

# ASX 90 Day Bank Bill Futures Contract Changes

**Consultation Paper** 

30 January 2019

#### **Invitation to comment**

ASX is seeking submissions on the ASX 90 Day Bank Bill Futures Contract Changes canvassed in this paper by 30 April 2019.

Submissions should be sent to:

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Office of General Counsel ASX Limited 20 Bridge Street Sydney NSW 2000

ASX prefers to receive submissions in electronic form.

If you would like your submission, or any part of it, to be treated as confidential, please indicate this clearly. All submissions will be provided to regulators on request. Submissions may also be published on the ASX website, unless they are clearly marked as confidential or ASX considers that there are reasons not to do so.

ASX is available to meet with interested parties for bilateral discussions on the ASX 90 Day Bank Bill Futures Contract Changes.

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# **Contents**



Introduction	3
Purpose of this paper	3
90 Day Bank Bill Futures Contract Specification	3
Proposals for market consultation	4
Settlement method – change from a deliverable to a cash settled contrac Expiry position limits	7
Serial Bank Bill Futures	
Good Till Cancelled (GTC) functionality for combination orders	11
Invitation to respond	12
Appendix A: 3 Month BBSW and Bank Bill Futures (IR) Yields	13



# ASX 90 Day Bank Bill Futures

#### Introduction

ASX's 90 Day Bank Bill Futures (Bank Bill Futures) product is Australia's most actively traded listed short term interest rate derivative. Bank Bill Futures are characterised by strong liquidity and turnover, providing an efficient way for participants to gain exposure to the Australian debt markets.

The Australian Bank Bill market is underpinned by short dated funding in Negotiable Certificates of Deposit (NCDs) and Bank Accepted Bills issued by the Prime Banks. Prime Banks are determined based on a number of criteria as set out in the <a href="Prime Bank Conventions">Prime Bank Conventions</a>. Outstandings in Bank Bills and NCDs among the Prime Banks is approximately \$125 billion (as at December 2018).

#### **Purpose of this paper**

ASX has received a number of requests to change the settlement method for the Bank Bill Futures to broaden market participation and reduce settlement risk into expiry. A number of existing and potential market participants have expressed interest in trading the Bank Bill Futures contract and holding positions closer to expiry but have indicated they face restrictions due to the existing delivery settlement method. Feedback to date suggests that moving to cash settlement would increase participation from both swap dealers and offshore entities.

This consultation paper requests feedback from market participants on the proposal to change the settlement process and a number of implementation options. In addition, the paper requests feedback on the imposition of expiry position limits for a cash settled contract.

ASX has also received a number of requests for other changes to the contract specification and order management functionality for the Bank Bill Futures. The paper requests feedback on potential changes to: the minimum price increments for the front Bank Bill Futures contract months; increases in the maximum order size; the listing of new serial Bank Bill Futures contracts; and the development of Good Till Cancel (GTC) spread functionality.

#### 90 Day Bank Bill Futures Contract Specification

Key design elements of the 90 Day Bank Bill Futures relevant to this paper are:

#### Settlement method

The Bank Bill Futures are a deliverable contract on expiry. Following expiry, participants with a short position are required to deliver physical paper<sup>1</sup> that meets specified criteria. Physical paper can be sourced from either the secondary market or as new issuance from the Prime Banks<sup>2</sup>. Access to the paper requires customers to have an established line of credit with the Prime Banks. At expiry, participants holding long positions are required to accept the physical paper in exchange for cash. Short position holders are obligated to deliver the bank paper in exchange for cash

Market participants have advised ASX that the current settlement process can present issues for participants who do not have access to the physical bank paper market. This restricts their involvement in the spot contract due to the risk of holding a position at expiry and being unable to partake in the delivery process, resulting in a failed settlement. As a result, their participation in trading in the spot contract is restricted in the days leading into expiry.

<sup>&</sup>lt;sup>1</sup> Physical paper can be either Bank Accepted Bills of Exchange, Negotiable Certificates of Deposit or their dematerialised equivalents – EBAs and ECDs.

<sup>&</sup>lt;sup>2</sup> Prime Banks as at January 2019 are ANZ, CBA, NAB and Westpac.



#### Minimum price increment

Bank Bill Futures currently trade to a full tick minimum increment (0.01bps). With the introduction of ASX 24 NTP, trading infrastructure is now in place that could support different tick increments for different expiry months.

#### **Available contract months**

Bank Bill Futures are currently listed on financial quarter months - March, June, September and December – out to five years. Contract months that expire on the non-financial quarter months are currently not available. Participants who use Bank Bill Futures for risk management purposes can have interest rate exposures (e.g. reset or fixing dates) falling on all business days and these are not necessarily concentrated around the Bank Bill Futures expiry months.

#### **Proposals for market consultation**

The following section outlines five potential changes to the Bank Bill Futures contract specification and available order management functionality. It also sets out the rationale behind the changes and options for implementation. Each section provides a list of questions on which ASX seeks feedback from stakeholders.

#### Settlement method – change from a deliverable to a cash settled contract

Proposal	Cash settle the spot Bank Bill Futures contract using 3 month BBSW as the settlement price
Rationale	ASX currently calculates the expiry settlement price for the spot Bank Bill Futures contract by taking the average of the bid and offer quotes at 10:00am on the day of expiry, provided the best bid and best offer quotes are within a 5 basis point range. Participants can continue to trade up until 12:00pm on the day of expiry. Delivery and settlement occurs the following business day (T+1).
	The number of contracts taken to delivery has declined substantially in recent years, to a small percentage of open interest (i.e. <0.4% for the period Sep 2016 - Sep 2018). At the December 2018 contract expiry no positions were taken to delivery.
	ASX proposes using the 3 month BBSW rate to cash settle the spot Bank Bill Futures contract. As the administrator of BBSW, ASX recently implemented a new Volume Weighted Average Price (VWAP) BBSW methodology. The primary methodology comprises a transaction based layer using wholesale transactions in the underlying Bank Bill market to calculate a VWAP rate where a number of criteria are satisfied (minimum \$200 million volume, 3 transactions and 4 counterparties). The subsequent layers use a cascading waterfall of calculation methodologies: executable bids and offers to calculate a national best bid and offer (NBBO) in the interbank market; interpolation across the BBSW yield curve; extrapolation using bank bill futures yield curve movement; or the prior days BBSW rate. The calculation methodology is in line with the IOSCO Principles for Financial Benchmarks.
	The VWAP BBSW methodology was implemented in May 2018 and involved a number of material changes to long standing market practices. As such, ASX made a decision to consult on changes to the Bank Bill Futures settlement method after a 6 month period of the new methodology being in place. This would allow for participants to make an informed decision on the proposal to change the expiry settlement process. Since the new methodology went live, aggregate eligible bank bill trading volume has averaged \$ 1.8 billion per day (across all tenors) with approximately 25% of this in the 3 month



transaction bucket. ASX publishes <u>eligible volumes</u> for each tenor weekly in arrears on the ASX website.

See **Appendix A** for a chart of 3 month BBSW rates since the VWAP methodology was implemented.

#### Benefits of cash settlement using 3 month BBSW

- Simplified settlement process
- May reduce the risk of default or failed settlement occurring on the expiry of the Bank Bill Futures
- May reduce the operational overhead for Clearing Participants to oversee open positions into the expiry period
- May increase trading in the spot month contract into expiry and enhance liquidity during this period
- BBSW calculation waterfall ensures a robust and reliable settlement price
- BBSW will be a licenced benchmark under the Corporations Act section 908BA
- Consistent settlement approach with globally comparative products

#### Draw backs and considerations of cash settlement using 3 month BBSW

- There may be some impact during the transition period to the economic value of existing open futures positions
- Would result in the removal of a layer of the waterfall of the BBSW calculation methodology which uses the Bank Bill Futures price to calculate a yield curve shift. This component of the calculation waterfall is the fourth layer of the waterfall and has not been used to date
- The relative size of the physical market is substantially smaller than the Bank Bill Futures market as measured in notional turnover. Bank Bill Futures average daily volume (spot month only) in notional terms is approximately AUD15 billion. This is, on average, 40 times larger than the activity in the 3 month physical bank bills, which has on average AUD386 million transacted each day. The size of available order book liquidity at the time the expiry settlement price is determined is on average approximately 70 million in notional terms.
- BBSW is a funded market and is subject to the nuances of bank funding supply and demand on an individual day. Bank Bill Futures users should have a good understanding of the BBSW mechanisms.

#### Implementation options

In principle, ASX prefers not to make changes to the contract specification for contract months that have open positions where that change may affect the fair or forward value of the contracts already entered into. Where there is no open interest ASX may amend the underlying asset of the futures contract. The deliverable Bank Bill Futures, as at December 2018, has open interest positions out to the September 2022 expiry month.

While the underlying market (Prime Bank Bills and NCDs) that is used to determine BBSW is the same Prime Bank paper that may be delivered against the expiring Bank Bill Futures, it is recognised that a cash settled contract may have a different fair value than a deliverable contract. This is due to differences in how any exposure to a deliverable contract is funded versus a cash settled contract.

If market participants agree to the change in the settlement process we see three potential options to implement cash settlement for the Bank Bill Futures. Each transition



approach has certain benefits and drawbacks. The alternative approaches are outlined below:

List a new cash settled 3 month BBSW futures contract.

This approach would allow market participants to migrate existing open interest to the cash settled contract over time. ASX would list a new futures contract under a new commodity code. This contract would co-exist with the existing Bank Bill Futures. Intercommodity spread functionality would be listed to facilitate customers migrating their open interest positions across from the deliverable Bank Bill Futures to the new cash settled contract. Under this approach ASX proposes to delist any back month Bank Bill Futures contracts that have zero open interest.

This approach allows market participants to commence use of a cash settled BBSW futures contract immediately, but may result in fragmentation of liquidity during the transition period.

2. Change the settlement method for the existing Bank Bill Futures for all months with zero open interest

This approach would allow ASX, vendors and market participants to retain the existing Bank Bill Futures product and commodity codes. However, as the Bank Bill Futures currently have open interest out to September 2022, this would delay the full implementation of cash settlement for four years or 16 quarterly expiries.

3. Change the settlement method for the existing Bank Bill Futures including those with open interest.

This approach would allow ASX, vendors and market participants to retain the existing Bank Bill Futures product and commodity code, negating the need to resource and schedule a new contract listing, or migrate existing positions from the deliverable contract into the cash settled contract. Unlike option 2, ASX could bring forward the implementation from December 2022 to an earlier date and commence the cash settlement approach with contract months that already have established positions. ASX proposes to give the market 12 months' notice of the change.

#### Questions

- Do you support changing the settlement method to cash settlement using 3 month BBSW as the settlement price?
- Does cash settlement change the economic value of the existing Bank Bill
   Futures relative to the existing deliverable contract? If yes, at what point (if any) on the curve does the value differential become negligible?
- What is your preferred method to transition to a cash settled contract? Please rank all 3 options presented above from most preferred to least preferred and provide a reason for your ranking.



## **Expiry position limits**

Proposal	In the event that the contract is changed to cash settled, apply Expiry Position Limits on the spot contract as it enters the roll period (e.g. T-1)
Rationale	ASX Operating Rule 3400 states that ASX may apply position limits to derivative market contracts. Expiry Position Limits (EPLs) are intended to provide additional confidence in the integrity of the futures market by constraining growing position concentration which ASX considers to have the potential to negatively impact market orderliness at expiry. ASX currently applies expiry position limits on the 3, 10 and 20 year Treasury Bond Futures contracts.
	EPLs on these products apply at a group level to spot month net open position at the close of trading on the day before expiry (T-1). The position limits are subject to ongoing review and may be adjusted depending on market conditions, such as size of the underlying market, turnover in the physical market and the amount of futures open positions.
	It is also technically possible to have multiple and varied position limits into expiry e.g.T-5 and T-1.
	EPLs are applied to derivative products that are actively traded and retain significant open interest into expiry. The average open interest in the spot Bank Bill Futures contract declines markedly ahead of the expiry (around 50% reduction in spot contract open interest by T-5). ASX anticipates that the introduction of cash settlement may result in elevated open interest being maintained into expiry.
	International Comparison
	Offshore exchanges do not apply positon limits on comparable short term interest rate futures products (i.e. Eurodollar Futures, Short Sterling Futures and Euribor Futures).
	Benefits of expiry position limits
	<ul> <li>Reduces concentration risk at expiry</li> <li>May restrict the size of expiring futures positions relative to underlying BBSW volumes</li> <li>Position limits apply equally to all market users</li> </ul>
	Drawbacks and considerations of expiry position limits
	<ul> <li>The requirement to be under position limits at T-1 may create pressure to trade out of positions leading to increased volatility in the futures contract and underlying market in the period immediately prior to expiry.</li> </ul>
Questions	<ul> <li>Do you support imposing position limits on cash settled Bank Bill Futures into expiry? If yes, please indicate if you would favour a single limit at T-1 or tiered limits over a longer period (e.g. starting at T-5). Please provide reasons for your position.</li> <li>Would position limits sufficiently minimise concentration risk in the Bank Bill Futures?</li> <li>What would be the potential impact of having no position limits into expiry where the contract is cash settled?</li> </ul>



#### Price increment and order size

oposal			n 1.0 basis point to 0.5 basis e maximum allowable order	
tionale	Minimum Price Increment  Feedback from some market participants indicates there may be an appetite to reduce the minimum price increments for the nearer to expiry contract months. This approach is consistent with international convention as outlined in the table below. A narrower tick increment may reduce the cost of transactions in these contracts and provide additional futures price points for managing risk exposures.			
	Market liquidity, as measured by bid/offer volume, is an important consideration when determining whether market conditions would support a reduction in the tick increment and how far along the yield curve the reduced price increments should be applied.			
	The daily trading range for the first four listed Bank Bill Futures contracts (the white months) averages 3.25 basis points (sample period Nov 2015 - Nov 2018). Bid/offer spreads and market depth is supportive throughout the day and night session for spot+0 through to spot+3 contracts. Average best bid and best offer volume across the front four contracts for November 2018 was 5451 contracts and 5632 contracts respectively. Visible orderbook depth for the spot bank bill month is, on average, 30,000 contracts.			
	month is, on average, 3	30,000 contracts.	,	
	International comparis A comparison of some comparable short-term	son major global exchar n interest rate produ	iges shows that all offer a fir cts, either for all tenors or a	at least in the spot contract
	month is, on average, 3 International comparis A comparison of some	30,000 contracts. son major global exchar	ges shows that all offer a fir	
	month is, on average, 3  International comparis  A comparison of some comparable short-term  Contract  ICE/EUREX	son major global exchar n interest rate produ	nges shows that all offer a fir cts, either for all tenors or a Minimum Tick 0.005 for all contract	et least in the spot contract  Minimum Tick value
	International comparis A comparison of some comparable short-term  Contract ICE/EUREX EURIBOR Futures  CME Eurodollar	son major global exchar n interest rate produ Face Value EUR 1,000,000	nges shows that all offer a fir cts, either for all tenors or a Minimum Tick 0.005 for all contract months 0.0025 for 1st contract 0.005 for all other	Minimum Tick value  EUR 12.5  USD6.25 for 0.0025 tick USD12.5 for 0.005 tick
	International comparis A comparison of some comparable short-term  Contract ICE/EUREX EURIBOR Futures  CME Eurodollar Futures  ICE Short Sterling	son major global exchar n interest rate produ Face Value EUR 1,000,000	Minimum Tick  0.005 for all contract months  0.005 for all other contract 0.005 for all other contracts	Minimum Tick value  EUR 12.5  USD6.25 for 0.0025 tick

The maximum allowable order size is currently set to 9,999 contracts in NTP. The current maximum level has been in place since the Sydney Futures Exchange moved to full electronic



	trading in 1999. The size of the underlying market and available volume in the orderbook has increased over time. Feedback from some market participants indicates that the maximum order size limit may be restricting client's ability to execute large volume in a single transaction.
	Benefits of reducing the minimum tick increment
	<ul> <li>May support the move to cash settlement by making it more cost efficient for participants to trade in and out of positions</li> <li>May reduce slippage costs</li> <li>May increase trading activity resulting in enhanced liquidity</li> <li>Aligns Bank Bill Futures with equivalent OTC conventions</li> <li>Potential reduction in the cost of crossing the spread</li> </ul>
	Drawbacks and considerations of reducing the minimum tick increment
	<ul> <li>May result in reduced market depth on best bid and best offer, reducing available liquidity in the contracts with narrower tick increments</li> <li>May reduce the attractiveness of the reduced tick contract months for specific trading strategies, impacting overall liquidity and activity</li> <li>Potential increase in slippage risk on large parcels if there are lower bid offer volumes</li> </ul>
Questions	<ul> <li>Should a finer tick increment be applied to the Bank Bill futures? If so, which expiry months should be amended?</li> <li>Do you support finer tick increments for Bank Bill Futures if the contract remained deliverable at expiry?</li> <li>Are there any downstream impacts on middle and back office system that ASX should be made aware of when determining implementation timing and approach?</li> <li>Should ASX consider increasing the maximum allowable order size from the current level of 9,999 contracts? If so, what maximum order limit would you support?</li> </ul>

#### **Serial Bank Bill Futures**

Proposal	List two serial Bank Bill Futures months
Rationale	Bank Bill Futures are currently available for the financial quarter months (March, June, September and December) out to five years. Unlike similar short-term interest rate products quoted on offshore exchanges, ASX currently does not list serial Bank Bill Futures. Serial Bank Bill Futures are contract months that expire on the non-financial months – January, February, April etc.
	The availability of serial Bank Bill Futures offers an alternative risk management product for over the counter markets such as physical Bank Bills, Single Period Swaps (SPS) and Forward Rate Agreements (FRAs). Changes to bank policies regarding use of physical banks bills for derivatives hedging and the lack of liquidity in FRAs means that those with derivatives positions could benefit from an exchange listed product offering additional hedging dates. The availability of additional futures dates allows participants to better risk manage their portfolios.



#### **International comparison**

A comparison of some major global exchanges shows that they all offer serial futures on their short term interest rate futures contract.

Contract	Face Value	Serial Futures
ICE/EUREX EURIBOR Futures	EUR 1,000,000	4 serial months listed
CME Eurodollar Futures	USD 1,000,000	4 serial months listed
ICE Short Sterling Futures	GBP 500,000	2 serial months listed
TMX BAX Futures	CAD 1,000,000	2 serial months listed

#### **Benefits** of serial Bank Bill Futures

- May offer more effective risk management opportunities and may eliminate basis for OTC portfolios.
- Offers an alternative product to FRAs and SPSs.
- Provides additional trading opportunities through calendar spread trading and trading serial Bank Bill Futures against the 30 day Interbank Cash Rate Futures contract.

#### **Drawbacks** of serial Bank Bill Futures

- May fragment liquidity in the front contract months.
- Potential to reduce participation in the front Bank Bill months by some liquidity providers.

# Implementation

 The timing for listing of serial Bank Bill Futures may be impacted by the timing for implementation of cash settlement.

#### Questions

- Do you support ASX listing serial Bank Bill Futures contracts?
- How far out on the forward curve should ASX have serial Bank Bill Futures?



## Good Till Cancelled (GTC) functionality for combination orders

Proposal	Support GTC functionality for Bank Bill Futures combination orders
Rationale	On the ASX 24 NTP, combination contract orders – calendar spread, inter-commodity spreads, packs and bundles - are only valid for the current trading session. At the end of each trading session all combination orders are purged from the trading platform. Customers wishing to maintain a combination order over multiple trading sessions are required to re-enter their orders at the start of each trading session. For the Bank Bill Futures, there are two trading sessions per trade date – a night session commencing at 5.08pm and a day session commencing at 8.28am.
	Benefits of GTC functionality
	<ul> <li>May encourage increased participation in the back month Bank Bill Futures.</li> <li>Rewards participants who place resting orders in the spread market by allowing them to enter GTC orders which can be carried over multiple trading sessions.</li> <li>May increase order book depth.</li> </ul>
	Drawbacks and considerations of GTC functionality
	<ul> <li>May result in a large increase in order book size which may lock up the order book, particularly in periods of low volatility.</li> </ul>
	<ul> <li>Providing GTC spread functionality would involve a complex technical build for both ASX and participants/vendors and will take considerable time to deliver.</li> </ul>
	Note: While this consultation paper is discussing potential changes for Bank Bill Futures, the technical development required to support GTC spread order types may allow the functionality to be applied to other calendar or intra-commodity spreads available in the ASX 24 market. Recent discussion with market participants on potential bond roll enhancements indicates interest in having a GTC spread order type supported.
	ASX will also be consulting with market participants on the introduction of GTC spreads to the bond roll market in Q1 2019 via a separate consultation paper.
GTC Functional Description	The following provides a high level overview of GTC spread functionality and how the spread orders would be restored to the order book.
	Potential GTC Spread Functionality Rules:
	GTC orders would expire when the earliest contract expires.
	GTD orders would expire on the earliest of the date and time specified or when the contract
	<ul> <li>expires.</li> <li>GT Spread orders would be reinstated in the order book on market open. GT orders would not participate in the auction process to determine the opening price.</li> </ul>
	<ul> <li>The matching engine would use an iterative algorithm for reinstating and matching GT Spread orders. The following sets outs a possible algorithm to re-instate GT orders based on time priority.</li> </ul>
	<ol> <li>Sort all GT orders (i.e. both GTC and GTD) in each individual spread book in price- time priority (Buy and Sell side is sorted separately)</li> </ol>
	Insert GT orders one at a time based on price time priority. If the price of the spread order is better than the existing market, the GT spread order will sit at the top of book. If the implied price in the outright market created from the GT



	spread order is better than the existing market, the implied leg will sit at top of book.  If a GT spread order matches an existing opposite order or against implied prices, it will trade with that opposite order(s). Trade statistics will be updated and the normal rules of setting the open, high, low, last will apply.  If a match from step 3 doesn't occur or is partially matched, then the remaining volume of GT order will become a resting order and participate in the market generating implied prices for all possible paths related to that order across the IR Spread matrix.
	3. Repeat step 2 to 4 until all GT spread orders are reinstated or matched.
	4. All implied prices from GT spreads orders will contribute closing price.
Questions	<ul> <li>Do you support the introduction of GT spread order types for Bank Bill Futures?</li> <li>What benefits or drawbacks do you see with GT functionality for spreads?</li> <li>Do you have any comments on the proposed GT order reinstatement approach outlined in the section above?</li> </ul>

#### **Invitation to respond**

ASX invites submissions from market users on the proposals set out in this paper and any alternative approaches that respondents may wish to raise for consideration.

ASX is seeking feedback on the proposed changes to the Bank Bill Futures contract and any associated issues or concerns that participants may have around these changes. Please provide written feedback by 30 April 2019.

If you or your organisation would like to discuss this topic further, please contact ASX (see contact details on page 2).

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## Appendix A: 3 Month BBSW and Bank Bill Futures (IR) Yields

