

Introducing T+2 for the Australian Equities Market

GBST in association with the Stockbrokers Association of Australia

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Executive Summary

In response to the Global Financial Crisis (GFC) regulators have focused on reducing risk and increasing resiliency within financial markets. One response for cash equities markets has been a move towards shorter settlement timeframes to reduce the overall unsettled exposure within the market. This has been reflected in the mandating of a T+2 model for all European Union markets by the start of 2015. Within Australia the regulatory response included introduction of margining of participant exposure by ASX Clear to bring it into line with international best practice for managing CCP risk. This has in turn led to calls to reduce settlement timeframes as a means of reducing funding costs of margins. The formal adoption of T+2 as part of the forward work program of the ASX Forum indicates that introduction is likely in the short to medium term.

A T+2 model will reduce the exposure between the CCP, clearing participants and their clients; this will be reflected in reduced margin values and the regulatory capital required to cover counterparty risk. The actual reduction will, however, vary based on each participant's trading patterns, business model and the types of clients they service.

Under a T+2 model institutional brokers will have shorter timeframes for post-trade processing, this will increase the importance of using efficient methods of notifying, confirming and agreeing obligations with clients. Increased use of Electronic Trade Confirmation (ETC) systems to automate these processes will be critical to operating within the shorter settlement period. The Hong Kong market currently operates on T+2 and is in a similar time zone to Australia which indicates that a reduced settlement period should be able to be supported by most international counterparties and their custodians.

In the retail segment the reduced settlement period will make the use of efficient electronic methods of confirming trades and moving funds more important. In particular timely cash settlement of client buy transactions will be critical to avoiding extra funding costs; this should lead to increased use of integrated electronic payment methods such as real time CMT accounts and direct debit functionality. Selling retail clients should benefit from earlier receipt of sell proceeds.

A T+2 model should not require significant changes to either CCP or participant clearing and settlement systems as the volume of transactions being processed will remain the same. In most cases the change will be accommodated by changing system configuration values rather than coding changes. As such the main technology changes will be in the areas of streamlining post-trade processing for institutional brokers and more efficient methods of collecting funds for retail brokers.

Introduction

This document will discuss the introduction of a T+2 settlement regime for the Australian equities market. The adoption of fixed settlement periods was seen as a fundamental means of limiting risk within the equities market as it limits exposure to defined timeframes and supports enhanced measurement of risk. In general shorter settlement periods are seen to reduce risk compared to longer periods.

As shown by the change from T+5 to T+3 the clearing and settlement technology used in the Australian market should support a reduced timeframe with minimal change.

Background and Drivers

The introduction of a fixed settlement period of T+5 for Australian equities in 1992 was facilitated by the establishment of:

- a single electronic market covering all States (SEATS)
- a single centralised clearing mechanism (BBS) for settlement of market activity
- Increased flexibility for brokers to manage delivery obligations via the FAST mechanism.

These changes also prepared the way for the introduction of the CHES system which facilitated the final dematerialisation of share certificates, electronic “book entry” settlements and a single settlement batch comprising both netted market obligations and DVP settlements between brokers and institutional CHES participants.

The resulting increase in operational efficiency resulting from these changes enabled a further reduction of the settlement period to T+3 in 1999. This change was implemented with minimal disruption to market operations.

Whilst the Australian market compares very favourably with offshore markets in terms of settlement efficiency several factors have contributed to a desire to further reduce the settlement period to T+2. A major contributing factor has been the introduction of regular margin cover for outstanding net obligations between brokers and the central counter party (CCP) ASX Clear to mitigate the risk of a participant defaulting on their obligations to the CCP.

A reduction in the settlement period is seen as delivering the following benefits:

- A reduction in overall CCP margin cover by reducing the net outstanding obligations between brokers and the CCP
- A reduction in exposure to counterparty, credit, operational and settlement risks
- A boost in market liquidity due to faster re-investment of capital
- The potential to reduce the amount of regulatory capital required to cover unsettled counter party exposure between the broker and their clients.

The reduction of the settlement period has also been adopted as part of the forward work program of the ASX Forum.

Offshore Market Practice

Markets on T+2

Whilst the majority of world stock markets have standardised on a T+3 cycle several markets already use a T+2 settlement cycle; these include:

- Germany
- Bulgaria
- Slovenia
- Turkey
- Egypt
- Jordan
- Taiwan
- Hong Kong
- India
- Russia (previously T+0 – i.e. pre-funded settlements)
- Korea
- Chile
- Venezuela.

The following markets have a shorter cycle than T+2:

- Israel (T+0)
- China (T+1)
- Saudi Arabia (T+0).

Europe

The European Union has resolved to implement T+2 as the standard settlement cycle for markets in all member states from 1st January 2015. This will harmonise settlement discipline across the EU and is seen as a pre-condition to the implementation of the Target 2 Securities (T2S) settlement system.¹

North America

Unlike Europe the North American markets have no firm plans to move to a T+2 settlement cycle. The USA stated a desire to move to a T+1 cycle in 2001 however implementation was postponed following the events of 9/11. Since the GFC focus has moved towards introducing a T+2 cycle in the medium term.

In March 2012 the Depository Trust and Clearing Corporation (DTCC) which operates the main CCP and settlement system for US markets initiated an independent study by the Boston Consulting

¹ T2S will provide a central settlement function in central bank money for securities in the euro area; it will be operated by the European Central Bank.

Group to perform a cost benefit analysis on shortening the settlement cycle.² The study investigated the introduction of T+2 and T+1 models; it examined 3 key areas:

- Reducing risk
- Optimising capital
- Reducing costs by streamlining processes.

The study sort input from a wide range of industry participants including:

- Institutional and retail broker dealers
- Buy side firms (asset managers, hedge funds, pension funds)
- Registered investment advisors
- Custodian banks
- Transfer agents
- Service bureaus
- Exchanges and market utilities.

In addition input from offshore markets which use shorter settlement cycles (SSC) was included.

The study showed that a majority (68%) of participants supported a move to a SSC and felt it was achievable. A higher proportion (70-75%) indicated that a day reduction in the cycle would reduce risk for the industry. There was general agreement that risk reduction was the main industry benefit however views on what additional benefits would be delivered varied by type of participant:

- Broker dealers cited process efficiency and risk reduction
- Buy side firms and custodians cited improved international harmonisation, reductions in loss exposure on in-process trades and faster issue resolution
- Custodian banks cited increased operational efficiency from process improvement by buy side firms
- Correspondent clearers and service bureaus cited risk reduction and improvements in process efficiency.

The following table summarises the study’s finding on the costs and benefits to the industry of implementing SSCs.

	T+2	T+1
Required investment	(\$550M)	(\$1770M)
Annual operational cost savings	\$170M	\$175M
Annual value of Clearing Fund reductions	\$25M	\$35M
Reduction in risk exposure on unguaranteed buy-side trades	Up to \$200M	Up to \$410M

The estimated payback period for the industry was estimated at ~3 years for T+2 and ~10 years for T+1. In general it was felt that while T+2 was achievable in the medium term, T+1 would require fundamental changes in market practice prior to implementation.

The level of investment required to implement T+2 also varied by type of participant:

² “Cost benefit analysis of shortening the settlement cycle”, Boston Consulting Group October 2012.

Participant Type	Estimated Investment for T+2	Estimated Investment for T+1
Large Intuitional broker	\$4.5M	\$20M
Large retail broker	\$4M	\$15M
Custodian	\$4M	\$16.5
Large buy side firm	\$1M	\$2M

The study estimated that implementing a T+2 cycle would take approximately 3 years once a clear direction for the industry was set. A T+1 cycle would take an additional 4 to 6 years after implementation of a T+2 cycle.

The costs for implementing T+2 in the US market reflect the fact that the existing settlement model is being changed to bring it more into line with international best practice. The changes proposed will improve intraday settlement finality as a prelude to introducing a shorter settlement cycle.³ The costs of implementing these changes which include Pre-Settlement Matching and CNS for Value are reflected in the costs quoted in the study.

Canada currently has a T+3 cycle and has not announced plans to move to T+2; they have, however, mandated “trade date matching” since 2007 which is seen as a pre-condition to reducing settlement timeframes from T+3.

Mexico operated under a T+2 regime until 2007 when the cycle was extended to T+3 to bring its market into line with the US and Canadian markets.

New Zealand

New Zealand currently operates a T+3 settlement cycle and has not announced any move to a shorter settlement cycle. Due to the significant value of trading on the Australian market by New Zealand investors and a number of significant companies which are dual listed on both the ASX and the NZX any change in the Australian market settlement timeframe could create settlement inefficiencies unless it was also implemented in the New Zealand market.

³ “A Roadmap for Promoting Intraday Settlement Finality in U.S. Markets”, DTCC White Paper December 2012.

Capital Usage

A key driver for implementing T+2 is to minimise the capital required to operate in financial markets. Shorter cycles reduce the amount of outstanding trades and the resulting collateralised or uncollateralised risk borne by participants. It follows that the amount of capital required to cover the risk is proportional to the length of the cycle.

There are two main categories of capital usage which may be affected by a reduced settlement cycle:

- Regulatory / risk capital including:
 - Regulatory requirements on minimum core & liquid capital values
 - Liquid capital to measured risk ratios; types of risk include counterparty, position, operational etc.
 - Funding of market margins
 - Default fund contributions (where required).
- Operational capital - used to fund operations e.g. to pay the market for stock before receiving cleared client funds.

Regulatory Capital

Rules requiring financial market participants to establish and maintain specific capital values are intended to mitigate risk within the industry and ensure that markets are resilient and able to continue operations during periods of instability or following default by industry participants. In Australia responsibility for regulating financial markets is split between the Reserve Bank, APRA and ASIC (collectively known as the Council of Financial Regulators) with ASIC having responsibility for licencing and direct supervision of both industry participants and industry utilities such as markets and clearing and settlement services. In addition industry utilities providing clearing and settlement services set business rules on capital adequacy which must be met by participants which utilise their services. The following sections discuss capital requirements for participants in Australian equities markets which would be affected by a T+2 settlement cycle.

Core Capital

Current ASIC minimum core capital requirements apply to brokers who are not also participants of ASX Clear. As such they must be met by Trading Participants of the ASX and Chi-X markets who outsource clearing and settlement to Third Party Clearers (TPC). The current minimum core capital value for these participants is \$100,000 AUD; this is unlikely to change if a T+2 cycle is implemented as, by definition, they do not participate in the settlement cycle and thus any changes in this area would not affect the risk which this value is intended cover.

ASX Clear (ASXC) provides CCP services for participants in the equities and ASX ETO markets; as such these participants are subject to the Risk Based Capital requirements specified in the ASXC business rules. These specify minimum core capital values which apply differentially to participants who clear only for themselves (direct participants) and those who also clear for other entities (general participants or TPC). The relevant values for core liquid capital are:

- Direct participants \$5M AUD
- General participants \$20M AUD.

ASXC had previously advised that the value for direct participants was to rise to \$10M AUD, however this has been postponed several times and it appears that further increases are very unlikely. ASXC has also proposed that the value for General participants be tiered to reduce the barriers to entry for new TPCs; under the proposal a TPC would be required to have \$5M if only clearing for itself with a further \$5M per additional TP it cleared for up to a maximum of \$20M. The proposed changes are due to the introduction of routine cash margining of unsettled obligations between ASXC and its participants and a restructure of ASXC default resources; these measures significantly reduce the potential loss to ASXC from liquidating a defaulting participant's obligations and provide for increased resiliency of the CCP if a default occurs.

If a T+2 settlement cycle was introduced in Australia it is unlikely that ASXC would reduce the current core liquid capital requirements from their current levels as they are comparable with those which apply in other international markets including those on a T+2 cycle.

Liquid Capital

The second part of the Risk Based Capital rules requires participants to calculate a Liquid Capital value and a Total Risk Requirement. Participants must ensure that the ratio between Liquid Capital Value and Total Risk requirement does not fall below 1.2:1 at any time. The liquid capital requirements are intended to mediate counterparty risk between brokers and their clients, risk from principal trading, risk from a concentration of exposure against a specific counterparties or securities and the basic risk of operating in the market.

The Total Risk Requirement is the sum of:

- Operational risk value
- Counterparty risk value
- Position Risk value
- Large exposure risk value
- Underwriting risk value (not currently implemented).

In addition ASXC may impose an additional "Non Standard" risk value to cover additional risk from specific business models. The effect of a T+2 cycle on each risk category is discussed below.

Operational Risk

This is intended to cover the risk of operating within the equities and ETO markets. In particular it includes:

- Risk from improper operation of trade processing and management systems
- Breakdown of internal controls
- Unauthorised trading
- Fraud in trading or back office functions
- Deficiencies in record keeping
- Unstable or insecure computer systems and associated support and resilience measures.

Current ASXC rules specify that the provision for operational risk is the sum of:

- \$100,000
- 8% of the sum of the participant's:

- Counterparty risk requirement
- Position risk requirement
- Underwriting risk requirement
- Any secondary requirement specified by ASXC.

The majority of risks covered by this value will not be impacted by a change in the settlement cycle however as this value includes a percentage of the risk values calculated for other types of risk any reduction in these values will flow through proportionally into a reduced Operational risk value. A reduction in the flat \$100,000 risk value is highly unlikely.

Counterparty Risk

For agency brokers this is the largest area of risk. It measures the participant's exposure to default by their clients in meeting their obligations (i.e. failing to pay for a buy trade or failing to deliver securities for a sell trade). A failure by clients to settle on time requires that the broker cover the offsetting market obligation from their own resources. Whilst the rules allow for brokers to offset this exposure against client assets held as collateral most participants do not implement the required collateral agreements with clients.

The methodology used to calculate counterparty risk has separate measures for:

- Non margined instruments – this includes equities, debt and associated instruments traded on the ASX, Chi=X and other cash markets
- Margined instruments – this includes exposure to ETO and other margined derivative instruments cleared by ASXC
- Free deliveries
- Securities Lending and Borrowing
- OTC Derivatives or Warrant held as principal.

A reduction in the settlement cycle to T+2 will not impact risk values in all categories; in particular the “Margined instruments” and “OTC Derivatives or Warrant held as principal” values will not change as these instruments currently settle on either a T+1 or “as agreed” basis. The Securities Lending and Borrowing (SLB) risk value is also unlikely to vary directly due to a reduction in the settlement cycle as these transactions are outside of the standard settlement cycle. There could, however, be an increase in SLB exposure if the participant was required to borrow extra stock to cover for late deliveries by clients caused by a shorter settlement cycle.

The Non Margined instrument risk value should be reduced by a reduction in the settlement cycle. This value has several components:

- 3% of each client's balance excluding transactions which remain unsettled after 10 days from trade date.
- Transactions greater than 10 days from trade date or equivalent are valued at the greater of 3% of contract value or the mark to market loss on the outstanding position; unlike the less than 10 day value these transactions are treated individually and the resulting exposure values summed (i.e. a profit on one position cannot reduce the loss on another)
- Non trade items such as fail fees or corporate action adjustments which remain unsettled after 10 days are included at 100% of value.

It should be noted that the largest area of exposure is to unsettled transactions less than T+10 which is based on client balance; as such the actual reduction in risk value will vary based on the mix of buy and sell trades on the account and the timing and method of their settlement.

Risk relating to retail (i.e. non DVP) transactions may be reduced through:

- Reservation and locking of sponsored stock to be used to settle sell trades removes the risk for these trades
- Receipt of issuer sponsored stock into the accumulation entrepot removes the brokers risk for issuer sponsored sell trades
- Reservation and locking of funds in a CMT account to which the broker has access as well as pre-payments can remove the risk from buy trades
- The balance may be optimised to minimise the risk, this typically involves adjusting the value of reserved stock and or cash to minimise the balance subject to risk; this requires a reporting system which supports the capability
- Where a broker is required to pay for and receive stock from the market prior to receipt of funds they can apply ASXC rule 7.2 which allows for a reduction in the value subject to risk by the marked to market value of the stock funded by the broker; this should partly offset the additional risk value arising from late payment by clients.

The use of these mechanisms together with the measurement of risk based on client balances rather than on a sum of absolute transaction values make an absolute measure of risk reduction under a T+2 cycle impossible.

In general retail brokers will have some reduction in counterparty risk however the size of the reduction will depend on how efficient they currently are at reducing risk through existing mechanisms. Participants who have high levels of client sponsorship and make extensive use of real time CMT accounts with fund locking will have a minimal reduction in counter party risk. If, however, the broker has high levels of issuer sponsored and non-real time cash settlements the reduction in counterparty risk will be relatively greater.

For institutional brokers the benefit is more easily quantified as these transactions are settled DVP. Under T+3 the client balance will typically include unsettled trades from the current trading day plus trades from either the previous 3 days (before the settlement batch is run for the day) or 2 days (after the settlement batch is run). Under a T+2 model this will be reduced by 1 day in each case with a resulting reduction in the balance subject to risk. It should be noted that due to variances in trading patterns of clients the reduction will not necessarily reflect a 1/3 reduction in every case.

The Counterparty risk value also includes a component to cover any free deliveries where the broker has completed their side of the transaction before the client has met their obligation (i.e. delivered stock to an unpaid buy or paid sell proceeds before receipt of the relevant stock). The calculation uses different rates for free deliveries which are open less than 2 days from scheduled settlement date (8% of trade value) and more than 2 days from scheduled settlement date (100% of trade value). This value should not be affected by a reduction in the settlement cycle as the only change will be an earlier settlement date against which the 2 day offset is applied.

A reduced settlement cycle should generally deliver a reduced value of counterparty risk, particularly for institutional brokers. The reduction for retail brokers will vary based on the level of risk reduction

techniques they currently apply and the timeliness with which their clients settle funds owing for buy trades.

Position Risk

This category mitigates a broker's exposure to losses from principal trading activities. The positions valued as part of the calculation are based on traded positions rather than settled positions; as such a change in the settlement cycle should not impact the risk values calculated.

Large Exposure

Large Exposure risk arises from a concentration of risk against single counterparties or single security issuers. In both cases the requirement to calculate and include a large exposure risk value is based on exposure to specific counterparties or a security issuer exceeding a specified percentage of the participant's liquid capital (> 10% for counterparties, > 25% for issuers). Issuer large exposure is also dependant on the exposure to an issuer exceeding a specified percentage of the total value on issue (> 5% for equities, > 10% for debt).

The only potential impact on large exposure risk arising from a reduction in the settlement cycle would be a reduction in exposure to a specific counterparty due to a reduced number of unsettled non-margined instrument trades being included in the counterparty's exposure. As, however, these trades are not subject to large exposure until they exceed 10 business days after transaction date (i.e. >T+10) the actual reduction should be minimal.

Default Fund Contributions

ASXC default coverage resources do not currently include a paid up mutualised default fund. The CCP retains the right to call additional cover from participants in extreme circumstances but under normal conditions participants do not contribute capital for this purpose. As such a reduction in the settlement cycle would not free up capital from a reduced default fund. The introduction of routine margining of participants exposure to the CCP was accompanied by the conversion of existing contributions to margin.

Cash Equity Margins

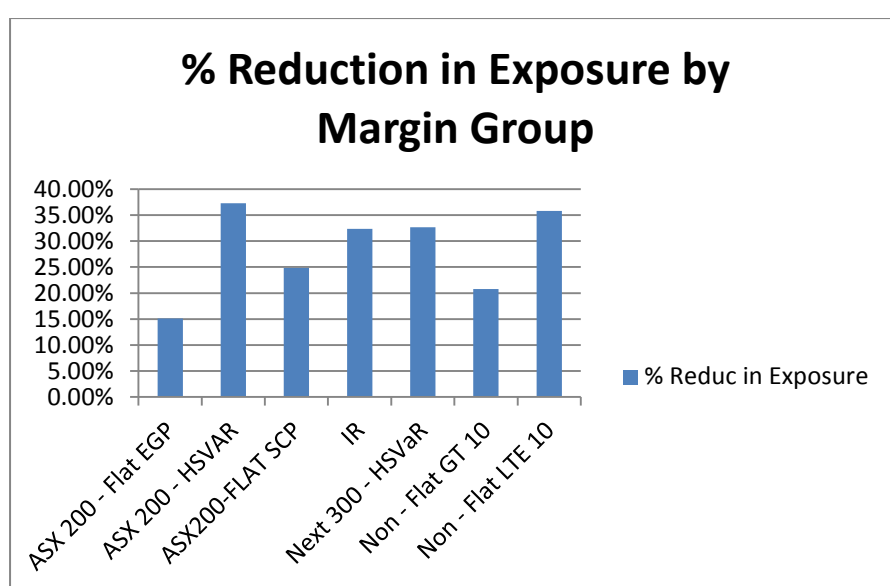
ASXC introduced routine daily margining of participants' cash equities exposure to the CCP during 2013; this may be extended to include intra-day margin calls from 2014. The introduction of margins has brought ASXC into line with the majority of international CCPs which typically require participant exposure to be collateralised. As part of the introduction process ASXC discussed the introduction of a T+2 settlement cycle and made the point that, due to the fact that margins are calculated on net exposure, it would not necessarily reduce the margin required⁴. This does not, however, change the fact that a T+2 cycle would, in general, reduce the overall cash market exposure between the CCP and its participants (i.e. the margin would cover 2 days of unsettled obligations rather than 3 under a T+3 cycle).

In order to estimate the relative difference in exposure under a T+2 model an analysis was performed on medium sized participant's trading and settlement activity over a 15 day period. The following methodology was used:

⁴ ASX Clear Cash Equity Margining Workshop Session 1, 7th December 2010.

- Net obligations for each security per settlement day were extracted from ASXC margin reports, this resulted in approximately 6900 settlement obligations
- Securities with a settlement obligation on all of the 15 settlement days were selected for further analysis, this resulted in 80 sets of daily obligations
- A net exposure per security (in value and units) per day was calculated for the two models, i.e. for each T+2 “margin” day the next 2 settlement day’s obligations were netted, for each T+3 “margin” day the next 3 days obligations were netted. This resulted in T+2 and T+3 exposures for 12 “margin” days.
- The 12 day’s values were averaged for each security to give an average exposure per day subject to margin under the T+2 and T+3 models.
- The security averages for each model were consolidated by margin group and an average percentage reduction calculated.

The following graph shows the results:



The analysis indicates that a T+2 cycle would reduce the exposure subject to margin compared to a T+3 cycle by approximately 30%; the actual reduction in margin value to be covered will, however, vary depending on specific participant’s trading patterns, margin group ratios and the direction of market movements. As ASXC pays the short term cash rate for cash placed as margin the actual reduction in funding cost to participants under T+2 will be based on the difference between the ASXC interest rate and the interest rate at which funds can be externally invested or borrowed.

Operational Capital

Operational capital includes funds used to operate the participant’s business. As participants are responsible as principal for all market activity and the resulting exposure to the CCP any timing difference between market and client side settlements must be funded by the broker. Ensuring that client settlements either precede or coincide with the matching market settlements is a fundamental means of limiting the amount of operational capital employed.

For retail buy trades the reduced settlement cycle may have a negative impact if the payment method used by the client does not deliver cleared funds by T+2; this could apply with any method where the client controls the timing of the receipt e.g. cheque, BPAY and transfers into the broker’s

bank account. If the payment method does not deliver cleared funds by T+2 the broker will be required to fund the transaction until the funds are received and/or cleared. The following compares the efficiency of the various methods of receiving client initiated payments:

- Cheques – these are unlikely to deliver cleared funds in a timely manner under a T+3 model and will incur extra funding cost in a T+2 model
- Bpay – this method will require the client to initiate the payment on T+1 for the broker to receive funds on T+2
- Client initiated transfers or deposits into brokers account – these methods will require the client to initiate the payment on T+1 for the broker to receive funds on T+2.

Broker initiated methods such as linked CMT accounts and direct debits of client bank accounts will be of even more benefit under a T+2 cycle. The introduction of a T+2 model would be an ideal justification for encouraging clients to utilise these facilities; if required brokers could consider extra charges for unreliable payment methods as a means of encouraging client take up.

Delays in the receipt of funds can be further exacerbated where clients deal through a non-broker intermediary which settles cash on their behalf. Implementation of T+2 across the market will offer an opportunity for all segments of the industry to implement more timely methods of trade notification and cash settlement. The impact on this segment of the market should be monitored and issues managed as part of the business relationship between brokers and intermediaries.

For retail sell trades the participant has control over the timing of delivery of stock providing they have the required client SRN for issuer sponsored holdings; as such the number of failed settlements for client sells should be minimal and not incur additional costs for fail fees or borrowing of stock to meet market commitments.

Institutional DVP settlements are ideally timed to coincide with the relevant market settlement so that the market and client sides net out in the settlement batch. This removes the need for brokers to either fund the settlement of buy trades or borrow stock to meet sell trade obligations. For this to occur the following must be performed prior to batch cut-off on settlement day:

- Details of executions must be notified to the institutional client
- If required by the client details of any booking instructions for the executions must be sent to the broker
- The broker must re-book executions as specified by the client and the final details of the settlement obligations notified to the client; in some models this would be followed by a client affirmation or rejection process until both sides agree on the final obligations
- Based on the agreed obligations the client must instruct their custodian or settlement agent to settle the obligations with the broker; the broker must ensure they have the correct settlement details for each obligation
- The custodian and the broker must both send the details of each obligation to CHES
- If the custodian and broker notifications match at CHES the settlements are scheduled for inclusion in the relevant CHES settlement batch.

The shorter time frame to perform this processing under a T+2 cycle will be the main issue to overcome for institutional brokers and their clients. The key to achieving this will be implementing of

Straight Through Processing (STP) workflows based on efficient communication mechanisms such as Electronic Trade Confirmation (ETC) systems. A range of ETC alternatives are available in the Australian market and are already widely used with both domestic and international counterparties; ideally these ETC systems will be integrated with both brokers' and client middle and back office systems.

Due to time zone differences use of ETC systems will be critical when dealing with international clients to ensure that they can instruct their custodians in time for them to arrange settlement. Whilst the reduced timeframes may require some optimisation of communications between international clients, custodians and brokers it should not be a major impediment to the introduction of T+2. The fact that the Hong Kong market operates on T+2 and is in a similar time zone to Australia indicates that most international clients should be able to support a reduced timeframe for settlement. The planned move to T+2 for European markets also provides further justification for these investments.

Impact on Investors

Retail

Retail investors will benefit from earlier receipt of purchased stock and sell proceeds under a T+2 model. They will be required to accept electronic methods of notifying and confirming transactions and settling cash movements if settlements are not to be delayed and extra costs incurred by brokers.

Institutional

The main impact on institutional clients will be an increased focus on timely communication and confirmation of trade details, allocation instructions, confirmations, affirmations and settlement instructions. The reduced settlement timeframes will reduce the funds currently tied up in pending settlements and should support faster re-investment of capital. If STP rates are increased this should also deliver reduced costs of processing.

Operations

Middle Office

The main impact on middle office processing will be the reduced time frames for sending, receiving and processing institutional client allocations, confirmations and affirmations. This will be particularly true for international clients where time zone differences can further reduce timeframes. An inability to agree transaction details within 24 hours of execution will increase failure rates and resulting funding costs.

Settlements

Introduction of a T+2 model will not require significant functional changes to the current settlements workflows. The major difference will be reduced timeframes for preparing for the daily settlement batch. It is likely that any move to a T+2 cycle will also involve a later cut off time for the batch. The volume and value settled per batch will not change as each settlement day will still cover a single trading day's transactions.

Delays in agreeing and confirming buying client instructions could expose the broker to funding the entire value of the client transaction; this would greatly increase the short term funding cost of operations as the current model nets the market and client consideration values if they are settled DVP in the same batch. Failure to meet cash settlement obligations is considered a default by the CCP and could result in severe penalties up to and including exclusion from the market and loss of participation.

Failure to schedule selling client settlements will also impose extra costs in either fail fees or securities borrowing costs. These extra costs will, however, be based on a relatively small proportion of the failed settlement value rather than the full cost of a failed buy settlement.

These factors will further increase the need for automation of post-trade processing to ensure that the required instructions to buy side settlement agents can be issued early enough to allow matching with the sell side prior to the cut off time for the scheduled settlement date.

The current workflow for centrally cleared market trades is based on the following time-line:

- Trade Date (T) – trade is novated by the CCP and the resulting settlement obligation notified to the clearing participant via a CHES 164 message; trades which are outside of a defined range of acceptable prices (Extreme Trade Range) must be identified and cancelled by the market operator.
- Trade date + 1 (T+1) – trade cancellations may be processed by agreement between counter parties if allowed by based on market rules, participants may request that particular trades may be “blocked” from netting.
- Trade date + 2 (T+2) – Trades are netted at the CCP overnight and netting details are notified to participants prior to start of business on T+2; participants notified of Net Broker Obligations (NBO) for each security.
- Trade date + 3 (T+3) – Participants are required to place sufficient stock in the settlements entrepot to meet deliveries to the market and or scheduled DVP settlements; cut off for priming entrepots and matching DVP notifications is 10:30 Sydney time. The settlements batch is run and funds and stock moved as required, participants are notified of results of settlements.

Introduction of a T+2 model would require changes to this workflow to allow participants to manage their settlement obligations. Changes could include:

- A reduction in the time for trade cancellations; where these are cancelled due to market rules on unacceptable price variances these will be identified and actioned on trade day. The timeframe for trade “blocking” would also be limited to trade day.
- Netting will need to occur overnight between T and T+1 (i.e. reduced by 1 day) and the results notified to before start of business on T+1 to allow participants the same time to prepare for settlement of the resulting NBOs.
- An alternative to pre-netting cancellation would be the creation of “reversal” transactions for inclusion in the relevant settlement batch; as these would net with the original transaction the overall effect would be the same as a cancellation.
- Moving to a later cut off time for batch settlement would alleviate time constraints to some extent as a higher proportion of activity would be likely to be scheduled on settlement day.

The adoption of T+2 as part of the forward work program of the ASX Forum ASX included a statement that they will consult with participants on issues relating to T+2 and a later settlement cut off time.⁵

⁵ Letter to Forum members dated 13 November 2013.

Technology Considerations

As noted above the move to a T+2 model would not involve significant extra processing load on existing clearing and settlement systems (except during the cutover from one settlement period to another). Changes to middle and back office systems should also be limited as the only change to existing processing will be calculation of the relevant settlement date for the transaction; in most cases this would only involve the update of the relevant “offset” value within the system configuration. Given that the transition from T+5 to T+3 in Australia did not raise any significant system issues it is likely that a move to T+2 would also be relatively trouble free.

The largest technology impact would be from an increased focus on ETC automation in the institutional market and increased use of integrated real time payment capabilities in the retail market. A range of ETC systems are currently available and in use within Australia; these include:

- IRESS / IOS ETC – this forms part of the IOS Order Management System (OMS) from IRESS Ltd the dominant supplier of live market information. It is widely used by local fund managers and brokers and is integrated with broker systems. It is based on bi-lateral matching between counterparties.
- OASYS CTM – this system has been introduced to replace the OASYS Global Direct (OGD) system. It differs from other systems by using a centralised matching model which makes the availability of the central servers critical to continued operation. It supports initial trade matching as well as post-trade confirmations, block allocations and affirmations. It has full support for international connectivity over the OASYS private network. Most broker systems include support for CTM.
- SWIFT GETC – this messaging suite includes a high level of commonality with the OGD message set and provides the required mapping instructions and supports all of the required workflows. It uses bi-lateral matching and the flexibility to support specific counter party requirements. It uses ISO 15022 messages and uses the SWIFT network for international connectivity. In addition to supporting normal ETC functions it also supports the optional delivery of settlement instructions for the transactions.
- FIX – the FIX protocol was defined by industry members to provide a non-proprietary message set and communication protocols to support a wide range of workflows. It is widely used for pre-trade price discovery, order placement and trade reporting. Many markets offer it as an alternative access method to proprietary APIs. The FIX message set includes support for ETC processing however this has not been widely implemented due to a lack of global connectivity as offered by established ETC networks.

The Australian inter-bank payments system uses a Real Time Gross Settlement (RTGS) model for high value payments including those resulting from the CHESSE settlements batch. Low value movements such as direct debits and credits, BPAY payments, cheques and client initiated transfers are currently done via a single batch at 9:00am each business day. As a result any movement which involves 2 banks will require a minimum of 1 night before it is reflected in a broker’s account. The Reserve bank is introducing the capability for these to be settled for same day value from 25th November 2013. This will be delivered through the introduction of multiple batches per day which may offer some improvement in timeframes⁶ subject to each bank’s implementation of the functionality. Until same day transfers are generally available the best method of limiting brokers’ exposure will continue to

⁶ The Impact of Payments System and Prudential Reforms on the RBA’s Provision of Liquidity. Address to AFMA and Reserve Bank briefing, Sydney 16th August 2013.

be the use of integrated real-time CMT accounts as these allow for pre-trade validation of funds availability. If funds locking is also used they also offer a means of limiting the regulatory capital required to cover counterparty risk with buying clients.