

Evolution of the BBSW Methodology

Discussion Paper

9 February 2016



Evolution of the BBSW Methodology – Discussion Paper

In October 2015, the Council of Financial Regulators (CFR) released a consultation paper seeking views on the evolution of the methodology for the bank bill swap rate (BBSW) benchmark. The consultation closed in early December 2015, and the CFR received 15 written submissions. This document summarises the feedback received from these submissions, and sets out a proposal for the evolution of the BBSW methodology for discussion with the Australian Financial Markets Association (AFMA) and market participants.

1 Background

BBSW is a key financial benchmark in Australia and is administered by AFMA (in its role as ‘Administrator’). BBSW rates serve as reference rates for pricing many debt securities and lending transactions, and are used to determine payment obligations on a range of derivatives.

BBSW interest rates measure where the interbank market trades ‘Eligible Securities’, which are bank accepted bills (BABs) and negotiable certificates of deposit (NCDs) with terms from 1 to 6 months issued by the ‘Prime Banks’. The Administrator calculates BBSW benchmark rates as the midpoint of the nationally observed best bid and best offer (NBBO) for Prime Bank Eligible Securities. The rate set process uses live and executable bid and offer prices sourced around 10am from interbank trading venues approved by AFMA (‘Approved Venues’), and the Prime Banks agree to support this process by quoting bids and offers.

Turnover at the BBSW rate set has declined to very low levels. This raises the risk that market participants may at some point be less willing to use BBSW as a benchmark. To ensure that BBSW remains a trusted, reliable and robust financial benchmark, the CFR sought the views of market participants on the BBSW methodology.

2 Overview of Consultation Responses

In response to the October 2015 consultation paper, the CFR received 15 written submissions, including from: issuers and purchasers of NCDs and BABs; institutions involved in the existing BBSW calculation methodology; and institutions that use BBSW as a financial benchmark. Most of the submissions expressed concern about the low trading volumes during the rate set, and acknowledged that changes to the BBSW methodology were likely to be necessary. Some submissions proposed explanations for the low trading activity during the rate set, including:

- *Regulatory risk and associated compliance costs:* institutions face inherent conflicts of interest when they participate in the market underpinning a financial benchmark and in the derivatives market that references the benchmark, and there is uncertainty regarding how regulators expect these conflicts to be managed. As a result, many institutions are reluctant to participate in a benchmark by trading during the rate set without this being expressly required by regulators, or in the absence of further guidance from regulators on appropriate behaviour. This is particularly the case for foreign banks due to regulatory developments relating to the manipulation of benchmarks elsewhere.
- *Preferences of fund managers:* money market funds typically have a mandate to provide their investors with a return of BBSW (e.g. by being benchmarked to the Bloomberg AusBond Bank Bill Index). These fund managers typically agree to the volume of their NCD transactions with a Prime Bank before 10am and set the rate after 10am at BBSW, thereby minimising tracking error.

- *Credit limit restrictions*: investors subject to credit limits are reluctant to trade during the rate set where NCDs and BABs are traded as a homogenous asset class, as there is a risk that they could be delivered the paper of a Prime Bank for which they have already fully utilised their credit limit.
- *Less demand for bank paper from foreign banks*: foreign bank branches have less demand for bank paper than in the past since it is not considered a high-quality liquid asset under the Liquidity Coverage Ratio either in Australia or in their home jurisdictions.

The submissions noted that these factors should be taken into account when considering changes to the BBSW methodology.

2.1 Responses to the four BBSW methodology options

The consultation paper presented four options for the evolution of the BBSW methodology. The responses received are summarised below:

Option 1: Continue with the current NBBO calculation methodology

Two submissions were in favour of continuing the current NBBO methodology on the basis that it was functioning effectively. One of these submissions did not view the low trading activity during the rate set as a significant risk to the credibility of the benchmark, as the Prime Banks underpin the calculation methodology by being market makers at the rate set. The submission was also concerned that the other proposed options would reduce market transparency. The other submission stated that many investors derive operational efficiencies from the current process of pricing NCD transactions at the BBSW rate, and that this assists investors in terms of demonstrating that they have been fair and equitable when conducting NCD transactions for their various portfolios.

One submission was not in favour of changes being made to the current BBSW methodology until there is greater certainty regarding the enforcement and regulatory regime underpinning BBSW and other global benchmarks. The submission expressed concern about the long term viability of BBSW, but warned that changes to the methodology could have a significant impact on swap and loan book valuations and may discourage already thin trading in the bank bills market.

Option 2: Anchor NBBO calculation methodology to a broader set of NCD market transactions

Most submissions supported changes being made to the BBSW methodology that are broadly consistent with Option 2. These submissions confirmed that the activity in the market for NCDs and BABs that takes place prior to the rate set is substantially larger than the activity during the rate set. It was acknowledged that this activity prior to the rate set has the potential to underpin BBSW, assuming market participants agree to transact at directly negotiated rates.

Many of these submissions proposed that BBSW be calculated as the volume-weighted average price (VWAP) of market transactions during a widened rate-set window, rather than using the NBBO method. However, there were varying views as to how the transactions that could be used to calculate the VWAP should be executed. Three methods proposed were based on:

1. direct negotiation between Prime Banks and investors
2. an electronic trading market
3. a tender process

One submission proposed the introduction of a daily public tender for issuance by the Prime Banks, with the outcome of the tender determining the rate set. Several submissions proposed for primary issuance and secondary market trading to take place on electronic venues during the rate set period; all matched trades in the primary and secondary market would then be used by the Administrator to calculate BBSW. One submission noted that the benefits of moving more trading activity onto electronic venues included a more competitive quoting system. The submissions typically envisaged an ongoing role for NBBO as a back-up mechanism for calculating BBSW if there were to be insufficient transactions to calculate a VWAP.

Some submissions noted that investors may not be willing to negotiate the interest rates on NCDs and BABs, and that this could make Option 2 difficult to implement. These submissions warned that investors could delay transacting until after the rate set to guarantee that their investments would continue to be priced at BBSW. One submission also argued that investors in NCDs would need to devote additional resources to canvassing the market for the best rates and would have to pay the bid/offer spread rather than receiving the mid BBSW rate. One submission also raised the possibility that the market will evolve products to provide investors with a benchmark return of BBSW. For instance, after the rate set, investors could reverse their NCD transactions and transact at BBSW, or alternatively, investors could enter a forward rate agreement (FRA) to convert the fixed rate transacted during the rate set to one referencing BBSW. One submission also argued that investors should have robust conflict management policies in place for their transactions to be included in a benchmark process, and that this could make some investors reluctant to trade in NCDs and BABs at outright yields.

Two submissions suggested that the CFR could consider using regulations to overcome the reluctance of investors to directly negotiate the interest rates on NCDs and BABs. One submission noted that it may be necessary for the CFR to mandate that the Prime Banks price NCDs independent of BBSW. The other submission suggested that the CFR mandate a fee of at least 2 basis points for transacting in NCDs and BABs at the BBSW rate to provide an incentive for those investors who do not wish to directly negotiate rates during the rate set window; it was noted that this fee would be consistent with similar arrangements in the foreign exchange market for fixing rates.

Option 3: Amend the calculation methodology to be based on submissions of the aggregate cost of wholesale fund raising

Option 4: Amend the calculation methodology to be based on submissions of individual wholesale funding transactions

There was very little support for Options 3 and 4, which would involve amending the calculation methodology to be based on submissions of the cost of a broader range of short-term wholesale funding transactions. Market participants were wary of returning BBSW to a submissions-based benchmark, given uncertainty as to whether the use of expert judgment in making benchmark submissions could amount to market manipulation. There were also concerns about the transparency of a submissions-based benchmark, with one submission arguing that it could provide the Prime Banks with an unfair advantage.

2.2 Responses to questions on the characteristics of BBSW

The consultation paper posed seven questions relating to the key characteristics of BBSW. The responses received are summarised below:

Q1. The market underlying the BBSW benchmark is currently the interbank market at the time of the rate set. Should the definition of the underlying market be broadened to include all funding transactions with wholesale counterparties, such as pension funds, and non-financial corporations?

Most submissions supported broadening the definition of the underlying market beyond the interbank market to include NCD and BAB transactions with a wider range of counterparties. One submission suggested that the change could improve the transparency of the BBSW benchmark, provided data on the transactions were made available in a timely manner to all market participants.

Some submissions suggested that the counterparties in scope should be limited to only include those that consistently invest in NCDs and BABs and have sufficiently large holdings, consistent with the definition used by AFMA to select respondents to the annual survey for appointing Prime Banks. It was suggested that maintaining this list could be the responsibility of the Administrator, possibly under the oversight of the CFR.

Q2. Should the eligible securities for calculating BBSW be broadened beyond BABs and NCDs to include other financial products such as term deposits that reflect the cost of the Prime Banks' total wholesale fund raising at the relevant maturities?

There was broad support for continuing to limit Eligible Securities to BABs and NCDs. These securities were viewed as relatively homogeneous and liquid. Many submissions argued that expanding the range would unnecessarily complicate the calculation methodology without providing material benefits. In particular, it was noted that term deposits are not tradable instruments, and that their pricing can vary depending on the type of counterparty, partly as a result of the differing treatments under the Liquidity Coverage Ratio. Several submissions argued that if the definition of Eligible Securities was to be broadened, the resulting BBSW rate would be likely to be structurally higher, adversely affecting existing contracts that reference BBSW.

One submission noted that there was a risk that the implementation of the Net Stable Funding Ratio over coming years could reduce the attractiveness of NCDs as a source of funding for the Prime Banks, with it being replaced by longer-dated funding.

Q3. What should be the minimum size for wholesale funding transactions to be in scope for BBSW?

There were a wide range of views on whether there should be a minimum size for wholesale funding transactions. Several submissions did not support the setting of a minimum transaction size; instead, some submissions proposed using a list of counterparties maintained by the Administrator to define 'in scope' transactions. Another submission argued that including all transactions would provide the most transparent and robust calculation of BBSW. Some submissions supported a minimum transaction size of \$1 million or \$5 million, while several suggested \$20 million, consistent with the current minimum market parcel size in the AFMA *Negotiable/Transferable Instruments Conventions*. One submission supporting a lower minimum transaction size noted that while the current minimum market parcel size is appropriate for trading in wholesale markets, it may not be representative of all primary issuance.

Q4. Should offshore Australian dollar denominated wholesale funding transactions be included, or only transactions undertaken in Australia?

Most submissions were against the inclusion of offshore transactions in the calculation of BBSW. Concerns were raised that the inclusion of offshore transactions would reduce the homogeneity of the market. In particular, it was argued that rates could diverge between the domestic and offshore markets due to: differences in taxes, regulations and accounting rules; different time zones; and imbalances in supply and demand between markets. This would introduce an additional layer of sensitivity and risk into BBSW, which would be difficult for market participants to hedge against. It was also noted that the inclusion of offshore transactions was unlikely to significantly increase the number of transactions in scope for the calculation of BBSW.

Q5. If the NBBO method were not to be used, what should be the fall-back mechanism for Prime Banks and the administrator in the event that there are insufficient transactions for calculating BBSW?

As noted above, a number of submissions advocated replacing the NBBO methodology with the VWAP of transactions in Eligible Securities undertaken by counterparties up to the time of the rate set. These submissions suggested that the NBBO methodology would be the primary fall-back mechanism in the event that there were deemed to be insufficient transactions for calculating the VWAP. One submission noted that further industry consultation would be appropriate to determine the minimum trading volume levels required to switch to a VWAP calculation.

A mathematically interpolated price was also suggested as a means of calculating BBSW in segments where there is no traded price. One submission went further and proposed that BBSW at the 2, 4 and 5 month tenors be permanently replaced with rates interpolated from the 1, 3 and 6 month tenors.

Several other fall-back mechanisms were raised, although they were viewed as having significant drawbacks in some other submissions. One such mechanism would be for a set of banks to use their expert judgment to submit 'tradable' rates; however, other submissions did not support the Prime Banks having to exercise expert judgment, given uncertainty as to whether the use of expert judgment could be interpreted as market manipulation. Some submissions suggested using historical rates (such as the previous day) as a fall-back mechanism, but it was noted that such an option would not be appropriate if the reason for their being insufficient transactions was a significant market event that would have moved rates.

Q6. Should the set of Prime Banks be larger than the four major banks, and how could the existing criteria for Prime Banks be amended to achieve this?

There was broad support for the existing arrangements for determining the Prime Banks. Some submissions were open to increasing the number of Prime Banks, provided that the homogeneity of their credit quality was maintained. Were the number of Prime Banks to increase beyond the four majors, it was noted that this would be unlikely to have much effect on BBSW if it was calculated as the VWAP of NCD and BAB transactions.

Q7. Should the timing of the transactions in scope for calculating BBSW be changed? Three options to consider are:

- a. including all transactions taking place up to the time of the rate set (i.e. morning transactions prior to 10am)**
- b. including all transactions taking place over the 24 hours prior to the rate set**
- c. moving the rate set to a later time (e.g.: 11am) to provide a wider window for the transactions underlying BBSW to be contracted up to the time of the rate set.**

If a calculation methodology based on transactions data (such as VWAP) were to be adopted, most submissions supported widening the rate set window to include transactions up to around 10am. One submission added the caveat that the Prime Banks should not be required to commit to an extended period of price making beyond the existing rate set window.

While it was noted that expanding the window to 24 hours would prevent the migration of transactions away from the time of the rate set, this option was widely rejected given the complications that could arise. In particular, funds that invest in NCDs and BABs with a mandate of providing a return at the BBSW rate would be exposed to added event and basis risk, potentially over two different trading days, which would be difficult to hedge against.

While many submissions suggested moving the rate set to a slightly later time than 10am, no submissions advocated extending the window beyond 11am given the increase in event risk and basis risk that would result. One submission also noted that a later time would be problematic given that it would reduce the time available to authenticate transactions.

One submission noted that any timing changes would require consultation with the ASX given the existing alignment of the rate set with the determination of the Expiry Settlement Price for the ASX 90 Day Bank Accepted Bills Futures at 10am on the final trading day for an expiring futures contract.

2.3 Other issues raised

Several submissions raised other issues related to BBSW:

- Most submissions recommended that the CFR consider initiatives to alleviate regulatory risks and compliance costs associated with financial benchmarks. In particular, further guidance could be provided on what regulators consider to be appropriate conduct around the rate set, and the factors that might lead regulators to conclude that conduct constitutes market manipulation.
- Some submissions supported the implementation of a risk-free interest rate benchmark as an alternative to BBSW, as such a rate would be a useful reference rate for a number of exposures, particularly those that are not directly related to the banking sector.
- One submission noted that replacing the current early-month late-month pooling convention for Eligible Securities with a rolling 5 day maturity band would concentrate activity and potentially lead to increased trading volumes by providing more certainty as to the tenor of the Eligible Securities being transacted.
- One submission noted that linking BBSW more closely to the futures market could increase transparency and liquidity behind the rate set. In particular, the contract specifications of the ASX 90 Day Bank Accepted Bills Futures contract could be changed to being cash settled off BBSW, which would bring it into line with other offshore contracts, and allow market participants who are not able to trade NCDs and BABs to instead trade the futures. The liquidity of NCDs and BABs would be enhanced by the

futures market and the futures contract would become a matched hedging product for interest rate swaps.

- One submission called for the Administrator to release more data about the benchmark calculation, including anonymised daily transactions data on the size of the trade, the interest rate and the time of trade.

3 Proposal for the BBSW Methodology

To ensure that BBSW remains a trusted, reliable and robust financial benchmark, the CFR has formulated a proposal for the evolution of the BBSW methodology, taking into account the feedback provided through the consultation process, for discussion with AFMA and market participants. In putting forward this proposal, the key objectives of the CFR are to ensure that:

- BBSW is anchored to transactions in an active underlying market
- the BBSW calculation mechanism is robust to changing market conditions
- the fundamental properties of BBSW are maintained to ensure a seamless transition

It is proposed that BBSW would be calculated by the Administrator as the VWAP of NCD and BAB transactions during the rate set window. The proposal puts forward three possible methods for the execution of the transactions that would be used to calculate the VWAP. These three methods should be considered by AFMA, with the aim of selecting a method to become the standard market practice. The core elements of the proposal are:

3.1 Prime Bank Eligible Securities

3.1.1 Maintain the existing definition of Prime Banks

AFMA's existing process for designating Prime Banks remains appropriate and is widely supported by market participants.

3.1.2 Maintain the existing definition of Eligible Securities

The existing definition of Eligible Securities as NCDs and BABs remains appropriate and is widely supported by market participants. Broadening the definition to include non-tradable instruments such as term deposits would increase the volume of activity in the market, but could change the characteristics of BBSW including the level and volatility of rates, adversely affecting existing contracts that reference BBSW. The Administrator should periodically review the appropriateness of the definition of Eligible Securities, taking into account changes in the composition of Prime Bank funding.

Narrowing the maturity band for Eligible Securities from the current early-month late-month pooling convention could support trading activity during the rate set, as it would provide investors with more certainty as to the exact tenor of the securities they are purchasing.

3.2 The Underlying market

3.2.1 Broaden the definition of the underlying market beyond the interbank market to include all transactions that are above a minimum size

The definition of the underlying market should be broadened to include all transactions that are above a minimum size. For the purpose of collecting transactions data, the definition would include transactions between Prime Banks and transactions where a Prime Bank is a

counterparty; transactions that do not involve a Prime Bank as a counterparty should also be considered for inclusion, if collecting the transactions data would be practicable. The purpose of setting a minimum size would be to exclude transactions that are unlikely to be representative of the underlying market. The minimum transaction size could be set by the Administrator at the existing market parcel size of \$20 million, or could potentially be set at a lower amount to include transactions from a wider range of market participants.

3.2.2 Do not include offshore transactions in the definition of the underlying market

The definition of the underlying market should not be explicitly broadened to include transactions that take place in offshore jurisdictions. As highlighted in many of the submissions to the consultation, broadening the definition in this way would be unlikely to significantly increase the volume of activity in the market, and could reduce the homogeneity of the market.

3.2.3 Review the width of the rate set window

The Administrator should anchor BBSW to a broader set of market transactions, which may require a widening of the rate set window. In determining the length of the rate set window the Administrator should provide sufficient time for primary and secondary market activity to take place, while taking into account the fact that a wider window may increase basis risk for investors in Eligible Securities. When considering whether the closing time for the rate set window and the existing publication time for BBSW should change, the Administrator should take into account the potential impact on investors in Eligible Securities, the ASX 90 Day Bank Accepted Bills Futures, and users of the BBSW benchmark.

The width of the rate set window should evolve with changing market conditions. If a substantial share of market activity was to migrate to outside the rate set window, the Administrator should consider widening the window further to ensure that there are sufficient market transactions to underpin BBSW. As a last resort, the Administrator could set the rate set window as a 24 hour period to ensure that all market activity is within scope.

3.3 Calculation methodology

3.3.1 Calculate 1, 3 and 6 month BBSW as the VWAP

The primary calculation method for 1, 3 and 6 month BBSW should be to take the VWAP of primary and secondary market transactions during the rate set window. The submissions to the consultation suggest that this calculation method is widely supported by market participants, particularly for the 1, 3 and 6 month tenors. The Administrator would be responsible for determining whether a sufficient volume of transactions had taken place at each tenor to calculate the VWAP; a reasonable threshold to use for this purpose would be some multiple of the minimum transaction size for inclusion in the underlying market.

3.3.2 Use NBBO as the fall-back calculation method for 1, 3 and 6 month BBSW

Were there to be insufficient transactions to calculate the VWAP at the 1, 3 or 6 month tenors, NBBO would be an appropriate fall-back methodology for the calculation of BBSW at the relevant tenors. The submissions to the consultation suggest that this calculation mechanism is widely supported as a fall back by market participants. The circumstances under which the fall-back mechanism would be utilised would need to be documented in detail by the Administrator. For NBBO to remain a viable fall-back mechanism, the Prime Banks would be expected to continue meeting their market making obligations at the 1, 3 and 6 month tenors by quoting bids and offers during the rate set window.

3.3.3 Calculate 2, 4 and 5 month BBSW by interpolation from 1, 3 and 6 month BBSW; consider discontinuing 2, 4 and 5 month BBSW after assessing whether this would generate significant disruption

Given that there is unlikely to be sufficient liquidity in the underlying market at the 2, 4 and 5 month tenors to reliably calculate the VWAP, it is proposed that BBSW at these tenors be calculated by interpolation from 1, 3 and 6 month BBSW where there is more liquidity in the underlying market. The Administrator should determine the interpolation method and publish it.

When BBSW is used as a benchmark in contracts and financial instruments, it is typically at the 1, 3 and 6 month tenors; in comparison, usage of the 2, 4 and 5 month tenors appears to be rare. Given this, the Administrator should consider discontinuing the 2, 4 and 5 month tenors, after assessing that this would not generate significant disruption.

3.3.4 Transition period

There should be a transition period during which the Administrator continues to calculate BBSW using NBBO, while concurrently calculating the VWAP at the 1, 3 and 6 month tenors to assess the effectiveness of the proposed calculation methodology.

3.4 Executing transactions for calculating the VWAP

3.4.1 Prime Banks conduct their primary issuance and secondary market transactions in terms of outright yields

The standard market practice should be for the Prime Banks to conduct their primary issuance of Eligible Securities in terms of outright yields during the rate set window, and for secondary market trading to be negotiated in terms of outright yields during the rate set window. Having a sufficient volume of transactions being negotiated in terms of outright yields during the rate set window would be essential to calculate the VWAP.

As part of their market making obligations, each Prime Bank should be expected to offer to issue and purchase in terms of outright yields at least the minimum market parcel size of their Eligible Securities at each of the 1, 3 and 6 month tenors during the rate set window on each business day.

There should also be incentives for investors to transact at outright yields, rather than at the BBSW rate, to support the calculation of the VWAP. One way to do this would be for the Prime Banks to charge a fee for Eligible Securities transactions negotiated at the BBSW rate, to encourage these transactions to instead be negotiated at outright yields.

3.4.2 Method for executing transactions

As the market in Eligible Securities operates as an over-the-counter market, there are a variety of methods that could be used by Prime Banks and investors to execute transactions in terms of outright yields during the rate set window. The following three methods should be considered by AFMA, with the aim of selecting a method to become the standard market practice for most primary issuance and secondary market transactions:

Method 1: Direct negotiation between Prime Banks and investors

Primary issuance and secondary market transactions would be negotiated and executed *in terms of outright yields* via direct communication (such as over the phone) between the Prime Banks and investors. A rate set window of around 60-90 minutes (for instance, from 8.30am to 10am) should provide sufficient time for such transactions to take place. The Prime Banks would then submit the information to the Administrator (see Section 3.4.3 below).

Advantages: This method would facilitate the widest range of transactions, including primary issuance, secondary market activity, buy-backs by the Prime Banks, and switch trades (for instance, where an investor simultaneously sells NCDs with a 1 month tenor and purchases those with a 6 month tenor); primary issuance could support the calculation of a VWAP for 3 and 6 month BBSW, while buy-back and switch trades could support the calculation of a VWAP for 1 month BBSW, where there is relatively little primary issuance. Method 1 is similar to current market practice and would be unlikely to require extensive changes to the systems and procedures of market participants.

Disadvantages: Method 1 provides the least transparency, with investors likely to spend considerable time in price discovery and negotiation with each Prime Bank. The longer rate set window required would also increase basis risk for investors. The lack of transparency may also necessitate more oversight of the conduct of market participants, both by internal compliance sections and regulators.

Method 2: Electronic trading market on an Approved Venue(s)

Transactions would be executed in terms of outright yields via an Approved Venue(s), with the Prime Banks and investors posting bids and offers in terms of outright yields for a particular Prime Bank's Eligible Securities at the relevant tenor. A rate set window of around 30-45 minutes (for instance, from 9.15am to 10am) should provide sufficient time for such transactions to take place. The Approved Venue(s) would provide details of transactions to the Administrator (see Section 3.4.3 below).

Advantages: This method would facilitate a sufficiently wide range of transactions, including primary issuance, secondary market activity and buy-backs by the Prime Banks. This method could be implemented using existing infrastructure provided by the Approved Venue(s), which the Prime Banks and a number of investors already have the capability to utilise.

Disadvantages: This method may not facilitate switch trades as effectively as Method 1, unless an active market develops on an Approved Venue(s) for switch trades. Participants in the market may need to implement changes to their systems and procedures, particularly if they do not typically transact using the Approved Venue(s). Agreement would have to be reached with the Approved Venue(s) as to who pays the brokerage fees.

Method 3: Tender process on an Approved Venue(s)

The issuance of the Prime Banks' Eligible Securities and secondary market trading would take place in terms of outright yields through a public tender process. The tender could be run as a single-price auction for each Prime Bank's Eligible Securities at each tenor: the Prime Banks and interested investors would each submit their bids and offers for Prime Bank Eligible Securities (or a subset) at a particular tenor, specifying the volume and yield at which they are willing to buy or sell; bids and offers would then be matched to generate a market clearing yield for each Prime Bank, with the yield on all successful bids and offers set at that same level. Given that all the transactions would be executed at the same time, the rate set window could be quite short (for instance, bids and offers could be submitted over a 15 minute period, with the tender closing at 10am).

Advantages: This method would facilitate a sufficiently wide range of transactions, including primary issuance, secondary market activity and buy-backs by the Prime Banks. The short rate set window would reduce basis risk and minimise the length of time that the Prime Banks are required to make prices. If the tender was conducted as a single-price auction for each Prime Bank's Eligible Securities, this should also reduce basis risk for investors, while allowing for some price differentiation between each Prime Bank's Eligible Securities depending on relative demand and supply.

Disadvantages: Depending on the design of the tender, this method may not facilitate switch trades as effectively as Method 1, with investors facing the risk that they may not be able to execute both legs of the switch trade (for instance, the investor sells NCDs with a 1 month tenor but is unable to purchase corresponding NCDs with a 6 month tenor); as a result, this method may not provide sufficient transactions for the calculation of the VWAP for 1 month BBSW. This method could also be viewed as a significant departure from existing market practice, so market participants may need to implement extensive changes to their systems and procedures. In addition, market participants may be reluctant to transact through a tender process given its complexity. This method would require liquidity in the market to be concentrated in a very short window, which could reduce the flexibility for Prime Banks and investors to transact significant volumes at other times.

3.4.3 Transactions data should be provided to the Administrator to facilitate calculation of BBSW as the VWAP

The Administrator would need to receive transactions data at the close of the rate set window to be able to calculate BBSW as the VWAP of transactions. Were the Prime Banks to execute transactions outside of the Approved Trading Venues as in Method 1 above, then the Prime Banks would need to submit the relevant transactions data to the Administrator. For the benchmark methodology to be consistent with IOSCO's *Principles for Financial Benchmarks*, the Administrator may need to develop a Submitter Code of Conduct and monitor adherence to the Code. Were the transactions to be executed via the Approved Venues as in Methods 2 and 3 above, the Administrator could obtain the relevant data directly from the Venues and it would not be necessary for the Prime Banks to adhere to a Submitter Code of Conduct.

3.4.4 Maintain current definition of Approved Venues

The Administrator should continue to designate the Approved Venues that can participate in the BBSW benchmark rate set process. The Administrator should regularly review whether the current list of Approved Venues remains appropriate.

3.4.5 Ensure activity in primary and secondary markets is transparent to enhance confidence in the BBSW calculation

Data on the price and volume of activity in the underlying market should be made available to market participants in a timely fashion to enhance confidence in the BBSW calculation. The transaction data could be sourced from the Prime Banks or the Approved Venues and disseminated either by the Administrator, the Prime Banks or the Approved Venues. Were the Prime Banks or other counterparties to engage in transactions in Eligible Securities outside of the Approved Venues as in Method 1 above, the Prime Banks would need to submit transaction data to the Administrator reporting the volume and price of the transactions, and the Administrator or the Prime Banks could disseminate the data.

4 Next Steps

While the CFR has an ongoing interest in BBSW as a systemically important financial benchmark, the ultimate responsibility for the BBSW methodology, and the implementation of any changes, resides with the Administrator. The CFR appreciates that AFMA and market participants will need to give the proposal in Section 3 further consideration, and that any associated changes to market practice and infrastructure will take time to implement. As a result, it will be necessary for the current BBSW methodology to be maintained for a period.

To support the evolution of the BBSW methodology, the CFR has put forward the following timeline for the consideration of the proposal by AFMA and market participants and the implementation of changes by the Administrator. As part of this process, AFMA will need to amend the *AFMA Prime Bank Conventions*, the *Bank Bill Swap (BBSW) Benchmark Rate Conventions* and the *Negotiable/Transferable Instruments Conventions*. The feasibility of this timeline will depend on the scope of the amendments to the methodology that are eventually implemented.

4.1 Timeline

23 October 2015	The CFR published the Consultation Paper on the evolution of the BBSW methodology
3 December 2015	Written submissions to the consultation closed
December 2015 – January 2016	RBA staff held bilateral discussions with each of the institutions that made written submissions to the consultation
9 February 2016	The CFR published this Discussion Paper on the evolution of the BBSW methodology
February 2016	AFMA's Market Governance Committee, Benchmarks Committee and Negotiable & Transferable Instruments Committee will meet to consider the proposal outlined in the Discussion Paper
By end June 2016	AFMA will complete any further consultation with the CFR agencies and market participants and finalise a set of amendments to the BBSW methodology
By end December 2016	Depending on the scope of the changes, the Administrator will complete the implementation of the amendments to the BBSW methodology

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