



Australian Payments  
Clearing Association

# Competition and Coordination in the Australian Card Payments System

This paper has been prepared by the Policy unit of APCA in response to a request by the Card Payments Forum for the purpose of promoting discussion at the Forum. It does not represent the views of APCA, any member of APCA, the Card Payments Forum or any participant in the Forum.

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# 1. EXECUTIVE SUMMARY

1. This paper seeks to assist the Card Payments Forum discussion on competition and coordination in Australian card payments. It provides a brief theoretical context for the discussion with reference to the unique qualities of network industries, and explores past and possible future coordination practice in Australian card payments.
2. Competitive markets are the best way to allocate scarce resources and thereby promote social welfare. But in network industries like payments, competition by itself is often not enough. Some form of coordination among competitors is essential. It can take many forms, ranging from relatively organic partnerships through multilateral structures, self-regulation and ultimately government regulation.
3. There are 4 respects in which networks need coordination:
  - **Basic efficiency and interoperability** require agreement on common business process flows and technology;
  - **Network innovation**, necessary for many payment service enhancements, requires coordination amongst competitors, even though no competitive advantage is thereby gained;
  - Paradoxically, industry coordination needs to provide a **platform for effective competition** amongst participants and networks if competition regulators are to sanction it; and
  - Because network industries often deliver important or utility services to the public and the economy, they often need to address broad **public policy agendas** over and above supporting effective competition, such as financial stability and consumer protection.
4. Historically, there has been extensive coordination in Australian card payments through bilateral effort, card schemes and APCA, amongst others, leading to a cards network that scores well on international measures. But the Reserve Bank of Australia has repeatedly raised concerns about coordination problems in industry governance and systemic innovation. There have also been significant environmental changes affecting industry coordination, particularly increasing interoperability in card payments across different schemes and instruments and heightened card system competition.
5. Accordingly, it may be useful for the Forum to discuss whether existing (and extensive) industry coordination structures are appropriate for the future, or whether other arrangements could be explored. Areas for discussion could include technical and operating standards across the cards network, fraud prevention, systemic innovation, and engagement with government and other stakeholders on industry policy and direction.

## 2. BACKGROUND

6. At the October 2008 meeting of the Card Payments Forum, it was agreed that the discussions at the next meeting would focus on i) product innovation<sup>1</sup> and ii) competition versus collaboration. On the latter issue, the Forum agreed to discuss “areas where industry co-operation would help to develop a better platform for efficient competition”.<sup>2</sup>

7. The issue was identified in the Access Economics Discussion Paper presented to Card Payments Forum at its October 2008 meeting:

*(W)hile competition has a crucial role in fostering greater network efficiency, this needs to be balanced with industry cooperation in markets dominated by network effects.... In particular, cooperation is critical in the smoother operation of, and innovation in networks. Developments of standards and technical features of networks may require the joint effects of industry participants for new instruments to emerge.... Potential tensions between the desirability of cooperation over the development of networks and competition will need to be considered.*<sup>3</sup>

8. This paper seeks to assist Forum discussion on coordination and collaboration.<sup>4</sup> The paper explores, both theoretically and practically, the drivers for coordination in card payments. The theory derives from work on network industries generally, while the practical discussion seeks to place these ideas in the context of recent industry developments.

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<sup>1</sup> Edgar Dunn has been commissioned to undertake research on product innovation to be presented at the March 2009 meeting of the Card Payments Forum.

<sup>2</sup> *Communiqué – Card Payments Forum*, 12 November 2008.

<sup>3</sup> *Card Payments Forum – Discussion Paper* (2008), Access Economics, pages 34-5.

<sup>4</sup> In this paper “coordination” is used as meaning “organising participants (even if they are competitors) together to work efficiently”. Coordination includes, but is broader than, collaboration, which refers to participants agreeing to work together towards a mutual goal. Coordination may also be driven by external forces such as regulation or industry structures and services.

## 3. COORDINATION IN AUSTRALIAN CARD PAYMENTS

### 3.1. Starting propositions

9. Market economies seek economic health and growth by maximising economic freedom. Wherever possible, society seeks to promote efficient competitive markets as the best way to allocate scarce resources and thereby promote social welfare:

*Competition is...a positive force that assists economic growth and job creation. It has triggered initiative and discovery in fields ranging from the invention of the telephone to the opening of new retail stores and small manufacturing operations.<sup>5</sup>*

10. However, as the Access Economics paper identifies, in network industries like payments, free and open competition by itself is often not enough. Some form of coordination among competitors is essential simply in order to permit network services to be offered, and beyond this to promote overall efficiency of the network:

*It is not easy to balance the efficiency gains of coordinated action against the loss in competition that may result, but the special need for coordinated action in network industries must be recognised.<sup>6</sup>*

### 3.2. Forms of Coordination

11. Relationships within a network can range from “organic” bilateral coordination (“partnering”) through multilateral contracts and industry-wide self-regulation to direct Government regulation of the industry. Figure 1 arranges these forms on a spectrum of coordination, with Australian industry examples.
12. In any given industry, the degree of coordination may owe as much to history and evolution as to deliberate policy or the pursuit of commercial objectives. The payments industry has evolved from organic, bilateral clearing arrangements between banks, towards multilateral and self-regulatory structures. The key drivers were increasing volume and complexity, and increasing economic importance which attracted the attention of public policy makers.
13. A single example among many might be the development of ubiquitous ATM access. ATM networks were originally deployed by individual banks as a substitute for telling facilities to reduce costs and increase customer convenience. Bilateral

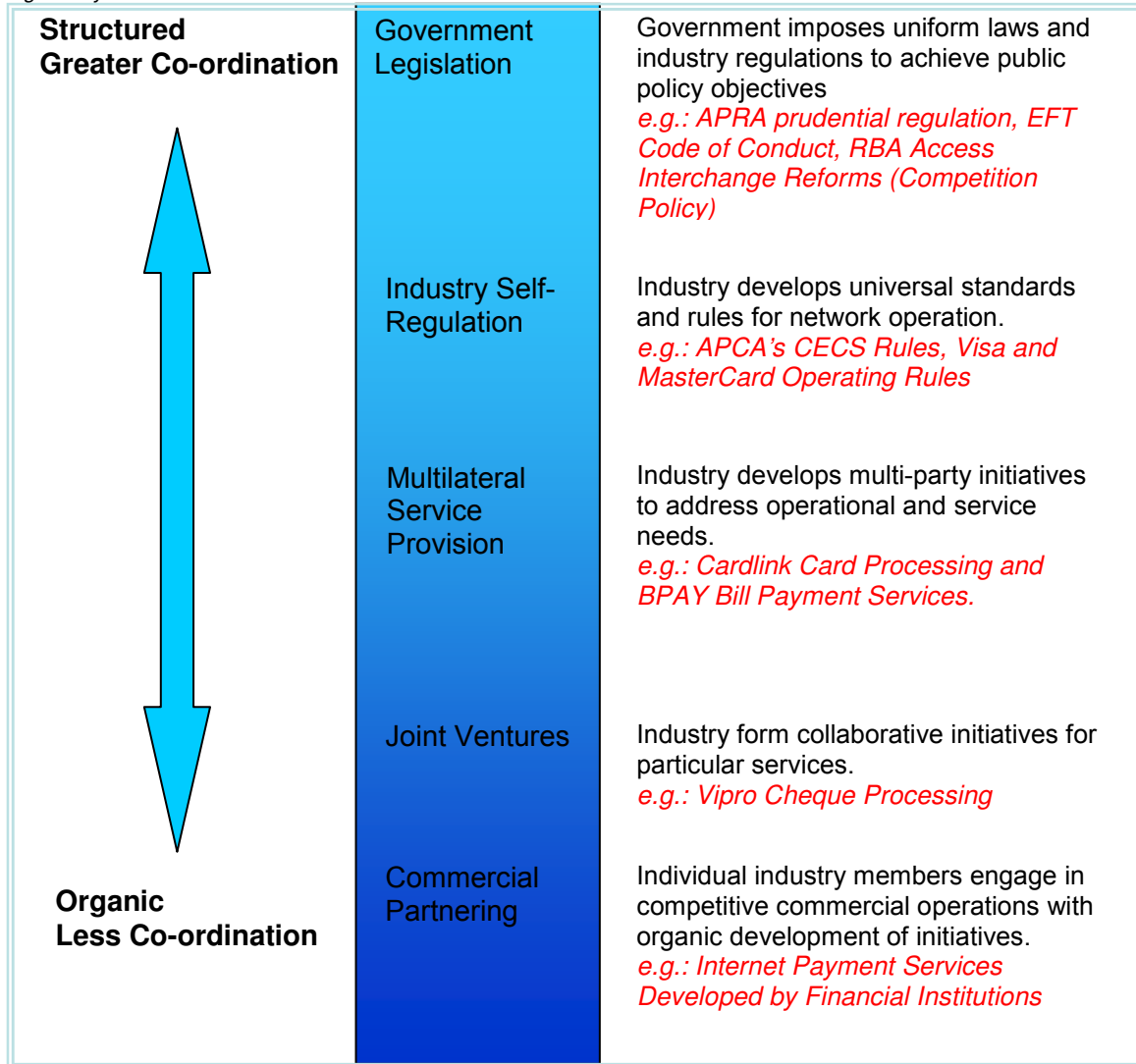
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<sup>5</sup> Australian Government. *National Competition Policy*. (The Hilmer Report). Commonwealth of Australia 1993 at page 15.

<sup>6</sup> *The Need for Coordination Among Firms, with Special Reference to Network Industries*, Dennis W. Carlton and J. Mark Klammer, at 447.

arrangements extended reach on a commercially negotiated, ad hoc basis, leading to progressive network integration. With some influence from regulators, a single ubiquitous network was ultimately formalised through the CECS rules in 2000.<sup>7</sup>

Fig. 1: Layers of Coordination



14. A list of factors to consider in assessing the appropriateness of coordination forms can be suggested. The variables to consider might include any of the following:
  - a. Government objectives – the implementation of an initiative to meet public policy objectives (normally in relation to consumer protection) would require greater coordination;
  - b. Ad hoc commercial opportunities – without cross industry relevance, these would naturally be more organic and competitive operations;

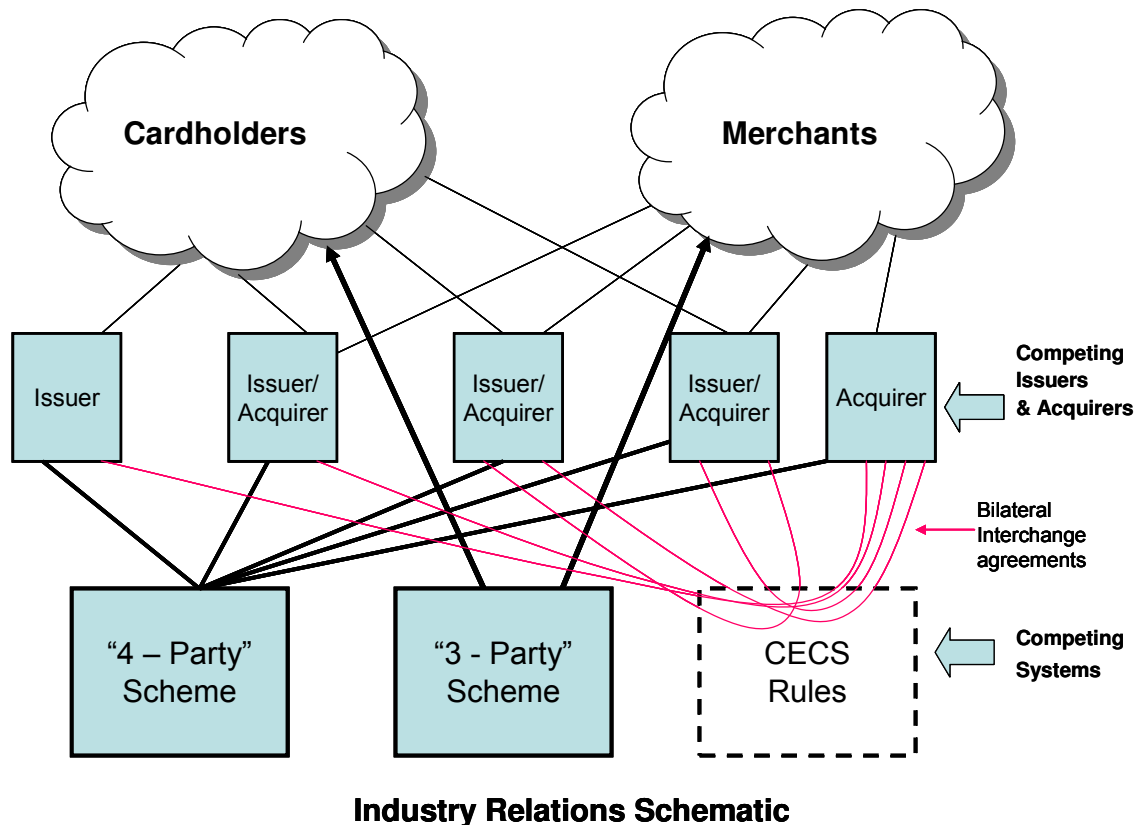
<sup>7</sup> See *Payments Systems – Some Issues From the Consumer Perspective*, address by C.C. Proctor, Head of Financial System Department, RBA to a conference on Plastic Card, 7 May 1991.

- c. Technical issues – in areas affecting the entire network system, these issues would be more likely to be addressed by greater coordination;
- d. Safety and security – as networks grow, participants become more dependent on each other for network integrity and fraud minimisation;
- e. Economic climate – costs pressures might encourage the need for greater coordination amongst competitors on commoditised activities; and/or
- f. Time pressures – requirements to meet deadlines might engender greater coordinated efforts.

### 3.3. Current Industry Structure

15. The Access Economics paper provided a general description of the current card payments infrastructure. The description demonstrates the already high degree of coordination required for efficient operation.<sup>8</sup> The overall card network has been supported by a web of bilateral agreements, multilateral schemes and self-regulation. Figure 2 provides a simplified schematic diagram of relationships:

Figure 2



<sup>8</sup> See section 2, *Card Payments Forum Discussion Paper*, Access Economics, 21 October 2008 from page 4.

16. MasterCard and Visa provide coordination through rules and regulations governing the use of their branded cards. Originally, both schemes developed overseas as mutuals of banks. Australian domestic administration relied historically on the participation of Australian issuer/acquirers, who were mutual owners (amongst many others internationally). The now-defunct Bankcard system was similarly collaborative in inception and governance.
17. Visa and MasterCard have become listed for-profit entities (in which Australian issuers may be shareholders), and Australian governance arrangements have reflected this change, with Australian issuers and acquirers now engaging with the schemes as customers, rather than mutual owners. They nevertheless remain strong coordinating influences on the card network, through widespread use by issuers, acquirers and other stakeholders of their rules, technical standards and operational processes.
18. The Consumer Electronic Clearing System (CECS) provides the technical and operational framework for proprietary debit-card transactions, including both EFTPOS and ATM. CECS was formed through the collaboration of Australian proprietary debit card issuers and acquirers, including (over time) major merchants. The CECS system provides a set of rules and standards, but does not oblige any participant to deal on any particular terms with any other participant. Instead, a web of bilateral interchange agreements amongst issuers and acquirers refer to the CECS rules and procedures.
19. For ATMs, a new Access Code now creates a self-regulatory framework that imposes obligations to deal with all other participants in the ATM network and partly supersedes earlier interchange agreements. APCA has also announced a proposal to develop a scheme for EFTPOS that would create a multilateral relationship amongst CECS issuers with collaborative governance by issuer and acquirer members.
20. The competing “3-party” systems such as American Express, Diners Club<sup>9</sup> and JCB, have never relied on collaborative interactions among issuers and acquirers, and have always had commercial legal relationships with end users and for-profit governance.
21. The legal and commercial aspects of issuer/acquirer relationships in Australian card payments therefore vary considerably across card systems, with significant variations in coordination and collaboration. These arrangements are also undergoing significant change. It is also clear that, whatever levels of coordination exist among competing issuers and acquirers in the various card systems, another layer of increasingly intense competition has developed at the card system level.

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<sup>9</sup> Diners Club is now owned by Discover Financial Services, a large 3-party scheme in North America without any penetration in the Australian market.



22. Each card system imposes its own technical and operational standards and processes, with significant variations of detail.<sup>10</sup> However, substantial technical interoperability is crucial to keep issuer and acquirer costs down and maximise efficiency to end users. This interoperability arises from:
- terminals and ATMs supporting all (or many) card types;
  - combination cards, which carry international scheme and proprietary debit functionality;
  - issuer and acquirer host systems that process transactions for multiple card types;
  - merchant-acquirer services that cover multiple card types; and
  - multiple card types on a single issuer account (companion cards).
23. In general, issuers and acquirers have achieved this interoperability by working across schemes and complying with multiple requirements sets. This has also involved extensive bilateral effort to address particular operational issues and manage new developments.
24. Some collaborative arrangements across competing schemes and companies are evolving to provide partial support. The Payment Card International (PCI) Security Standards Council<sup>11</sup> establishes security standards (such as terminal accreditation and data encryption) adopted by the international schemes,<sup>12</sup> and EMVCo<sup>13</sup> provides chip and terminal standards for chip payment cards.
25. It is beyond the scope of this paper to explore comparative examples of market structure overseas, other than to say that there are a wide range of different structures with varying mixes of competition and collaboration. Nevertheless, available international benchmarking suggests the Australian cards network has been relatively successful. The World Payments Report 2008<sup>14</sup> indicates that Australia has one of the highest card usages rates in the world, and one of the highest levels of POS terminal penetration.<sup>15</sup>
26. With the benefit of this overview of card infrastructure in Australia, the next section explores theoretical issues of network coordination.

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<sup>10</sup> Attachment 1 is a table of the main technical and operational standards applied in Australia.

<sup>11</sup> An open council administered by American Express, Discover, JCB, MasterCard and Visa.

<sup>12</sup> Australian proprietary debit security standards are separately established by the industry through APCA.

<sup>13</sup> EMVCo is now owned by JCB, Visa, MasterCard and American Express: EMVCo press release, 3 February 2009.

<sup>14</sup> Capgemini, RBS and EFMA.

<sup>15</sup> World Payments Report 2008 at page 45.

## 4. COMPETITION, COORDINATION AND NETWORKS

### 4.1. *Network efficiency and interoperability*

27. In a complex, automated network such as card payments, we have seen that there are fundamental elements of the system that require participants to coordinate. In many network contexts, there will be no network service without agreement on a common business process flow and technology: message formats, technical specifications, business and operational processes, as well as more commercial issues such as fees and charges, disputes and reversals. Much has been written about network economics and competition; a bibliography appears at the end of this paper.
28. The fundamental drivers of all such coordination efforts are network externalities:
- ...the increasing utility that a user derives from consumption of a product as the number of other users who consume the same product increase.<sup>16</sup>*
29. These network effects drive competitors to cooperate so that the services they offer to customers are value-maximised; for example, an ATM card useable at any ATM in Australia is inherently more valuable than one useable in a more limited network. The same card useable internationally has, of course, even greater value, although the relative value-add of each network extension depends on user interest and need.

### 4.2. *Network Innovation*

30. Once a network is established, and participants use that structure to deliver services to customers, a new coordination problem arises: network service enhancement. Some customer service enhancements can be achieved by an individual participant seeking competitive advantage, as when a financial institution offers different credit arrangements or a new rewards scheme on a credit card. Other service enhancements require at least the acceptance, if not the active support, of the participant's direct competitors for success. Chip cards and contactless cards are more obvious examples, but dozens of incremental, technical enhancements require coordination across all or at least many participants in an existing network service.<sup>17</sup>
31. The literature points to two kinds of challenges: relatively weak commercial incentives, because network service enhancements tend to benefit all competitors;

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<sup>16</sup> *Network Industries In The New Economy*, John McGee and Tanya A. Sammut Bonnici, in *European Business Journal*, Vol. 14, pp. 116-32, 2002 at 125.

<sup>17</sup> This issue is explored in the Edgar Dunn research "Innovation in Payments", March 2009 particularly at 5.6 and 6.4

and governance challenges, because competitors are called upon to act very differently from their normal market context:

*(T)here is the further problem of lack of business incentives for banks to introduce payments innovation, especially with regard to improvements to shared payments infrastructure. ... (I)nnovation in shared bank-to-bank payments systems is held back because no individual bank can gain any competitive advantage from improvements in these shared payments arrangements. Thus, left to individual profit motives, bank to bank payment systems can lag well behind technologically feasible systems.<sup>18</sup>*

32. These problems can be exacerbated when the relative benefits and burdens of an enhancement fall unevenly on network participants: for example, extension of ATM card functionality to point of sale terminals (EFTPOS) had big benefits for issuers and their customers (cardholders), but the largest burden of implementation fell on acquirers and their customers (merchants). Networks often seek some mechanism for rebalancing benefits and burdens, such as differential network service fees or interchange fees.

### **4.3. Networks and Competition Policy**

33. In the context of modern competition law and policy, network services create special problems. It has been argued that coordination is sometimes necessary to promote competition amongst network participants. The RBA has stated that its regulatory intervention in card payments has been to address ineffective competition in the payments industry.<sup>19</sup> But even if there is effective competition amongst network participants, systemic efficiency requires consideration of competition amongst competing systems or networks. Thus, the RBA now seems to accept that both issuing and acquiring are efficiently competitive activities in Australia, but continues to seek structural reform to promote scheme competition.<sup>20</sup>
34. Network effects make competition amongst networks relatively more difficult, by creating relatively larger barriers to entry and economies of scale relative to non-network industries. Industry coordination is sometimes presented as the best available policy alternative to effective network competition.
35. In network industries with a history of Government service provision, like telecommunications and railways, the value chain of complex network services has been “sliced” to encourage the development of competitive markets for those links in the chain where network effects are less dominant, leaving a rump of network infrastructure as a non-competitive (and necessarily coordinated) platform. Railways

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<sup>18</sup> Milne, A (2007) “Governance and Innovation in UK Retail Payments”, *Communications and Strategies*, 66(2), Second Quarter 2007 pages. 64-5.

<sup>19</sup> See: section 5.1 of *Reform of Australia’s Payments System: Preliminary Conclusions of the 2007/08 Review*, RBA, April 2008.

<sup>20</sup> See: section 5.2, *ibid.*, RBA, April 2008.

have seen contestability developed in passenger services but not track administration; telecommunications saw the mandated development of contested markets in mobile networks ahead of fixed line reforms.<sup>21</sup>

36. This is not to say that intense competition cannot develop amongst networks, nor that networks cannot develop without collaboration. Diners Club, American Express and PayPal are all examples of payment networks organised on commercial, non-coordinated lines. In effect, there is a trade-off: coordination amongst competitors is often difficult, for the kinds of reasons outlined above, but harnesses network effects to increase the reach and attractiveness of a network service. Competitive development of an independent network service (such as PayPal) avoids all the problems of coordination, but also gives up potential benefits in terms of economies of scale and network effects, making the development harder to achieve.
37. It becomes necessary to analyse the interplay of coordination and competition at multiple layers in the overall network: basic network infrastructure provides the cooperative platform for competition amongst schemes using the underlying infrastructure, and schemes in turn provide a platform for competition amongst participants.

#### **4.4. Networks and Public Policy**

38. Network industries have other unique features that can affect competition, and require coordination:

*Adding to the importance of networks from a public policy point of view is the fact that network industries often provide necessities. Monopolization in such a setting can have significant social and political implications.<sup>22</sup>*

39. Networks often provide “utility” services – those that are socially important. Competition will not always deliver overriding social policy objectives in such services, given the divergence of participant commercial incentives from public policy. Government therefore often has a public policy agenda over and above promoting efficient markets. In financial services, such policy objectives often relate to consumer protection and financial stability:

*The main purposes of banking regulation are assuring the financial stability of banks and protecting consumers. While facilitating competition in the credit card industry has little to do with the first goal, it is well within the bounds of the second goal.<sup>23</sup>*

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<sup>21</sup> See in particular discussion in the Hilmer Report, *op. cit.* at Chapter 10.

<sup>22</sup> *Competition Policy in Network Industries: an Introduction*, Nicholas Economides, New York University, at 4.

<sup>23</sup> *Accommodating a New Tenant in the House of Cards: Introducing Competition into a Network Industry*, Public Law & Legal Theory Research Paper Series, Florida State University College of Law, George Mason, February 2004, at page 27.

40. A particularly prominent example of an overriding social policy agenda is the Single Euro Payment Area: government mandated payment network engineering on a continental scale to support European economic integration.
41. Whatever the policy agenda, implementing public policy objectives requires coordination: the objectives to be achieved need to be clearly communicated to industry participants and applied effectively across the industry. This can be done by direct Government mandate, but in complex network industries long experience suggests a co-regulatory approach with industry participation yields better results.<sup>24</sup>
42. An example of this is the introduction of an account switching facilitation package in late 2008. Facilitating the ability of customers to switch their bank accounts was identified by the government as being an important element of enhancing competition amongst financial institutions, and the changes required coordination across all financial institutions.
43. In the communications technology industry, it has been suggested that:
- The increasing importance of connectivity and modularity is forcing a shift from competitive mode towards cooperative mode.*<sup>25</sup>
44. The authors of the above work are suggesting that, at least in communication technology, increasing importance of network effects is driving out traditional market competitive behaviour in favour of coordination. Yet competition remains the cornerstone of the market economy – market dysfunction, even on a grand scale (the global financial crisis), cannot change that. The challenge in Australian card payments is to consider the current interplay of competitive and cooperative drivers, and consider whether any different arrangement would better equip the card payments network for the future.

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<sup>24</sup> See APCA Submission to the RBA Review *Reform Of Australia's Payment System: Issues For The 2007/08 Review*, August 2007 at [www.apca.com.au](http://www.apca.com.au).

<sup>25</sup> *Network Strategies for the New Economy*, John McGee and Tanya A. Sammut Bonnici, in *European Business Journal*, Vol. 14, pp. 174 - 185, 2002, at 181.

## 5. DRIVERS FOR COORDINATION IN AUSTRALIAN PAYMENTS

45. Industry coordination already exists in a range of forms in the Australian consumer payments infrastructure,<sup>26</sup> and the industry is able to coordinate in response to public policy requirements and to enhance infrastructure over time.<sup>27</sup> In light of this, are current coordination arrangements already optimal?

### 5.1. System Governance and Innovation: The Views of the RBA

46. The starting point for this consideration is past regulator critiques of industry coordination arrangements. Since 2005, the RBA has regularly criticised payments industry governance and system enhancement. In 2005, speaking of the industry's coordination arrangements through APCA (described as an organisation of "relatively little authority") the Assistant Governor (Financial System) said:

*While these arrangements have many useful features and have worked reasonably well over a number of years, I would like to pose the question of whether some alternative set of arrangements may better serve the long-run interests of users of the payments system. In particular, is there a case for a private-sector central body that has a broader mandate than simply being the keeper of the rules? This mandate could include promotion of various payment systems, the facilitation of access, and provision of leadership on some technology issues.<sup>28</sup>*

47. This theme is detectable through much of the RBA's recent review of payment system reforms, where it has taken the form of an express preference for collaborative solutions over regulatory ones, often combined with some pessimism about whether this can be achieved:

*... the Reserve Bank is a reluctant regulator and we would much rather see an industry, than a regulatory, response to public-policy concerns. Despite this, in a number of areas an industry response to the Board's concerns was not forthcoming, and the Board eventually judged that if adequate progress was to be made in a timely fashion, regulation was required. Without getting into debates about history, I think it was fair to say that this outcome was not*

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<sup>26</sup> See section 3.3.

<sup>27</sup> For example, the implementation of ATM direct charging and enhanced access arrangements under a proposal negotiated between industry and RBA in mid 2007.

<sup>28</sup> *Innovation and Governance of Payment Systems*, 16 September 2005, Dr Philip Lowe, available at [www.rba.gov.au/speeches/2005](http://www.rba.gov.au/speeches/2005).

*inevitable. The Bank's public-policy concerns could have been addressed by industry, and indeed, in some cases, they have been.*<sup>29</sup>

48. The final conclusions of the 2007/08 review, published in September 2008, propose a withdrawal from direct regulation of interchange fees under certain conditions. These conditions require industry coordination, but of specific kinds:
- the “preferred approach” involves industry coordination to form an EFTPOS scheme, so as to increase scheme competition in card payments, together with suggestions for industry effort (potentially separate from an EFTPOS scheme) to develop an alternative online payments method;<sup>30</sup> and
  - the “alternative approach” involves public commitment from the credit card companies that average interchange fees would not be increased above current levels. This is industry coordination in the sense that Visa and MasterCard (and any future 4-party scheme?) would each need to provide acceptable commitments, and that their members would need to act in compliance with those commitments.
49. The final conclusions are not explicit as to whether, if the industry meets either set of the conditions for interchange deregulation, the RBA will have continuing concerns about system innovation and governance. Arguably, this is because of the specific focus on dealing with interchange regulation and promotion of scheme competition. The preliminary conclusions in April 2008 noted the formation of the Card Payments Forum, and again urged the industry to address system governance and lack of system innovation.<sup>31</sup>
50. The general concern for governance and innovation remains present in the regulator's thinking. In December 2008, in the course of proposing regulatory support for reforms to the ATM system, the RBA argued that substantial reform was needed to promote better access, competition and efficiency in both ATM and EFTPOS. The RBA asked industry to propose improvement to physical and logical access and message standards, wishing to see substantial progress by March 2010.<sup>32</sup>
51. Whatever one's views of the RBA's statements on innovation and governance, if the RBA continues to seek industry coordinated solutions on public policy matters – such as ATM Access, ATM direct charging, the promotion of card instrument competition and card payments network and infrastructure – then the industry needs to give some consideration to how it should respond to these and future requests.

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<sup>29</sup> “Reform of Australia's Payments System: the 2007/08 Review”, 27 June 2007, Dr Philip Lowe, available at [www.rba.gov.au/speeches/2007](http://www.rba.gov.au/speeches/2007).

<sup>30</sup> See RBA Preliminary Conclusions of the 2007/08 Review, April 2008, at 6.1.2. the preferred approach also involves further modifications to Honour-all-cards rules and/or practice;

<sup>31</sup> See Preliminary Conclusions, *ibid.* at 5.2.7.

<sup>32</sup> *Access Regime for the ATM System: A Consultation Document*, December 2008, Part 6, available at [www.rba.gov.au](http://www.rba.gov.au).

## **5.2. Increasing Interoperability**

52. We have seen<sup>33</sup> that the coordination required for effective network operation and development was achieved through a combination of card scheme and APCA rules and industry standards.
53. In the past, each scheme framework could have been seen as a discrete network, with relatively limited interoperability between them. Increasingly, however, demands for interoperability from users and participants have meant that the Australian card payments infrastructure is at least in some ways a single network on which a number of different instruments compete. A list of interoperability indicators appears at 4.1.
54. Looking into the future, it seems reasonable to anticipate that interoperability will increase across card types, rather than the reverse: it may be, for example, that multiple payment services become available through a mobile phone or PDA, so that the physical segregation of card types and circuitry that largely exists now may change in the future.
55. The international schemes have anticipated this by supporting the formation of cross-scheme standards bodies such as PCI and EMVCo. Australia has some representation on these bodies. One possible topic for forum discussion is whether standards coordination structures in Australia are optimal.

## **5.3. Changing Industry Structure**

56. At the same time as efficiency and convenience drive greater interoperability, intensifying scheme competition may reduce future incentives for cross-scheme coordination. For much of the formative period of the Australian network, all relevant coordinating bodies were industry mutuals, and competition amongst instruments – different card scheme products – was present, but relatively muted.
57. This has changed substantially, in Australia and globally, in the last five years. Competition amongst schemes and amongst different payment instruments has intensified markedly. Indicators of this include card scheme demutualisation and commercialisation, increasingly focussed scheme business development using marketing programmes, interchange fee arrangements and other measures, and direct scheme product advertising to cardholders.
58. In policy terms, RBA regards greater scheme competition as positive, and indeed to be actively pursued. RBA remains a strong supporter of forming a business

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<sup>33</sup> At page 5.



- development scheme for EFTPOS as a means for intensifying scheme competition.<sup>34</sup> Increased scheme competition has potential benefits for participants as well, principally through enhanced service and lower costs from service providers.
59. This suggests two industry policy objectives that are in tension. Increased instrument competition may tend to reduce industry-wide cooperation, as card schemes evolve from a mutual, cooperative posture to a commercial, for profit posture. Issuers and acquirers have developed different relationships with schemes. They no longer see themselves as owners and directors, but as customers whose ability to influence scheme activity rests on the interplay of market forces in the various markets for scheme services: scheme issuance programmes for account-keeping institutions, and scheme acquiring relationships for acquirers.
60. Accepting that increased scheme competition is healthy and desirable, it is worth discussing whether, in the course of achieving it, an ancillary need arises for industry-wide or cross-scheme coordination, having regard to the rationale for coordination discussed above.

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<sup>34</sup> See RBA *Conclusions Paper of the 2007/2008 Review*, 26 September 2008.

## 6. POSSIBLE AREAS FOR COORDINATION

61. Having regard to the above discussion, this section tentatively suggests areas where industry drivers for coordination may be relatively strong. This subject-matter list is intended to provide some factual basis for Forum discussion.

### **6.1. Network connectivity**

62. RBA has already observed that physical and logical connectivity in EFTPOS and ATMs could be rationalised to increase access and efficiency.<sup>35</sup> In fact, integrated connectivity potentially has benefits beyond card payments to all Australian payments infrastructure.
63. The industry is developing a Community of Interest Network (“COIN”) solution for connectivity which should be available to all payments participants. The coordination challenge is to build a fair but efficient governance structure for this basic infrastructure. APCA has been asked by its members to address this as a matter of urgency in 2009.

### **6.2. Message and Interchange Standards**

64. Australia’s card payments message interchanges currently operate using a range of standards, with significant local variants and interpretations. The international Card schemes manage proprietary standards for messages interchanged through their hubs which are based on an International Standard, ISO 8583. MasterCard globally maintains a common standard while Visa has made local adaptations to its equivalent standard. The EFTPOS and ATM traffic uses variants of a pre-existing Australian Standard, AS 2805, although there are significant bilateral variations. Attachment 1 attempts a summary of the range of relevant standards.
65. There are also global developments in message standards to consider. Apart from the standards being developed by EMV Co for chip cards and terminals, and PCI Security Standards Council (SSC) for network and data security, ISO is proposing the development of new message standards for cards, which may be incorporated into the ISO 20022 framework.<sup>36</sup> While these will be likely to take many years to develop, it is clear that standards will continue to evolve globally.
66. There is no single Australian forum for examination of standards issues affecting the Australian card payments infrastructure. Australia’s engagement in global standards

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<sup>35</sup> As discussed in the ATM Consultation document at section 6 – see [www.apca.com.au](http://www.apca.com.au).

<sup>36</sup> See

[http://www.iso20022.org/documents/BJ/BJ020/ISO20022BJ\\_CardPaymentsExchanges\\_V3\\_with\\_comments.pdf](http://www.iso20022.org/documents/BJ/BJ020/ISO20022BJ_CardPaymentsExchanges_V3_with_comments.pdf)

discussions is maintained by a small community of dedicated experts. It is worth considering whether better coordination in this area would deliver operational efficiencies for participants over the long term, and whether lessening dependence on a wide variety of expertise would provide cost benefits and a lessening of risk associated with maintaining that expertise.

### **6.3. System Integrity and Fraud Prevention**

67. Card fraud in Australia is on the increase<sup>37</sup> and there are strongly expressed views that the problem needs to be addressed across the industry.<sup>38</sup>
68. The interoperability of the card payments infrastructure means that all participants are vulnerable to compromise at their points of common interface, and recent evidence of fraud migration suggests that this is a global problem.
69. Historically Australia has a good fraud record, due in part to effort and expenditure at the scheme and financial institution level. As fraud migrates from overseas, schemes are encouraging concerted industry responses, and a range of industry groups are attempting this. However, there are multiple different industry groups, with different membership and scope, seeking to address particular issues.
70. This issue aligns in part with the rationalisation of technical and operating standards mentioned above, since many industry standards are designed to prevent fraud. Attachment 1 refers to some of the system integrity standards now in use.
71. There is no single body with a remit to address card fraud with support and representation from all participants and schemes in the network.

### **6.4. System innovation**

72. The Edgar Dunn work on innovation identifies some challenges to systemic innovation in Australia, while acknowledging the significant coordinating structures.<sup>39</sup>
73. Both environmental factors and public policy point towards the promotion of scheme competition as the principal driver of systemic innovation in Australian card payments.<sup>40</sup> But having regard to the high degree of interoperability across schemes and the increasingly integrated nature of the overall infrastructure, some coordination on basic platform elements may be desirable to maximise the efficiency of scheme competition.

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<sup>37</sup> See statistics at [www.apca.com.au](http://www.apca.com.au)

<sup>38</sup> See announcement by Visa at [http://www.visa-asia.com/ap/au/mediacenter/pressrelease/NR\\_Au\\_091208\\_security.shtml](http://www.visa-asia.com/ap/au/mediacenter/pressrelease/NR_Au_091208_security.shtml)

<sup>39</sup> See Innovation in Payments (Edgar Dunn, 17 March 2009) at p47.

<sup>40</sup> See discussion at section 5.

74. Systemic innovation almost always has policy and regulatory implications, as well as commercial and operational ones, as section 5.1 above demonstrates. There is room to consider (as the Card Payments Forum is starting to do) whether an industry-wide discussion on systemic innovation would manage regulatory and policy issues better than in the past.

### **6.5. *Public Policy Engagement***

75. In recent years, regulators have controlled the direction and content of the policy debate in Australian card payments. The global financial crisis raises the likelihood of continuing strong Government and regulatory engagement, even as the RBA seeks to implement its proposal to withdraw from economic regulation of interchange fees.
76. In card payments, sharp differences between key stakeholder groups have sometimes hindered the development of a clearly articulated industry policy agenda, leaving the RBA to arbitrate amongst competing policy positions. Better industry coordination of public policy engagement could reduce the scope for this arbitration.
77. Done well, this will drive policy debates towards outcomes that harness competitive forces better than government or regulator-imposed policy, by ensuring that those with deep expertise and significant investments at stake, take the responsibility to design solutions to industry issues. They must always do so in the knowledge that regulators will assess the solution against public policy requirements and the interests of a broader stakeholder community.
78. There are some recent examples of effective industry collaboration on difficult public policy issues: The implementation of a transaction account switching package and an ATM reform package agreed between industry and RBA. Another example currently on foot is a proposed package of industry collaborative measures to address Government concerns around scheme card account switching. While not yet complete, the latter example has engaged a wide community including financial institutions and card schemes.
79. The Forum is invited to consider whether such coordinated approaches are likely to yield better results for both systems users and participants in the future than Government-imposed solutions.

### **6.6. *Next steps***

80. The Card Payments Forum is invited to consider the areas referred to above – network connectivity, message and interchange standards, system integrity and fraud protection, system innovation and public policy engagement – from the perspective of whether existing network coordination and competition are appropriate and effective, or whether better industry outcomes might be possible from different arrangements. It may be that more detailed analysis and debate of

individual areas is required, in which case the Forum may wish to explore how best to do this.

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Standards										
ISO	Australia	EMV	PCI	USA	CECS ATM	CECS POS	VISA POS	VISA ATM	MASTERCARD POS	MASTERCARD
<b>Secure Cryptographic Devices</b>										
13491-1 Concepts, requirements and evaluation methods	2805.14.1	EMV	PCI-PIN, PCI-LUPT	FIPS 140-2 <sup>7</sup>	✓	✓	✓	✓	✓	✓
13491-2 Security compliance checklists	2805.14.2		PCI-PIN, PCI-LUPT		✓	✓	✓	✓	✓	✓
			PCI-PPED							
			PCI-LUPT							
			PCI-EPP							
<b>Messaging</b>										
8583-1 <sup>11</sup> Messages, data elements and code values	2805.12.1	EMV		Message format, structure & content <sup>1</sup>			✓ <sup>9</sup>	✓ <sup>9</sup>	✓ <sup>10</sup>	✓ <sup>10</sup>
8583-2 Application and registration for Institution Identification codes	2805.12.2			Codes						
8583-3 Maintenance procedure for codes	2805.12.3			Maintenance of codes						
13492 Key Management related data element - usage of data element 53 and 96	2805-2			Message structure format & content	✓ <sup>2</sup>	✓ <sup>2</sup>				✓
<b>Privacy</b>										
<b>Secure File Transfer</b>										
18668	2805-9			Privacy of communication						
	2805-10			File Transfer integrity validation	✓	✓				
<b>Message Authentication Codes</b>										
9797-1 Message Authentication Codes - Mechanisms using a block cipher		EMV					✓	✓	✓	✓
9797-2 Message Authentication Codes - Mechanisms using hash functions										
18609 Requirements for message authentication using symmetric techniques		EMV	PCI-PIN				✓	✓	✓	✓
	2805-4.1			Message Authentication - Mechanisms using a block cipher	✓	✓				
	2805-4.2			Message Authentication - mechanisms using hash functions	✓	✓				
<b>Secure Hashes</b>										
10118-3 Dedicated Hash Functions	2805-13.3	EMV		Secure Hash Functions SHA-1			✓	✓	✓	✓
<b>Compliance</b>										
	Annexure I <sup>8</sup>			CECS Manual annexure I	✓	✓				
	CECS Manual annexure I									
<b>Random Numbers</b>										
18031 Security Techniques - Random bit generation		EMV			✓ <sup>6</sup>	✓ <sup>6</sup>				✓
							✓	✓	✓	✓
<b>Data Security</b>										
			PCI-PIN	NIST 800-22						
			PCI-DSS							

Notes: 1. Based on ISO 8583:1993 with extensions 2. Many bilaterally agreed variations 3. Requirement to use 3DES (online) or RSA (offline) as specified in ISO 9564-2 is captured in the two parts of AS 2805 (part 3) 4. PCI state that these requirements are embraced, but are not specifically referenced. Australian standards have standardised triple DES as an algorithm (DEA 3), whereas ISO and USA refer to it as a mode-of-operation (of 1DES)

- 6. Annexure I of the CECS Manual is functionally equivalent to TG-3
- 7. Numerous USA networks use TG-3 for PIN security audits
- 8. This is closely aligned with, but with Australian flavour to TG-3
- 9. Understood to be many variations
- 10. Work underway to consolidate to a single variation
- 11. There are two primary variants of 8583, 8583:1993 & 8583:1987