

REFORMING THE AUSTRALIAN PAYMENTS SYSTEM: THE STATE OF PLAY¹

The key objective driving reform in payments clearing and settlement in Australia is enhancement of the safety and integrity of the system. It is also important to improve the efficiency with which payments instructions are handled and funds made available, and to introduce greater competitive equity among service providers.

At one level, these key objectives are all likely to lead to less paper and more electronics as the basis for transactions.

Electronic funds transfers are more efficient than paper-based transactions, as well as being more secure, cheaper and faster, and capable of providing finality of payment with greater certainty. Electronic funds transfers can be integrated directly with the ordering and delivery of goods and services, and can substitute more effectively for currency than can paper.

Electronic funds transfers, while providing the opportunity to reduce risk, also change its location. Unlike cheques, there is no uncertainty about whether payers have the wherewithal to pay – EFT transactions do not proceed unless the customer's capacity to pay is established beforehand. As a consequence, electronic funds transfers shift risk away from ordinary customers (who may not be well placed to assess and manage risk) towards

financial institutions (which are more adept at both).

The use of electronic funds transfer technology can also enhance the competitiveness of the market for financial services. Effective entry into the EFT payments system is, in a number of ways, easier than into the cheque system.

Electronic payments can be cleared immediately against both the paying customer's balances and the receiving institution's exposure limits against the paying institution. This means that prudentially sound financial institutions (including relatively small non-bank players) that meet the required technical standards can be accommodated more readily. Conversely, the cheque payments system is less amenable to accommodating new entrants on the same terms as the well established players, because the attendant risks on institutions cannot be managed as effectively in advance, and the systems for physically processing paper are more cumbersome and expensive.

The inherent advantages of electronic systems, however, do not mean that cheques will disappear overnight. Cheques have some obvious attractions in a community so accustomed to their use. With appropriate reforms to processing (e.g. truncation,

1. This article is based on a speech given by Mr Lyle Procter, Head of Financial System, to the 1993 AIC Banking Industry Conference.

imaging), cheques are likely to remain for a good while yet. Nonetheless, it is clear that the reform and development of the Australian payments clearing system will cause more value to shift out of paper onto electronic systems. In the first instance, this shift should occur for high-value transactions (principally bank cheques and warrants). In the longer term, it is likely that there will also be a substantial, (though not total), shift of ordinary, low-value, cheque payments to EFT mechanisms.

The focus of the changes underway in the Australian payments system is the Australian Payments Clearing Association (APCA), which is currently Chaired by the Reserve Bank. The Bank is involved with the reform process not simply as a member of APCA, but also as the central bank with overall responsibility for the soundness of Australia's financial system, and the payments mechanisms which are at its heart.

The balance of this article covers:

- recent developments at APCA;
- some central banking considerations, especially settlement risk control; and
- solutions which are emerging to ensure settlement risk is properly accounted for and managed.

THE EMERGENCE OF APCA

APCA was incorporated a little over a year ago and is now gradually taking over the general management of the Australian payments clearance system. The company's first Annual Report (released in October 1992) reports these, and other matters associated with its establishment, in some detail.

The Operational Framework

APCA's operational objectives are to:

- develop better co-ordinated, more efficient and cost-effective payments clearing systems;

- provide for wider involvement on the part of financial institutions in terms of both access and decision making; and
- introduce measures to better manage and control payments system risk.

The framework in which these objectives are being pursued recognises four separate payment clearing streams: the paper (principally cheque – clearing system); and the three EFT clearing streams covering bulk direct entry payments, retail EFT payments, and wholesale high-value EFT payments.

Most of the structural changes being made to the payments clearing system by APCA will, in the first instance, affect relations between providers of payment services, rather than between payment providers and their customers.

As in other countries the development of an efficient, prudentially sound, generic high-value EFT system is a clear priority. The centrepiece of the high-value system will be a risk control point to be known as PRESS (the Payments Registration and Electronic Settlement System), which will be discussed later in this article. Concurrent with the introduction of this system, facilities to conveniently make high-value payments electronically will be greatly expanded.

Taking Responsibility

APCA is well on the way to taking over responsibility for managing the payments system. The transfer of responsibility initially will see the dissolution of the Australian Clearing House Committee which, in reconstructed form, will become the paper clearing management committee of APCA. Subsequently, APCA management committees will absorb a range of other long established and primarily banking industry based, management committees, mainly operating under the auspices of the Australian Bankers' Association. That shift of responsibility is taking place smoothly, and should be completed during 1993.

A significant difference in the new arrangements is that responsibility for managing the clearing system will be shared more effectively with the building society and

credit union industries, among others. Management will take place within a corporate structure, with clear lines of responsibility and avenues for appeal.

The Public Interest

A paradox of sorts is inherent in payments systems. A good measure of co-operation among participants – e.g. on the timeframe within which payments are cleared and settled, on technical and security standards, institutional linkages and so on – is necessary if the system is to work. At the same time, there needs to be a good measure of competition if benefits to consumers are to be maximised. The task is to find the right balance, and there will be necessarily some elements of judgment in that. APCA is committed to ensuring that the co-operative arrangements agreed in the Association are both well publicised and transparent, and can withstand public scrutiny. The Trade Practices Commission (TPC) has been kept fully informed of the arrangements APCA is developing. Furthermore, formal authorisation by the TPC is being sought both for the company's Memorandum and Articles of Association and, in due course, the rules governing the individual clearing streams. That process will subject APCA's arrangements to close scrutiny. There is also provision for any individuals, companies and other bodies with an interest in payments system issues to join APCA as Associate Members and be informed about the activities of the company.

More generally, APCA, in conjunction with the Reserve Bank, intends to establish and publish a statistical information base, which should contribute to an improved general understanding of payments system developments.

The Present Focus

The groups which will become the management committees for the four different clearing streams are now well established. Each has made considerable progress towards formalising rules and procedures that will govern the different clearing streams.

This work is aimed at developing and agreeing sound operating rules and procedures to: provide the base needed to accommodate the changes occurring in payments technology; integrate additional players such as newly establishing banks; and widen the scope for some existing players such as the building societies and credit unions. The results are already starting to appear. Agreement has been reached recently within APCA on a policy for the allocation of unique identifying numbers to all institutions participating directly in the payments system. This change will greatly enhance the ability of building societies and credit unions to participate more directly – effectively on much the same footing as the smaller banks. The credit union industry has already negotiated its direct participation in the exchange of bulk direct entry payments with the banking system generally. The change will also allow institutions using agents to handle their clearing to change those arrangements much more readily.

(a) Paper clearings

The first clearing system to formally come under the control of APCA will be paper. The new rules and procedures being developed for the paper clearing system envisage that all institutions offering accounts accessible by cheque (or payment order) will be members, with rights to have their views represented at meetings of the management committee. Not all participants will want to be as fully and directly involved as others. Accordingly, the membership structure will recognise the different status of participants depending on whether they clear and settle payments directly with others or, instead, rely on a clearing agency arrangement. In the latter case, some may wish to settle directly on their own account, an option not previously available. Some players will rely almost exclusively on agents – principal members of the system – to both clear and settle on their behalf.

One important issue that is yet to be finalised concerns the rules that will operate in the unlikely circumstance of a participating institution being unable to settle for payments cleared to it (see below).

Another significant issue, that is closer to resolution, concerns the terms on which new members will be able to participate in the paper clearing. Taking as given that institutions must first be of acceptably high prudential status, it would not be sensible to allow any potential new player to impose, without restraint, the very substantial adjustment and investment costs on all existing members of the group which flow from having a new member as a full, direct-clearing participant.

APCA has sought to find a solution which has the agreement of all existing and potential members likely to be affected. It seems APCA will be able to agree entry fees considerably lower than now, and which will satisfactorily reconcile the conflicting interests of the established players and potential new entrants.

(b) Electronic clearings

(i) Retail systems

The retail payments system, which serves the Australian community for the most part reliably and well, will not be changed precipitately. It will, however, change gradually, and in ways which should, on balance, please the community (e.g. through further substitution of faster, safer, more convenient EFT transactions for cheques). Improvements to the efficiency of the system, however, are likely to involve some more explicit prices for payments services – which may be less welcome but which are a necessary part of the push to greater efficiency.

Where services are provided free of explicit charge, or at prices well below cost, the tendency is for the cheap service to be over used. Problems are compounded if services with substantially different costs – e.g. cheques and EFT transactions – are supplied at much the same price. Such situations can occur when savings/investment facilities and transaction services are supplied as a bundle. Finding the right answers in such situations is never easy, but the efficiency of the system is likely to be improved by more explicit prices being charged for

services which reasonably reflect their costs.

APCA has an important role in enhancing the competitiveness of the retail market by making sure that the rules and procedures governing participation in EFT and other systems are fair, effective and sustain user confidence.

The APCA committee developing the bulk direct entry payments clearing system, for example, has played a significant role in facilitating the more direct access of credit unions, and building societies, into what was previously a bank-only arrangement. That committee is well advanced with drafting revised rules and procedures to govern those payments. Those rules will seek to reduce settlement risk by co-ordinating the timing of settlement for direct entry transactions more closely with the day on which payments are to be credited to beneficiary accounts.

The APCA committee managing the clearing of low-value EFT payments (cards, EFTPOS, ATMs) is similarly working to draft appropriate rules and procedures. The issues in this stream are a little different from those mentioned previously, because proprietary systems are used to process many of the transactions.

(ii) High-value payments

High-value payments are still overly reliant on paper instruments (cheques and warrants). Such dependence is fostered by the willingness of banks to pay customers interest on cheque deposits from day one (and even to allow trusted customers to conduct their cheque accounts on the basis they may draw against these yet-to-be-cleared funds) notwithstanding that the bank concerned will not receive cleared funds for several days.

While this system is convenient, inter-bank risks in the arrangement need to be properly controlled. The inter-bank risk

management problems are compounded if the transfers are in the form of inter-bank warrants which, by convention, are irrevocable, but give rise to potentially very large exposures of the system to particular players.

The delay with which cleared funds become available, and the inefficiency and risk which can arise in the industry as a consequence, mean there is a consensus about the need to reform the high-value payments system. What is needed is both the high-value, EFT payments infrastructure which will make the shift from paper to EFT practicable, and an understanding by customers that cheques are not the most appropriate way to transfer large amounts of funds quickly and safely.

A start was made in the late 1980s when the major national banks (and later, two state banks), sponsored the establishment of the BITS system for high-value EFT payments. For a number of reasons, the BITS system has not achieved the level of usage required to make strong inroads into the paper payments system. The establishment of Austraclear did a good deal to improve the efficiency of the commercial securities market. So also did the establishment by the Reserve Bank of RITS, which put the Commonwealth Government Securities market on an electronic register and provided for delivery of securities against irrevocable EFT payments.

While progress has been made, too much high-value paper remains in the clearing system. It is estimated that some 80 per cent of the value of paper payments is accounted for by less than 10 per cent of the number of payments. It is this 10 per cent which is of immediate concern in terms of reducing risk. This is an area in which central banks – both here and in other countries – have a particular interest. The very large values involved – probably over \$60 billion each day in Australia – make this the key risk area in payments. APCA is working closely with

the Reserve Bank to develop a new generic high-value payments system, with a central risk-control mechanism.

THE INVOLVEMENT OF THE CENTRAL BANK

As the central bank, and the supervisor of banks in Australia, the Reserve Bank takes a very close interest in the integrity and good management of the national payments system.

Failure to Settle

At the technical level, under the *Banking Act*, banks are required to settle their clearings (exchanges) of payments through settlement accounts with the Reserve Bank. The Bank has also decided, in principle, to make settlement facilities available to the building society and credit union industries. The Bank's strong preference is that settlement for these institutions be accessed by industry bodies (Special Service Providers) supervised directly by the new Australian Financial Institutions Commission (AFIC). The terms of these new arrangements are being negotiated at present.

The Reserve Bank would be closely involved also in the remote event of the failure of a bank to meet its settlement obligations. The *Banking Act* gives the Reserve Bank responsibility, in the event of the failure of a bank, to act to protect the interests of the depositors of that insolvent bank. This could involve the Bank taking control of the bank in difficulty, and running it in the interests of its depositors.

That process may not, however, deal with the immediate consequences of the failure to settle. The immediate need is for the payments system to continue to operate smoothly, while accommodating a traumatic event.

Dealing with a failure to settle would seem to have two elements. First, the system would need liquidity to cover the initial shock and second, there would be the need to deal with any ultimate, unrecoverable, loss. The Bank has said that the design of the payments system cannot be predicated on the

presumption that the central bank *will* act, or can be *assumed* to act, in a certain way. That is, it cannot be presumed that the Reserve Bank will use what is ultimately taxpayers money to underwrite risk in the system. The moral hazard in such an approach is obvious. Consequently, the industry needs to have in place robust arrangements to monitor and manage risk in the payments system, including ways of ensuring that a serious problem with one institution does not flow into major difficulties for other participants and the system as a whole.

In the Australian environment, failure to settle arrangements involve an advance commitment within the industry itself to be prepared to share any ultimate loss, both in paper and in the electronic streams. Exposures in electronic systems can potentially be limited fairly precisely. This is less feasible in paper, though here it could be expected that any ultimate loss would be reduced as revocable paper is returned unpaid.

The appropriate handling of the contingencies facing institutions involved in pre-commitment to loss sharing is now being considered by the banking supervisors. The present Australian Clearing House Agreement already embodies an unlimited commitment to loss sharing. The object now is to design an improved system which will minimise risks in payments, restrict potential losses, and install robust mechanisms to deal with any ultimate loss that might occur.

Settlement Risk Control: Gross or Net Exposures

The ideal payments system could be said to be one where payments obligations arising between banks are settled immediately in the equivalent of cash issued by the central bank. With no delay in settlement, and no inter-bank exposure, there would be little prospect of the failure of one institution impacting directly on another. But such a system is not without problems in other areas.

There are also substantial arguments for systems like that in Australia, where exposures are brought together at the end of the day, in one net figure, which is settled through the

Reserve Bank. A net settlement system, among other things, can contain liquidity needs to a manageable dimension.

What is clear, in such a deferred settlement system, is that the multilateral netting arrangements on which it is based must be absolutely assured. Gross exposures in such a system are much too large for institutions to handle without serious stress.

The Australian clearing system has long operated on the basis that only the multilateral net positions are settled. The arrangement has worked without problems, partly because a major player has not failed in the clearing system. The durability of the system has not been stretched to the limit.

Some doubts have been expressed about the possible robustness of multilateral netting in the present Australian legal environment, in some extreme situations. To deal with these doubts, the Bank has put in train processes to achieve legislative changes necessary to put multilateral payment netting on a legally robust and secure foundation.

Settlement Risk Control: Shorter Lags

Because the extent of inter-bank credit risk in the payments system is directly related to the delay between payments being made and payments being settled, another important way to enhance security is to reduce the delay in settlement.

To this end the Bank is moving to reduce the time by which payments remain unsettled, requiring all payments cleared during a day to be settled by 9.00 a.m. on the following day, before the payments system re-opens for new business. There will be no carry over of settlement risk, as there is now, to what is effectively day 3 of the clearing/settlement cycle: the cycle will be complete by the morning of day 2, and institutions will start day 2 with a clean slate. Having the payments clearing and settlement cycle completed within twenty four hours will be a significant milestone in the reform of the Australian payments system.

The new arrangements are planned to be effective around the middle of this year.

This change will bring a number of interesting consequences. Not least, the inter-bank financial markets (as well as the official short-term money market) will need to open around 7.00 a.m. each morning, so that the necessary funding can be arranged to enable net outstanding positions between banks to be settled at 9.00 a.m. Moreover, because the settlement process will be centralised in Sydney, the clearing of payments between banks in regional centres such as Perth will need to be finalised the night before, Perth time (or in the early morning of day 2 Eastern Standard Time).

Risk in the Paper Payments System

Risk in the paper payments system has some unique elements.

Administered properly, the cheque payments system should not pose great risks to the banks involved: any cheques (including bank cheques) which are not paid, for whatever reason, should be returned, 'dishonoured' to the depositor, and the related deposit rescinded.

It can be argued that collecting banks should not pay away on cheque deposits until the paying bank has paid (settled) for them. By protecting itself in this way the collecting bank reduces the risk that the failure of another bank will flow through to it directly.

In this context the banking industry, supported by the Reserve Bank, has submitted to the Attorney-General's Department that the current review of the *Cheques and Payments Orders Act* should remove any uncertainty about the right of a collecting bank to return cheques not settled for.

Provided the option of returning unpaid cheques is unambiguously available, the problems of a failure to settle which might arise in the paper clearing system are essentially about a range of so-called 'irrevocable', inter-bank payments – principally bank warrants. APCA, with the encouragement of the Reserve Bank, will be moving to reduce the use of these forms of paper payment instruments as quickly as possible.

The rules covering failure to settle situations in the reformed payments system will maintain a clear distinction between paper and EFT transactions. Setting irrevocable paper payments aside (because their use will, hopefully soon, be greatly constrained), there should not be a situation where a 'loss' remains in the paper (cheque) clearing system; all cheques not settled for will be returned unpaid to the depositor. (There may, of course, be some substantial temporary liquidity needs to be accommodated.) Nonetheless, to the extent an unrecoverable loss in paper might remain from a failure of a bank, it will be shared among the other participants.

Risk in EFT Payments

EFT payments change the character of risk in the system. Unlike cheque payments which, if unpaid, can be returned to the drawer without disadvantage to the collecting banker, EFT payments between customers of banks effectively become commitments by institutions themselves to transfer funds. The risk that remains is that the paying bank will be unable to make good its obligation to settle with the receiving bank: in that event the receiving bank is at risk of loss.

It is important to the control of inter-bank risk in electronic systems that exposures between players be monitored closely, and kept within clearly defined limits. To this end the Bank, in conjunction with APCA, is working to develop the PRESS settlement risk control project. This is a facility to be developed under the auspices of the Reserve Bank which will allow all inter-bank electronic payments to be registered and cleared against available settlement funds, or approved credit limits, before being transmitted to the receiving bank.

Ultimately it is conceivable that the PRESS system could be refined to the stage where payments between banks will only be possible where paying banks have the settlement account balances to permit instantaneous, on-line, settlement. However, as noted earlier, there are some unfinished debates about gross real-time systems versus deferred, multilaterally-netted, systems.

The following section provides some background on the PRESS system and outlines its main features.

PRESS: PAYMENTS REGISTRATION AND ELECTRONIC SETTLEMENT SYSTEM

Towards the end of August 1992, the Reserve Bank wrote to all banks confirming its commitment to the establishment of a so-called 'credit module' as the means of implementing a netting/control system for settlement risk, and as the centrepiece of the reformed Australian payments clearance arrangements.

It was determined that the control module should be owned and operated by the Reserve Bank, consistent with the Bank's statutory responsibilities for the payments system and its objective of achieving settlement processes in Australia of the highest possible integrity, to the benefit of all in the industry. This decision is in line with the roles in payments clearing being adopted by a number of other central banks around the world.

The specification of PRESS calls for a control system which will ensure a high level of operational efficiency; equity between the participants; and overall prudential security.

The starting point for this work on the control system was a proposal which came initially from the management committee for the high-value system in APCA. In the event, the preliminary specification which the Bank has endorsed is not all that different from the proposals put forward by the APCA management committee.

PRESS will be a control box linked electronically to a range of high-value, inter-bank payment delivery systems. Intentions to make a payment from one bank to another will be registered in PRESS, and provided the paying bank has sufficient unused credit in PRESS against both the receiving bank and the system as a whole, the payment will be cleared immediately and irrevocably to the

receiving bank and on to the ultimate beneficiary. As payments are registered and accepted, the PRESS control box will automatically adjust the bilateral exposure position between the two banks, and the multilateral net position of the paying and receiving banks against the system as a whole.

Conceptually the project is straight forward. Nonetheless, much remains to be done to design and build the control system and connect it to networks of EFT payments flows, all with appropriately high levels of security. It will also be important, in designing PRESS linkages, not to put institutions to unnecessary expense. The PRESS system, fully operational, is still eighteen months to two years away.

The PRESS system will be primarily credit-limit based within the day, although there will be linkages to other sources of same-day settlement funds in institution's accounts with the Reserve Bank.

The credit system will have three elements:

- each bank will allocate to each other bank a limit on the maximum loss it will be prepared to carry in the event of its failure;
- the sum of those individual loss exposure limits will set the cap on the exposure of the system as a whole to the bank in question; and
- at the end of the day (or, more precisely, 9 a.m. the next day) each bank in debt to the system will be required to settle, and so bring its usage of credit in PRESS back to zero.

If during the day a bank were to initiate a payment which would breach its limits in PRESS, that payment would not be registered and processed: rather, the intention to make the payment would be recorded and queued for later registration and processing, once the credit position of the paying bank had been sufficiently restored to allow the payment to proceed within the agreed limits.

The prudential supervisors will clearly have a role to play in the development of the complex system of bi-lateral and multi-lateral exposure limits.

What happens if, at the end of the day, a bank owing PRESS cannot settle for its debt?

So far as the PRESS system is concerned, that would be covered by the commitment other banks have made to share the loss. The maximum contribution from each bank would be their agreed maximum loss exposure to the failed bank. The limits system in PRESS would have prevented the running up of a greater exposure than that which all participants had collectively agreed, in advance, to accept. In effect, all payments registered in PRESS which have been cleared to pass through are de facto, final and irrevocable, because all other participating banks have collectively pre-committed themselves to underwriting the settlement obligation of the failed bank *up to its limit*. Payments intentions notified to PRESS, but queued for registration and processing at a later time, would not proceed in the event of the failure of the paying bank.

The PRESS system will directly monitor and control high-value EFT payments flows across the board. There will also be linkages to the other electronic streams, including direct entry and low-value EFT systems, which will route those payments (in batches) through PRESS periodically during a day. Direct entry payments will be cleared through the module before direct entry credits are processed to beneficiaries' accounts in the receiving bank. For low-value EFT payments, a periodical batching system may leave some settlement risk temporarily uncovered, but the design of the low-value EFT system will ensure that the uncovered inter-bank exposures are small.

The paper clearing system will be separate from the EFT streams with, as noted above, its own rules for failure to settle. In the normal course, in the reformed system, paper should not be a major source of risk to the participating institutions. With the availability of an efficient, cost-effective and widely available electronic system, all high-value payments could reasonably be expected to migrate to the electronic medium. The paper system could be left with a reasonably high volume of low-value transactions – perhaps something less than 20 per cent of the value of the total payment system may remain in

paper, compared with perhaps 75 per cent at present.

Final details of the PRESS specifications are now in the process of being agreed between the Bank and APCA. Once that process is completed, the Bank will be calling for expressions of interest from those interested in building the system.

END PIECE

In general, many of the developments in payments clearance in Australia parallel those in other comparable countries. As in Australia, a lot of the focus overseas is on developing new, secure, high value electronic systems. In the European Community, proposals generally are tending towards routing high-value payments through a central control point which would settle the payments immediately against pre-funded settlement accounts. In Australia, high-value payments will be similarly focussed, and made irrevocably against agreed credit limits, for final settlement on a multilaterally netted basis at a later time. Canada has decided to develop a high-value system something like the Australian model. The United States has put a lot of work into reforming its commercial high value system by incorporating a limit system not too dissimilar from that which we are contemplating in PRESS.

It is clear from the work going on around the world that many major countries are grappling with very similar problems – credit exposures and risk, timing and finality of settlement, liquidity, pricing of access, and so on. Australia needs to at least match, if not better, the reforms being implemented overseas. Major institutions will not trade in Australian markets if they cannot be sure that financial transactions will be settled securely and efficiently. The Reserve Bank is confident that the system being put in place in Australia will compare favourably with developments overseas, while meeting the particular needs of our own market.