REVIEW OF SETTLEMENT PRACTICES FOR AUSTRALIAN EQUITIES

MAY 2008

CONTENTS

ISBN 978-0-9804751-3-5 (ONLINE)

Executive Summary

On 29 and 30 January 2008, there were significant delays in the settlement of Australian equities. As a result of these delays, the Payments System Board of the Reserve Bank has undertaken an extensive review of settlement practices in the Australian equity market.

Settlement of most equities transactions in Australia occurs in a single daily batch process run by the Clearing House Electronic Sub-register System (CHESS), which is owned and operated by ASX. This batch process, which typically settles at around noon, reduces all scheduled securities transfers, including both novated and non-novated transactions, to a single net transfer per line of stock for each participant. Settlement occurs on a delivery-versus-payment basis, with associated interbank payment flows settled across Exchange Settlement accounts at the Reserve Bank, also on a net basis. Netting reduces the amount of equities and funds that need to change hands, providing benefits to participants.

In late January, the inability of a participant to meet its payment obligations resulted in the batch being delayed on two occasions. Despite the delays, there was never any doubt that the central counterparty for equity transactions, the Australian Clearing House (ACH), would be able to meet its obligations.

As part of the Review, the Reserve Bank has considered possible fundamental changes to current settlement arrangements. One option would be to split the current batch into two parts: one for transactions that are novated to ACH, and one for non-novated transactions. The Bank does not support this option, given that there are often close connections between novated and non-novated transactions. Another option would be to move to a system in which settlement occurs on a trade-by-trade basis. The Bank's view is that this type of settlement arrangement represents the first-best outcome from a pure risk-control perspective and that there is a strong case for moving to such a system over the medium term.

In the meantime, the Bank has identified some possible modifications to the current batch settlement process for settling equities that might improve the robustness of the settlement process and improve market functioning. These include:

- the introduction of an explicit window for completion of settlement – perhaps 12.30 pm to 2.30 pm;
- clarification of lines of communication and deadlines for decisions, including by settlement banks;
- an amendment to the cut-off time for new settlement instructions, so as to allow more time prior to the batch for participants to ensure that securities and funds are in place;
- changes to the settlement fails regime, including an increase in the fees applying to failed trades; and
- an increase in the transparency of securities lending activity.

The Bank will be working with ASX and industry participants over coming months to assess whether, and how, these changes might be implemented.

Review of Settlement Practices for Australian Equities

1. Introduction

On two occasions in late January 2008, there were significant delays in the settlement of Australian equities. Following these delays, the Payments System Board has undertaken a review of settlement practices for the equity market. The Review has drawn on extensive consultation with industry participants and ASX as well as overseas central banks and regulators. It has paid particular attention to practices in the securities lending market, given that the settlement delays were in part the result of a participant's failure to meet its delivery obligations in respect of securities lending transactions. This document presents the results of the Review.

2. Background

The Reserve Bank's responsibilities

The Reserve Bank has oversight responsibility for financial stability and risk issues arising from clearing and settlement arrangements in the Australian equity market. Specifically, under Section 827D of the *Corporations Act 2001,* the Reserve Bank 'may determine standards for the purposes of ensuring that clearing and settlement (CS) facility licensees conduct their affairs in a way that causes or promotes overall stability in the Australian financial system'. Reflecting this responsibility, the Reserve Bank determined the Financial Stability Standards for central counterparties and securities settlement facilities in 2003, with the standards applying to the facilities operated by ASX. The Standards require that:

A CS facility licensee must conduct its affairs in a prudent manner, in accordance with the standards of a reasonable CS facility licensee in contributing to the overall stability of the Australian financial system, to the extent that it is reasonably practicable to do so. [1]

The standards are supplemented by a number of minimum measures which are relevant in determining whether the licensed facilities meet the standards. Amongst other things, the facilities are required to have in place arrangements to ensure that settlement is timely, irrevocable and on an appropriate delivery-versus-payment basis.

The Reserve Bank conducts annual assessments of compliance against these standards. The latest assessments were conducted over the nine months to June 2007 and the Bank found that all of ASX's licensed CS facilities complied with the relevant standards.[2] The settlement delays in January 2008, however, prompted the Bank to examine whether some changes to the settlement procedures in the Australian equity market could make the settlement process more robust. This

1 *See* Financial Stability Standards for Central Counterparties and Securities Settlement Facilities, *Reserve Bank of Australia, June 2005*.

2 *See* 2006/07 Assessment of Clearing and Settlement Facilities in Australia, *http://www.rba.gov.au/PaymentsSystem/StdClearingSettlement/reports_clrg_settlement.html*

Review therefore focuses on changes relating to the settlement of equities and the factors that affect settlement, including the securities lending market and the fails regime. It does not cover the issues of short-selling, margin lending and the supervisory framework for brokers, which fall outside the Reserve Bank's regulatory responsibilities.

Settlement of equities transactions in Australia

There are two broad classes of transactions that are settled through ASX's equities settlement facility: 'on-market' transactions and 'off-market' transactions.

On-market transactions are executed on ASX's trading platform and are 'novated' to a central counterparty, the Australian Clearing House (ACH). As a result of novation, ACH becomes the buyer to every seller, and the seller to every buyer, facilitating trading by ensuring that each trader ultimately has a known and highly credit-worthy counterparty.

In contrast, *off-market* transactions are negotiated bilaterally and are not novated to the central counterparty. The vast majority of these transactions are undertaken to ensure that securities are in position to meet settlement obligations arising from novated market transactions. These can be thought of as 'settlement priming' transactions.

There are two principal types of such transactions.

The first is a securities loan either to cover a short sale, or to cover an anticipated shortfall in a participant's securities account for other reasons. Such transactions are agreed through bilateral negotiation between the counterparties (Attachment 1 provides some background on the securities lending market in Australia).

The second type is a pre-positioning transfer of securities across accounts at ASX Settlement and Transfer Corporation Pty Limited (ASTC). Such transfers are required because institutional investors often hold securities accounts directly at ASTC, but use the services of a general clearing member to clear trades through ACH.[3] As a result, these parties need to transfer securities or funds to the clearing member acting on their behalf to ensure that scheduled novated trades are able to settle. These are not 'trades' in the normal sense, but rather transfers that need to take place for settlement to occur as intended.

The Bank is not aware of any reliable data on the relative importance of these two types of 'settlement priming' transactions, although it is highly likely that the latter is much more significant.

The remaining off-market settlements comprise a variety of transaction types, including: some securities loan returns, refinancing of margin loans, and transfers related to initial public offerings.

Another important category of equity transactions is 'crossings'. These transactions, which account for more than one quarter of turnover in ASX-listed securities, are struck off-exchange between two parties across the books of a broker. In the case of a crossing, no novation takes place and, crucially, no *direct* settlement obligations arise in the securities settlement system. If the broker holds the stock in its client sub-account at ASTC, there is merely a transfer of title

3 *ASX has three categories of direct participation: market participant; clearing participant; and settlement participant. Institutional investors are often direct settlement participants, but not direct clearing participants.*

in its own books. If, on the other hand, a party to the crossing holds its securities elsewhere (either in its own account at ASTC or via another broker/custodian), that party must separately agree with the broker an *ancillary* off-market transfer of securities. Such a transfer would occur exactly as described in the case of an institutional investor pre-positioning securities or cash for its general clearing member.

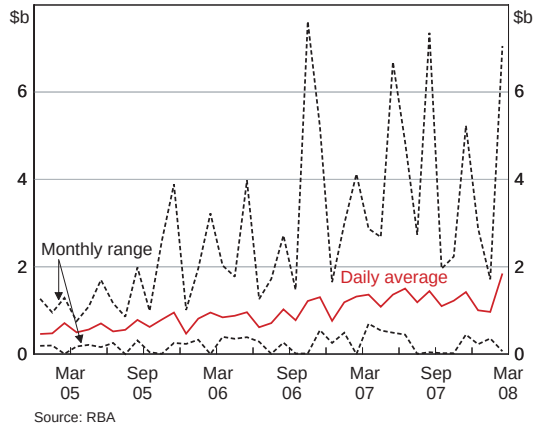
On-market transactions are settled on the third business day after trade (T+3), while off-market transactions are settled at a time agreed between the two parties to the transactions. Many, but not all, securities loans are settled on the day that they are arranged, while some other off-market trades settle with a considerably longer lag.

Settlement of on-market and most off-market transactions takes place in a daily 'batch' run by CHESS. All scheduled securities transfers are reduced to a single net transfer per line of stock for each participant. Payments associated with these transactions are similarly settled on a net basis and occur in the Reserve Bank Information and Transfer System (RITS), passing across the Exchange Settlement accounts of a number of 'settlement banks'.[4] This method of settlement is known as Delivery-versus-Payment (DvP) Model 3.[5] Settlement typically takes place at around noon each day. The deadline for new batch settlement instructions is 10.30 am (Attachment 2 provides additional details on settlement arrangements).

The netting process significantly reduces the amount of equities and funds required to change hands at the time of settlement. Since July 2007, the average daily value of gross equities settled has been in excess of $17 billion[6], split almost equally between novated and non-novated transactions. After netting, however, the average daily settlement value has been less than $2 billion although, over recent years, it has been as high as $7.6 billion (Graph 1).

Graph 1

Value of CHESS Batch Settlements



Source: RBA

3. The Events of 29 and 30 January

On 29 January, settlement was not completed until after 4.30 pm, more than 4 hours later than usual. On the following day, settlement was again delayed, on this occasion until 2.30 pm. These delays occurred at a time of considerable volatility in the stock market and had a negative effect on investor sentiment. Settlement delays of this length are unusual, though not unprecedented.

4 *In the context of settlement in CHESS, these are known as Payment Providers.*

5 *There is also a facility to transfer securities free of payment outside of the batch settlement.*

6 *This figure is based on data sourced from CHESS. The values of both the buy and sell legs of all novated transaction vis-à-vis the central counterparty are included alongside the value of all market-related non-novated transactions.*

For instance, on 8 October 1999, settlement was not completed until T+4, due to an operational problem on the intended settlement day.[7]

The settlement delays of late January resulted from the inability of a single participant (Tricom) to meet its payment obligations. The Bank's understanding of the broad sequence of events is summarised below.

At the start of the day on 29 January, Tricom had been projected to be a net-receiver of funds in the batch. New off-market settlement instructions were then submitted ahead of the 10.30 am cut-off, leaving Tricom with a net payment obligation. After this cut-off, the settlement algorithm in CHESS identified that Tricom did not have sufficient securities in place to meet all of its scheduled delivery obligations. As a result, ASX, as per standard process, rescheduled several off-market transactions within the batch to the next business day. Tricom was therefore no longer obliged to deliver the affected lines of stock, but since the funds due in respect of these deliveries would no longer be forthcoming, the size of its net funding requirement for the day increased further.

Given the scale of the new funding requirement, Tricom's settlement bank declined to provide the necessary funding for Tricom to meet its obligation. This required that the settlement batch be recalculated, in line with ASX's documented procedures. This was done by removing a number of off-market transactions from the batch under which Tricom was due to receive securities and pay cash. These transactions were then re-scheduled for settlement the next business day, leaving Tricom a small net receiver of funds.[8] Settlement could then be completed. Similar issues arose on 30 January, although on that occasion Tricom's settlement bank ultimately agreed to fund the position.

4. Issues Arising from these Events

Although these events have raised some issues about the settlement process, at no stage has there been any doubt about the stability of the central counterparty, ACH. The Bank's assessment of ACH against the Financial Stability Standard for Central Counterparties in 2007 concluded that ACH has adequate resources and risk management procedures to withstand the failure of a large participant during a period of financial turbulence. There was never any suggestion during the recent episode that ACH would be unable to settle the trades novated to it.

Furthermore, although the settlement delays were in part related to settlement difficulties arising from securities lending transactions, this does not mean that securities lending itself is problematic. Indeed, securities lending and associated short selling add to market liquidity and to the efficiency of pricing. They contribute to lower bid-offer spreads and help ensure

7 *There are also occasional instances of less severe settlement delay. In addition to the delays of 29 and 30 January, there have been seven days since the beginning of 2007 on which settlement has not been completed until after 12.45 pm. On each occasion settlement occurred by 2.00 pm.*

8 *Should a participant be unable to settle its scheduled obligations in the batch (due to a shortfall of either securities or funds), ASTC settlement rules allow for the transactions of the affected participant to be backed out. These transactions are then rescheduled for settlement on the next settlement day. The precise nature of the back-out process depends upon whether or not the failing participant is in default. If the participant is in default, ACH, as part of it's default management strategy, may inject liquidity in respect of novated trades. The back-out algorithm seeks to remove as few settlements from the batch as possible, maximising settlement values and volumes, while minimising spillovers to other participants and minimising the potential injection of liquidity from ACH required in a default scenario. Non-novated trades are generally backed out first.*

that prices reflect the views of both bullish and bearish investors. Securities lending also plays an important role in ensuring that most trades settle on time, even when market participants experience operational problems. While recent events have raised a number of issues around the transparency of short selling which deserve attention, both short selling and securities lending are critical to the efficient functioning of the equity market.

Notwithstanding this assessment, the delays have highlighted a number of issues related to settlement arrangements that are worthy of further examination. These include the following:

(i) Timelines and decision points

While settlement normally takes place by around noon each day, there is no fixed time by which settlement must be completed. Similarly, there is no irrevocable time by which settlement banks need to authorise their clients' payments. While this flexibility has some advantages, it means that decisions can be delayed, creating uncertainty about what is going on in the market and when settlement will be completed.

(ii) The joint settlement of on-market and off-market transactions

The recent events demonstrate that the inability of a settlement participant to meet its settlement obligations arising from off-market transactions can have implications for the settlement of trades novated to the central counterparty. While novated trades do not carry any guarantee that settlement will occur according to the T+3 schedule, the market rightly has a strong expectation that transactions novated to the central counterparty will settle on time.

(iii) Concentration of pre-settlement activity

There is considerable activity in the couple of hours prior to the 10.30 am cut-off for settlement instructions as participants arrange to lend and transfer securities. In many cases, settlement participants wait until the morning of T+3 to complete the priming of their accounts, partly due to the need to wait for final matched settlement instructions from offshore clients. This concentration of activity can lead to significant swings in participants' settlement obligations on the morning of T+3. As a result, the smooth functioning of the system is reliant on the willingness of participants' settlement banks to accommodate late swings in net cash payment obligations.[9]

(iv) Lack of transparency of off-market transactions

The events of January also highlight a lack of transparency in off-market transactions. These transactions are bilaterally agreed and the terms and conditions associated with them are known only to the direct counterparties to the transaction. At present, securities lending transactions, in particular, are not separately identified within CHESS and hence contractual and contingent obligations in respect of such transactions – for example, the scheduled return or the lender's right to recall within three days – cannot be factored into an analysis of settlement failure risks.

5. Possible Modifications to Existing Arrangements

As part of the Review, the Bank has considered a number of possible modifications to settlement arrangements that could potentially strengthen the system. These include changes to:

9 *Similarly, there is a dependence on settlement banks' willingness to accommodate swings in funding obligations in the event that back-out procedures are triggered and settlements have to be rescheduled.*

- the basic settlement model, including settling non-novated and novated trades separately, and moving to trade-by-trade settlement;
- the functioning of the existing batch settlement model;
- the arrangements for dealing with trades that fail to settle, including the fees that apply; and
- the transparency and disclosure of securities lending.

5.1 The settlement model

Settling novated and non-novated transactions separately

Given that the settlement delays in late January arose from difficulties in settling off-market transactions, one possible response would be to split the current batch and settle novated and non-novated trades separately.

In the Bank's view, the case for such a change is weak. It would undermine the efficiency of the current batch settlement process, and would not necessarily improve the resilience of the system. As discussed previously, many of the non-novated transactions are related to the settlement of novated trades. A common batch allows these non-novated transactions to net off against securities being delivered in respect of on-market transactions. If these non-novated transactions were not settled in the same batch, alternative arrangements would need to be developed to ensure that securities were in place to allow settlement of the novated transactions. One possibility is that participants might choose to settle the off-market transactions on a non-delivery-versus-payment basis, thereby introducing principal risk to the system.

Trade-by-trade settlement

A second alternative would be to move away from the current net batch model for equities settlement to a model whereby both securities and funds transfers are settled on a trade-by-trade basis.[10] Such a model is currently adopted for fixed-interest securities and most high-value payments, and often also for equities in overseas securities settlement systems (Table 1). In the payments context, systems settling on this basis are known as real-time gross settlement (RTGS) systems; in the securities context, they are known as DvP Model 1 systems.[11]

In systems settling on a trade-by-trade basis the ordering of settlements is important to the efficiency of recycling in both cash and securities liquidity. Reflecting this, overseas systems that settle securities in this way typically offer some type of queue-management or 'offset' functionality. In some systems, securities transfers are executed during multiple 'batch-processing cycles' in which sophisticated chaining procedures manipulate the order in which transfer instructions are settled to maximise the volume or value of securities transferred. In other cases, systems incorporate algorithms to identify offsetting opportunities.

10 *There is a third model under which securities are settled on a trade-by-trade basis with finality, but funds are settled net at the end of the processing cycle (DvP Model 2). Given the separation of securities and funds transfers in such a system, intraday finality of securities settlement can only be achieved if securities transfers are collateralised or otherwise guaranteed. For this reason, this alternative has not been considered in this analysis.*

11 *Where equity trades have been novated, this can involve net settlement of obligations vis-à-vis the central counterparty by line of stock.*

Table 1: Settlement Models In Selected Countries

	High-value payments	Fixed income	Equities
Australia	RTGS	DvP Model 1	DvP Model 3
Canada	RTGS equivalent	DvP Model 2	DvP Model 2
France	RTGS *	DvP Model 1	DvP Model 1
Germany	RTGS *	DvP Model 1	DvP Model 1
Japan	RTGS	DvP Model 1	DvP Model 3
Switzerland	RTGS	DvP Model 1	DvP Model 1
UK	RTGS	DvP Model 1	DvP Model 1
US	RTGS +	DvP Model 1	DvP Model 2

RTGS: Real-time gross settlement of payments – transfer instructions are settled individually with finality.

DvP Model 1: Delivery-versus-payment Model 1– transfer instructions for both securities and funds are settled with finality on a trade-by-trade basis.

DvP Model 2: Delivery-versus-payment Model 2 – transfer instructions for securities are settled with finality on a trade-by-trade basis, with funds transfer instructions settling on a net basis with finality only at the end of the funds processing cycle.

DvP Model 3: Delivery-versus-payment Model 3 – transfer instructions for both securities and funds are settled on a net basis with finality at the end of the processing cycle.

* Refers to TARGET 2; high-value payments can also be settled in Euro-1, which is a deferred net settlement system.

\+ Refers to Fedwire Funds Transfer System; high-value payments can also be settled in CHIPS, which is a continuous net settlement system.

The introduction of such a model in Australia for all (or most) equity settlements would reduce some of the risks inherent in the current system. In particular, trade-by-trade settlement, implemented with appropriate queue-management functionality, would reduce the potential for market-wide delays in settlement due to problems with a single participant, while preserving the links between dependent settlements. It could also relax the constraints imposed by the pre-batch settlement cut-off, potentially allowing settlement priming activity to take place over a longer intraday time-frame. Furthermore, it would eliminate the need for settlement banks to accommodate potentially sizeable swings in net payment obligations arising from such concentrated settlement priming activities, or indeed from batch recalculation.

A trade-by-trade settlement alternative has in fact existed within CHESS since late 2000, running in parallel with batch settlement. In particular, this option (CHESS RTGS) allows participants to settle individual transactions in real time outside of the batch, with the securities transfer in CHESS occurring simultaneously with an interbank funds transfer across Exchange Settlement accounts at the Reserve Bank. To date, however, this trade-by-trade alternative has never been used, with participants favouring the liquidity efficiency of batch settlement. Up-front connectivity and other system and messaging costs may also have been a disincentive.

In the Bank's view, the use of DvP Model 1 for equities settlement represents the first-best outcome from a pure risk perspective, especially as it would reduce the probability that problems with one participant affect the broader market. At the same time, the Bank recognises that there would be transition costs from introducing a new settlement system. With values settled in CHESS around one-tenth of those in the high-value payments system, the case for moving to trade-by-trade settlement for equities is less clear-cut than it was for moving to RTGS for high-value payments in 1998, especially as principal risk is already addressed through delivery-versus-payment. However, as revealed by recent events, the concentration of settlement activity in the batch process and the possibility of system-wide settlement delays have the potential to

undermine confidence in the Australian equity market, which could ultimately have systemic implications beyond any direct financial loss associated with settlement problems.

On balance, the Bank sees a strong case to move to trade-by-trade settlement over the medium term. In this context, one option worth considering is the introduction of a single system for all securities settlement, as is increasingly common overseas. The Austraclear securities settlement system, which also sits within the ASX Group, currently provides DvP Model 1 settlement for the over-the-counter fixed-income market and could eventually be an option for equities settlement. In the interim, a number of changes could be made to existing arrangements to improve their functioning.[12]

5.2 Improving the functioning of the existing batch settlement model

While the recent settlement problems unsettled the equities market, existing settlement arrangements have generally served the Australian equities market well for more than a decade. Market participants value the efficiency inherent in the current batch process, not only in terms of its liquidity, but also in terms of its technical and operational functionality. Furthermore, the securities settlement system is well integrated with the central counterparty, which has strong risk management capabilities and extensive risk resources. Notwithstanding this, as illustrated by recent events, when settlement delays do occur, the consequences can be wide ranging.

The Bank has identified a number of refinements to the current system that are likely to improve its functioning and help to mitigate the impact of such events should they arise in the future. These include:

- the introduction of an explicit window for completion of settlement – perhaps 12.30 pm to 2.30 pm. This would inject a degree of certainty, while retaining valuable flexibility in the system to back-out trades in response to settlement failures;
- clarification of lines of communication and deadlines for decisions, including by settlement banks, so as to ensure that issues arising at the participant level are resolved expeditiously. One possibility here might be to apply a firm deadline by which settlement banks need to commit to meeting funding obligations arising in the batch settlement; and
- an amendment to the cut-off time for new settlement instructions. The current 10.30 am cut-off was introduced at a time when settlement banks faced a firm funding deadline of 11 am. This deadline no longer exists. Given the concentration in settlement-priming activity ahead of the cut-off, there may be a case for a later cut-off. This could ease some of the pressures, allowing more flexibility to deal with potential settlement fails.[13]

The Reserve Bank recommends that ASX, together with market participants, give consideration to changes along these lines.

12 *In the interim, there may also be merit in industry participants re-examining the existing real-time trade-by-trade alternative within CHESS, at least in respect of non-novated settlements which have not been instructed before the cut-off. These transactions are currently often settled on a non-delivery-versus-payment basis: the securities pass free-of-payment in CHESS and the associated funds pass separately through Austraclear.*

13 *Another potential change worth considering is the reopening of the system for a limited time for new instructions in the event that the batch is recalculated. This might allow other participants to take action to address swings in their net cash or securities positions as a result of the recalculation.*

5.3 The settlement fails regime

In discussions with industry participants a frequently raised issue was the incentive that participants have to ensure timely settlement. This is important not only from a stability perspective, but also from a market efficiency perspective. Timely settlement allows market participants to make contingent plans, thereby underpinning trading activity and contributing to the depth and liquidity of the financial markets. In many cases, the failure to deliver securities on time imposes costs on the market that exceed those borne by the entity failing to deliver. This is particularly so if a failure triggers a chain of failed settlements and even more so if it corrodes market confidence.

Notwithstanding difficulties in obtaining comparable data on settlement fails internationally, the headline fails rate in the Australian equity market seems to compare favourably. Less than 1 per cent of transactions in Australia reportedly fail to settle on T+3 due to a participant's failure to deliver securities. Failed trades are rescheduled for settlement the following day, with around 75 to 80 per cent of these then settling on T+4. The majority of settlement fails are for low-value trades, with ASX estimating that 98 per cent of the number of trades account for around a third of the total value of failing trades. However, the headline fails rate does not capture any flow-on effects of settlement failure. For each individual failed settlement, one or more dependent obligations often also need to be rescheduled, so that the true incidence of trades failing to settle on the intended day is in fact higher.

It is worth noting that settlement failures can and do occur in respect of trades cleared via the central counterparty. The guarantee provided by the central counterparty does not extend to timeliness of settlement. Rather, the central counterparty is ordinarily only obliged to perform on behalf of a participant should that participant be declared to be in default.

The rate of failed settlements in Australia would be somewhat higher were it not for the active securities lending market. This market allows participants to borrow securities to prevent a failure to deliver, perhaps in response to the non-receipt of securities/instructions from a client or an offshore custodian. Much of this activity appears to reflect efforts by market participants to prevent chains of settlement failures.

Internationally, a variety of approaches are taken to promote timely settlement, ranging from market monitoring to centralised arrangements for securities borrowing or buy-in.[14] One common approach is to impose a penalty on participants for failed deliveries, with this sometimes applied in combination with disciplinary procedures.

Under current arrangements at ASTC, a fail fee of 0.1 per cent of the value of the failing trade applies, with a floor of $50 and a cap of $2 000. In addition, more serious or lengthy fails may be referred to ASX's Disciplinary Tribunal.

14 *For instance, in the UK, Euroclear UK and Ireland assists a market committee to monitor settlement discipline, providing data on participants' matching and settlement performance vis-à-vis a benchmark. Where centralised securities-borrowing arrangements are in place, a subset of participants (typically custodians) pre-authorise the loan of available securities to the securities settlement system or central counterparty to assist in the completion of settlement. Several overseas securities settlement systems and central counterparties operate such facilities (for example, SIS SegaIntersettle in Switzerland and the National Securities Clearing Corporation in the United States). With the securities settlement system or central counterparty as the borrowing counterparty to the trade in such arrangements, counterparty credit concerns do not pose an issue for the committed lender. Under a buy-in arrangement, the securities settlement system or central counterparty enters the market to buy securities required to complete settlement, passing the costs of doing so onto the party failing to deliver.*

A number of industry participants have suggested that, notwithstanding the relatively low headline settlement fails rate, there might be a case for an increase in these fees. It is argued that the current fees provide little incentive to ensure that trades are settled on time; for example, the fail fee on a trade of $50 000 is only $50. Further, it is understood that in some cases these fees are not passed on by settlement participants to end clients that fail to deliver stock, weakening the incentive to deliver on time.

ASX is currently reviewing the adequacy of these fees.[15] The Reserve Bank supports this review. To the extent that the vast majority of settlement fails are in respect of low-value trades, the minimum fail fee may be set at too low a level. There may also be a case for an increase in the $2 000 cap and the percentage-based fee. While there are relatively few fails among high-value trades – perhaps reflecting an already strong disincentive associated with reputational considerations – higher fees are likely to improve the incentives to settle on time, reducing risk in the system.

There may also be a case for applying a sliding scale, with significantly higher fees applying for transactions that are settled after T+4. It is possible that the failure to deliver at T+3 may be the result of an operational error by an offshore client which cannot be rectified in time due to time-zone differences. Such transactions would normally be expected to settle the following day. If they do not, a higher fail fee may be appropriate.

Several other possibilities are worthy of further exploration by ASX. These include: more rapid referral to the Disciplinary Tribunal; harsher treatment for persistent offenders; forced buy-in by the participant of a security that it has failed to deliver beyond a specified time-frame after T+3; and automatic recourse to a securities-borrowing or buy-in mechanism.

Both securities-borrowing and buy-in arrangements were previously in place at ASX but were discontinued. In the case of the securities-borrowing facility, this occurred after the withdrawal, for business reasons, of the committed lender. In the case of the buy-in facility, it was the result of the migration of securities settlement to CHESS and the judgment that the functionality of the new system provided adequate protection against settlement fails.

There are arguments for and against such arrangements. On the positive side, they are likely to increase the probability that trades are settled on time, and this should improve the efficiency of the market. They may also assist smaller participants who currently have limited ready access to the securities lending market. On the other hand, such arrangements can be costly to administer and, in the case of a borrowing facility, raise moral hazard issues if the cost of using the facility is not sufficiently high. It might also be difficult to attract lenders willing to commit securities to a centralised borrowing vehicle if there is not a strong business case to do so.

The Reserve Bank encourages ASX and the industry to take steps to strengthen the settlement fails regime. There would seem to be considerable merit in revision to the fee scale, or other penalties, to provide a sharper incentive for timely settlement. There may also be a case to examine the usefulness of centralised securities-borrowing or buy-in arrangements.

15 *ASX launched a public consultation on 'Short Selling' on 28 March, inviting comments by 24 April. See http://www.asx.com.au/about/pdf/short_selling_public_consultation_paper.pdf.*

5.4 Transparency and disclosure of securities lending

During discussions with industry participants there was a general recognition that transparency needs to be improved. There were, however, a variety of views as to the objectives of increased transparency and the scope of additional information to be disclosed.

Greater transparency might be expected to have a number of benefits. In particular, the publication of data on securities lending could:

- improve general understanding of the potential settlement risk inherent in securities lending positions. For example, observation of a large accumulated lending position in a stock relative to its market capitalisation or, perhaps more usefully, average daily turnover, might give some indication of the potential difficulty in covering a position to meet a stock recall in the event of a corporate action/event;
- help ensure that all participants in the market have access to data on the volume and value of securities lending, rather than just those directly involved in such transactions;
- assist in 'ex post' analysis of market events, and thus help understand the functioning of markets. Such data could, for example, allow analysis of the relationship between sizeable market moves and changes in securities lending activity (either new loans or recalls). The data could also assist in separately tracking the settlement fails rate on securities lending transactions. Over time, such analysis might lead to a better understanding of the way the market functions, improving its overall efficiency; and
- serve as a proxy for short selling. While there are clearly limitations on the usefulness of data on securities lending for this purpose, these data may assist in some cases. Some estimates suggest that around 50 per cent of activity in the securities lending market is related to short selling.

Improving the transparency of securities lending activity, however, faces a number of practical challenges, both in terms of operational arrangements and enforcement. One possibility might be to tag data at the trade capture stage within CHESS, requiring that the lender (or both the borrower and the lender) populate a field to denote that the trade is related to a securities loan. If this were done, it would be useful to separately identify whether the trade was a new loan, a loan return or a loan recall. One possibility is that such arrangements could be enforced by ASX in the context of the participant's adherence to operating rules.

The Bank encourages the development of arrangements for improved transparency of securities lending that will promote the efficiency, stability and integrity of the Australian financial markets.

6. Conclusion

Current settlement practices have served the Australian equities market well over many years. The batch settlement process is well established, operationally efficient and minimises liquidity demands. The events of late January, however, suggest that there is room for some changes to settlement practices that would lessen the effects of any similar disruptions in the future. In particular, the Bank sees a strong case for moving to trade-by-trade settlement for equities over the medium term, while taking steps to enhance the robustness of the existing batch settlement

process in the interim. The Bank will be working with ASX and industry participants over the coming months to assess whether, and how, the changes suggested in this paper might be implemented.

Reserve Bank of Australia
SYDNEY
23 May 2008

Attachment 1

Overview of the Australian Equities Securities Lending Market[16]

An active securities lending market has been in place in Australia for at least three decades, covering both equities and fixed-income securities. While no official data exist, market sources suggest that the value of equities loans outstanding was around $60 billion at end-2007. This was relative to a pool of potentially loanable equities of around $200 billion.[17] More than 70 per cent of the value outstanding was estimated to have been in ASX-50 securities.

In a securities lending arrangement, a holder of securities agrees to provide the securities to the borrower for a period at the end of which equivalent securities must be returned to the lender. In the interim, the lender reserves the right to recall the loaned securities. If recalled, the borrower is obliged to return the securities within three days (to coincide with the prevailing standard settlement period).[18]

In 1997, the Australian Securities Lending Association (ASLA) launched an initiative to standardise the legal documentation backing securities lending activity. Loans today are typically backed by the Australian Market Securities Lending Agreement (AMSLA), an essential feature of which is the *transfer of title* from the lender to the borrower.[19] This allows the borrower to dispose of the securities at will (subject to return of equivalent securities at the agreed date, or earlier if recalled).

The maturity of stock loans is typically two to four months, but can range from overnight to 364 days (tax implications arise if a loan extends beyond 12 months).

Participants in the equities securities lending market

The securities lending market in Australia can be characterised as a decentralised network of bilateral relationships.

The ultimate lenders of securities are typically long-term wholesale investors – superannuation funds, insurance companies and investment managers.

16 *This overview draws on insights gathered from market participants as well as information in 'Securities Lending of Equity Securities in Australia', John C King, Mallesons Stephen Jacques, 2005.*

17 *Source: Spitalfields Advisors Yearbook 2007.*

18 *The lender's motivation to recall might be to sell the securities or to exercise voting rights. Large brokers will maintain a buffer of hard-to-borrow stock to guard against the possibility of recall, but in some cases may need to buy the stock outright in the market.*

19 *This is an adaptation of the UK Overseas Securities Lender's Agreement (OSLA), promoted by the International Securities Lending Association.*

These parties typically lend via securities lending programmes operated by the major custodians.[20] The lending motivation is to secure an additional return on portfolio assets. Traditionally, this was seen as a way to offset custody fees, but today is regarded as a vehicle for performance enhancement. For a liquid security, the lending fee is typically of the order of 20 basis points (per annum). For stocks in high demand, the fee may be as high as 200 basis points (per annum).

On the borrower side, the main participants are large brokers and investment banks. These institutions may be borrowing on their own account, perhaps in relation to market-making or index arbitrage activities, or on behalf of a hedge fund via their prime brokerage business. These funds may be covering short sales in respect of either outright directional plays, or, more commonly, relative value or arbitrage strategies. Fails-driven borrowing is also important.

Risk management

Securities loans generally allow for over-collateralisation in favour of the securities lender. This reflects the fact that securities loans are typically driven by the borrower's demand for securities.

Collateralisation practices are relatively standardised in the Australian market, with cash-collateralised loans typically collateralised by 105 per cent and non-cash collateralised loans by 110 per cent. Positions are usually marked to market on a daily basis.

Lenders also usually adopt strict criteria in respect of their eligible borrower lists.

Settlement practices

The Bank's liaison suggests that, in general, around half of all transactions to cover short positions are agreed ahead of settlement date, with borrowers careful to locate illiquid or hard-to-borrow securities ahead of time. The remainder are typically agreed during the 2-3 hours ahead of the 10.30 am cut-off for batch settlement in CHESS on T+3. In part, a borrower's relationships and status in the market determine its confidence in obtaining securities as required. In some cases, borrowers also establish (for a fee) pre-committed lines of securities directly from the ultimate lender.

As far as possible, market participants seek to settle cash-collateralised securities loans on a delivery-versus-payment basis in the daily CHESS batch. Where this is not possible, securities are typically transferred free-of-payment (FOP) in CHESS with the cash collateral moving (in advance) via Austraclear. Loans collateralised with securities are also typically settled FOP, again with the collateral settled in advance.

20 *Depending on the nature of the programme and the preferences of the lenders, a custodian may act either as principal or agent. It is estimated that there is a broadly even split in Australia between principal programmes and agency programmes. If acting as principal, the custodian borrows from the lender in its own name and then on-lends to the ultimate borrower as principal. In this case, the lender's risk is only vis-à-vis the custodian (typically unsecured), with the custodian managing any counterparty risk with the end-borrower. If acting as agent, the custodian simply intermediates between lender and borrower, taking on no counterparty exposure in its own name. The lender in this case manages the counterparty exposure vis-à-vis the end-borrower. Even when acting as agent, some custodians indemnify stock lenders for any losses arising from stock borrowers defaulting on their commitments.*

Attachment 2

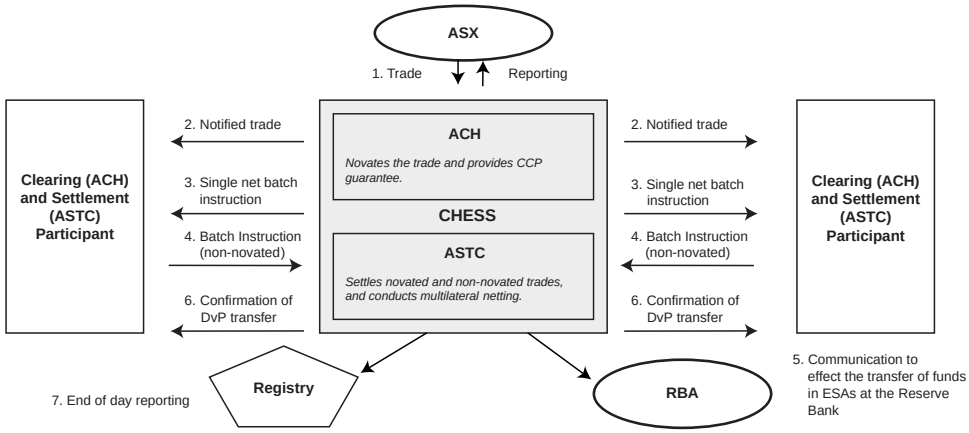
Clearing and Settlement Arrangements for ASX Trades

Once a trade has been executed on the ASX market an instruction is sent to CHESS (Step 1). The trade is novated to ACH in real time and the relevant clearing and settlement participants notified of the trade (Step 2). At T+1, CHESS generates a single net batch instruction reflecting the net position of each participant's novated trades in each line of stock (Step 3). Between T+1 and T+3 participants can also instruct CHESS to include additional non-novated (off-market) trades in the batch on T+3 (Step 4).[21]

By 8.00 am on settlement day, ASTC notifies each participant of its net cash and securities settlement obligations. Participants have until 10.30 am to negotiate additional off-market trades to 'prime' their securities accounts for settlement. After the cut-off for new instructions, participants' settlement banks are requested to authorise net funding demands. Once all cash authorisations are received, the resulting interbank obligations are settled via RITS, typically by around noon (Step 5). Participants' securities positions are then updated at ASTC and participants are notified that the delivery-versus-payment transfer has been completed (Step 6).

At the end of the day, ASTC sends a report of securities holdings to the shares registry (Step 7).

Current ASX Clearing and Settlement Arrangements



Source: ASX

21 *Free-of-payment transfers of securities may also be instructed outside of the batch.*