimise regulatory overlap and eliminate gaps in regulatory coverage. Similar protocols would need to be established to ensure that the proposed hybrid body could operate with sufficient dispensation from competition legislation to fulfil its mandate.

Working examples?

UK Payments Council

One example of an industry body with limited authority over payments system development is the UK Payments Council (see Box 4.1). Arguably the UK Payments Council is representative of participants and users, and the regulator, the Bank of England, exercises an observer role on the board. It is not clear, however, that the Council exercises as much authority in discharging its responsibilities as envisaged in the discussion above.

Box 4.1: The UK Payments Council

The UK Payments Council is an independent body charged with setting strategy for the development of the UK payment systems. The Council was established following a UK government review (Payments Systems Taskforce) and membership is voluntary.

One quarter of the Council's board members are independent, with the balance comprising participants in the payments system. The Bank of England sends an observer, being a full member of the Council as of right. The Council has a formal legal relationship with the five principal payments schemes in the UK, meaning that its decisions are binding on these scheme members.

The Council's three main objectives are:

- to develop a strategic vision for payments and to lead the future development of co-operative payments services in the UK;
- to ensure payments systems are open, accountable and transparent; and
- to ensure the operational efficiency, effectiveness and integrity of payments services in the UK.

The Council's strategic vision is underpinned by its National Payments Plan. The Council pursues its strategy by collaborating with industry members, undertaking research, promoting innovation and pursuing certain projects with the goal of developing payments systems.

The Council's current projects include the development of a platform for mobile payments and monitoring contactless and pre-paid card markets. The Council takes an active role in:

- developing consumer information;
- helping consumer organisations become involved with the development of the market;
- a request from the UK Mobile Contactless Forum to engage with the Payments Council; and
- standards and interoperability issues.

Source: Payments Council (2010)

The Payments Council recently cancelled a target date of 2018 to close cheque-clearing in the UK. This decision reflects its responsiveness to the community and users of the payments system. The Council's success or otherwise in establishing mobile payments and contactless cards will reveal how effectively this governance model facilitates innovation.

National Payments Corporation of India

Another and perhaps closer example of the kind of entity proposed here has recently been established in India (see Box 4.1). The National Payments Corporation of India (NPCI) is a private company but operates with the backing of the Reserve Bank of India (RBI). It is unclear from the NPCI website whether and to what extent the company exercises delegated authority on behalf of the RBI but it evidently operates a mandate to integrate and develop India's retail payments system.

Experience to date suggests that the Indian model of payments system governance is successful. It is cultivating a dynamic retail payments environment that is now at the forefront of payments system innovation. While Australia starts from a very different position—with legacy infrastructure and mature competition regulation—India's experience still offers a working example of successful transition to a more effective payments governance structure.

Box 4.2: Governance of the Indian payments system

In India central oversight of payments systems is the responsibility of the Reserve Bank of India (RBI). The Board for Regulation and Supervision of Payment and Settlement Systems (BPSS) of the RBI has the power to regulate and supervise all payment systems in India. Relative to other systems around the world, the RBI has a hands-on role, promoting its objectives by:

- monitoring existing and planned systems;
- assessing these against its objectives; and
- where necessary, inducing change.

In recent years the RBI has taken an active role in 'inducing change' by establishing the National Payments Corporation of India (NPCI), an umbrella institution for all retail payment systems. Prior to the establishment of the NPCI, there was no uniform framework for the large number of operators across India's retail payments systems. The existing institutional structure was increasingly seen as impeding efficiency and limiting innovation.

After examining alternative models of payments system governance and operation in a range of other countries, the RBI established the NPCI as an independent body, incorporated as a non-profit organisation, and backed by both the RBI and the Indian Banking Association.

The role of the newly established NPCI is far-reaching. Its mission is 'to build state of the art world class customer friendly electronic retail payments systems available and affordable by all around the clock'. The NPCI has two core objectives:

- to consolidate and integrate multiple systems into a nation-wide and uniform process for all retail payments systems; and
- to use its capital to create infrastructure of large dimension and operate on high volume, producing payments services at a fraction of the present cost structure.

Because it was established prior to the evolution of nation-wide payments infrastructure, the NPCI has been able to build uniform structures, operations and procedures that have allowed the rapid adoption of payments system innovations. This outcome also reflects the fact that competition regulation and enforcement is not as tested in India as it is in more mature economies like Australia.

Current and future business initiatives include:

- the mandate to create a domestic card scheme, which will be called RuPay;
- operation of the National Financial Switch (NFS) ATM network;
- operation of the Interbank Mobile Payments System, offering a real-time electronic funds transfer service through mobile phones;
- development of an automated clearing house to consolidate the multiple existing electronic clearing services; and
- research into other initiatives, such as cheque truncation and cardless microATMs.

Both the NPCI and RBI aim to meet the goal, quite specific to India, of delivering financial inclusion to a very large population. Hence, in their involvement in India's payment systems, the RBI and NPCI must focus not only on overcoming the common problems of network effects and co-ordination, but also on creating a payments system that is accessible to a large population at low cost.

Source: Reserve Bank of India (2011) and National Payments Corporation of India (2011)

Australian Securities Exchange

A more familiar example nearer home is the Australian Securities Exchange (ASX). Here is a private company limited by shares which also exercises regulatory authority (albeit recently diminished in scope) on behalf of the securities markets regulator ASIC. This again is a model worthy of more detailed consideration since the clearing-house function of the ASX bears close resemblance to the payments-clearing function of the various streams within the payments system.

Furthermore, the tension between the role of the ASX as a facilitator of co-operative exchange among competitors for capital-raising also has its parallel in the payments space. It is noteworthy that the conversion of the ASX to a shareholder limited company has unleashed a wave of innovation in the operation of the exchange motivated by pressure from competing suppliers. While competition for the services of a private payments administrator might not be envisaged in the hybrid governance model, the operation of commercial incentives promoting innovation and efficiency in a quasi-regulator like the ASX is worth noting.

The key in the hybrid model is to steer a path between the Scylla of too little intervention to break the power and inertia of incumbency and the Charybdis of too much intervention to deliver competition and innovation. Working examples of the hybrid principle like the NPCI and the ASX give confidence that a suitably modified hybrid governance structure might be attainable in the context of the Australian payments system.

Nevertheless, difficulties experienced to date in bridging the disparate commercial interests in setting interchange fees in card payments schemes and ATM networks indicate that the task will require focus and determination.

4.3 Getting to 'yes'

If some version of the hybrid governance model were to be preferred, the RBA needs to be pro-active in working with industry to set it up. The RBA needs to direct but not to smother the industry in order to advance this objective.

To that end it is important that the Bank devise an appropriate set of milestones along the road from the status quo to the desired hybrid governance structure. This blueprint should then be exposed for serious industry consultation and review. It is essential for industry buy-in to any proposal of this kind to be established from the outset. For its part industry should understand that the proposed change is in the long-term interests of the industry itself, let alone good public policy.

The RBA is in the fortunate position of being a well-respected regulator with a history of reasoned decisions following careful consultation and enquiry. The Bank is the ideal party to initiative a move to a new governance future for the industry. Painting a picture in advance of how the model creates space for market players to meet their commercial objectives while the RBA meets its public policy objectives should promote confidence in the proposed approach.

However, there needs to be more than vision-casting involved in this exercise. The RBA must spell out the steps and set down the markers by which progress will be assessed. There should be no confusion between the end-point, where the RBA recedes into the background as the hybrid regulator moves into the foreground, and the journey itself, where the Bank needs to be upfront and engaged. Delivering a workable hybrid governance structure will test the RBA's leadership credentials.

While the industry should be left in no doubt about the RBA's resolve to move towards a new governance structure, neither should the Bank underestimate the willingness of the industry to work co-operatively towards an agreed outcome. The same dynamic which militates against innovation traps industry players in an equilibrium they themselves acknowledge is sub-optimal—commercially let alone from a public policy perspective.

Industry itself is looking for ways to cut the Gordian knot tied by powerful network effects driven in turn by technological change. There is no shortage of vision within the industry but an unwillingness (or inability) to set aside commercial imperatives in the interests of building a brighter future for all.

This is where the RBA as regulator can play the role of catalyst for change. To date, with the obvious exception of its approach to interchange in card payments and ATMs, the RBA has preferred to wait and see how the industry itself would resolve the tension between co-operation and competition. Realistically, this is like waiting for Godot.

The RBA needs to lead the system to a new governance model and then stand back, letting the pressure of market forces work within the confines of the hybrid governance structure to deliver innovation. The Bank's role then becomes one of monitoring outcomes and keeping the new structure accountable to its objectives.

5 Conclusion

Australia needs to change its governance model for the payments system. Gaps are emerging between payments technologies available in Australia and those in use overseas, although they are not especially wide at this point. There is a legitimate concern, however, that the gaps might widen if greater clarity surrounding the future governance of Australia's payments system is not forthcoming.

Anecdotal evidence suggests that some incumbent players resent pressure to update their systems when competitors will also enjoy the fruits of their investments. On the other hand, new entrants bridle at the apparent ability of incumbents to frustrate their efforts to build on existing payments platforms with innovative products and services.

The RBA as custodian of Australia's payments system must assure its soundness and stability but also its dynamism and efficiency. For the reasons advanced in this report, an appropriate balance needs to be struck between co-operation and competition to secure stability and innovation in payments systems. Players must have confidence that legacy investments are appropriately protected from the corrosive, debilitating effects of 'free-riding' while ample incentive is provided for new products and processes to find a place in the Australian payments landscape.

As stressed in Chapter 4 above, the RBA should take a firm lead in bringing the issues surrounding payments system governance to an appropriate resolution. Consultation with industry as initiated in the current Review is essential and to be welcomed.

However, industry is looking to the RBA for guidance as well as a listening ear. A clear direction towards a workable governance structure with broad industry support, together with concrete milestones to mark progress along the way, is the single most valuable contribution the Bank can make to the continuing development of an innovative, efficient and stable payments system in Australia.

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Contact us

Deloitte Access Economics
ACN: 49 633 116

Level 1
9 Sydney Avenue
Barton ACT 2600
PO Box 6334
Kingston ACT 2604 Australia

Tel: +61 2 6175 2000
Fax: +61 2 6175 2001

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