

Impact of the Liquidity Coverage Ratio (LCR) Requirement on EMEAP Money Markets, Central Bank Operations and Monetary Policy Transmission

EMEAP Working Group for Financial Markets

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1 Executive Summary

During the last global financial crisis, many banks experienced difficulties in liquidity management despite having adequate capital levels. In response to this, the Basel Committee implemented the Liquidity Coverage Ratio (LCR) with the aim of developing a more resilient banking sector. Given the significance of the LCR as a global liquidity regulation, the WGFM decided to study the impact of the LCR on money markets, central bank operations and monetary policy transmission in the EMEAP region. This report summarises the findings and builds on the body of existing research on the LCR.

We begin by providing an overview of the LCR requirement as a global liquidity regulation. The Basel Committee developed the LCR to promote the short-term resilience of the liquidity risk profile of banks. This is done by ensuring banks have sufficient high-quality liquid assets (HQLA) to meet their obligations under a significant stress scenario lasting 30 calendar days. In computing the LCR, only selected assets are eligible as HQLA, and are accorded different haircuts depending on various characteristics. A bank's obligations under the 30-day stress scenario is determined by its net outflows, which is obtained by computing its gross inflows and outflows over the period, with appropriate factors applied to different types of flows. Banks are required to ensure that their stock of HQLA is always at least equal to the sum of their net outflows over the 30-day period.

The working group also conducted a survey among its members to find out which monetary policy tools were currently in use by EMEAP central banks in their operations. The implementation of the LCR requirement would likely affect incentives for banks to participate in central bank operations, and the extent to which operations are affected would depend on the characteristics of the monetary policy tools used. The results suggest that instruments used in central bank operations are for the most part LCR-neutral, thus ensuring that market participants' incentive to participate in central bank operations has not been significantly altered. From a broader perspective, the working group also analysed the potential impact of the LCR requirement on monetary policy transmission channels in EMEAP jurisdictions and found it to be low and manageable.

Nevertheless, there has been some observable impact on EMEAP money markets in general based on consultations with market participants in member jurisdictions. Several jurisdictions reported an increase in term interbank rates partly attributable to the implementation of the LCR. There has also been evidence that banks were switching to sources of funding that received more favourable treatment (e.g. lower outflow factor) under the LCR requirement.

The report also details measures taken by EMEAP central banks to mitigate the impact of the implementation of the LCR requirement. These measures have undoubtedly played a significant role in ensuring the smooth and orderly functioning of markets as participants adjusted to the new LCR requirements. While continuing to monitor the adjustment process, central banks could also consider studying the degree to which banks allow the buffers they hold above the minimum LCR requirement to vary with evolving market conditions, as this could significantly dampen or exaggerate the impact of the LCR on the wider market and economy. Lastly, in view of the report's findings, it would be useful to conduct a comprehensive study following the implementation of other global regulatory reforms over the next few years to analyse the combined impact of these measures in the EMEAP region.

2 Introduction

Ongoing changes in the global regulatory framework are expected to affect interbank funding markets through both direct (changes in banks' willingness to lend to one another) and indirect (changes in banks' willingness to hold central bank reserves, participate in monetary operations and tap on central bank liquidity facilities) channels. Given the reach and potential impact of these global changes, the EMEAP WGFM felt that it would be useful and timely to assess the implications of the new regulatory reality on monetary policy operations and transmission at the regional level. To this end, a working group was established by the EMEAP WGFM to review the impact arising from the implementation of the LCR—the first global liquidity regulation to be implemented—on money markets, central bank monetary operations and monetary policy transmission. Most member central banks have also started making preparations or have already put in place measures to address the potential impact of LCR implementation. A table summarising the implementation progress of the LCR across various member jurisdictions is shown in Table 1.

While most jurisdictions in the region operate under an interest rate-centred monetary policy regime, monetary operations and liquidity facilities vary across the EMEAP jurisdictions. The characteristics of each country's monetary policy and liquidity management framework, such as whether the central bank is focused on withdrawing or injecting liquidity, the instruments used in monetary operations and the central bank's collateral policies, would affect the way in which banks respond to the implementation of the LCR. Thus, in addressing these issues, the working group decided to organise the work into three sub-streams: (i) monetary policy framework, which would detail the monetary operations used by member central banks to manage liquidity; (ii) impact on money markets, monetary operations and monetary policy transmission channels; and (iii) central bank response, which would study the measures undertaken by various members to mitigate any potential negative impact arising from the implementation of the LCR. The findings of each sub-stream are based primarily on surveys of member jurisdictions, consultative findings and feedback obtained from industry participants from member jurisdictions, as well as existing academic and central bank research. This report also draws on findings by the CGFS MC Working Group on "Regulatory change and monetary policy".¹

Chapter 3 provides a primer on the LCR, covering the important aspects relevant to this study. Chapters 4 to 6 cover the findings of the three sub-streams in order. Chapter 7 synthesises the results and concludes.

¹ The report submitted by the Working Group can be found at <http://www.bis.org/publ/cgfs54.htm>.

Table 1: LCR Implementation in EMEAP Member Jurisdictions²

	Australia	China	Hong Kong	Indonesia	Japan	Philippines	South Korea	Malaysia	Singapore	Thailand	New Zealand
Have implemented LCR/to implement LCR	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No ³
Followed Basel Committee's phase-in arrangement starting from 2015		✓	✓	✓	✓		✓	✓	✓		
Fully implemented from 2015	✓										
Other arrangements						✓ ⁴				✓ ⁵	

² Based on EMEAP WGBS Survey on Basel III Liquidity Standards

³ New Zealand introduced domestic liquidity regulations (Liquidity Mismatch Ratio) in August 2010, which are similar, but not identical to the Basel III LCR requirements. The RBNZ is currently undertaking a review on whether or not to adopt the LCR requirements. In particular, RBNZ is reviewing the feasibility of the LCR requirements in New Zealand's context, as more than two-thirds of government bonds are held by offshore investors. In view of this, the analysis of the impact of the LCR that follows in the rest of this report excludes New Zealand.

⁴ The Philippines intends to phase-in the LCR requirement with the minimum LCR set at 90% in 2018 and 100% in 2019. The observation period is set from July 2016 to December 2017.

⁵ Thailand intends to phase-in the LCR from 2016 to 2020 with the minimum LCR set at 60% in 2016, 70% in 2017, 80% in 2018, 90% in 2019 and 100% in 2020.

3 The Liquidity Coverage Ratio (LCR): A Primer

The Liquidity Coverage Ratio (LCR) is one of two minimum standards for funding liquidity introduced by the Basel Committee to strengthen global liquidity frameworks. The objective of the LCR is to promote the short-term resilience of the liquidity risk profile of banks by ensuring that banks have an adequate stock of unencumbered HQLA that can be converted easily into cash to meet their liquidity needs for a 30-day liquidity stress scenario. The definition of a bank's LCR is expressed in the equation below:

$$\text{LCR} = \frac{\text{Stock of High-Quality Liquid Assets (HQLA)}}{\text{Total Net Cash Outflows over next 30 days}}$$

Under the minimum standard prescribed by the Basel Committee, internationally-active banks are required to maintain a minimum LCR at all times. In order to reduce disruption to banking systems and economic activity, the minimum requirement is set at 60% in 2015, and increases step-wise by 10% annually to 100% in 2019 (Table 2). During periods of idiosyncratic or systemic liquidity stress, a bank is permitted and is expected to draw on its stock of HQLA to meet its net cash outflows before requesting for assistance from its lender of last resort.

Table 2: Minimum LCR implementation timeline (Basel Committee)

	1 Jan 2015	1 Jan 2016	1 Jan 2017	1 Jan 2018	1 Jan 2019
Minimum LCR	60%	70%	80%	90%	100%

High-Quality Liquid Assets (HQLA)

Assets are considered HQLA if they are easily convertible into cash on short notice with little or no loss of value, and can be sold without incurring large discounts in times of stress. HQLA are classified into three broad categories based on credit quality and market liquidity as reflected in the respective haircuts applied (Figure 1). For the calculation of LCR, the stock of HQLA is adjusted for haircuts and limits.

Total Net Cash Outflows

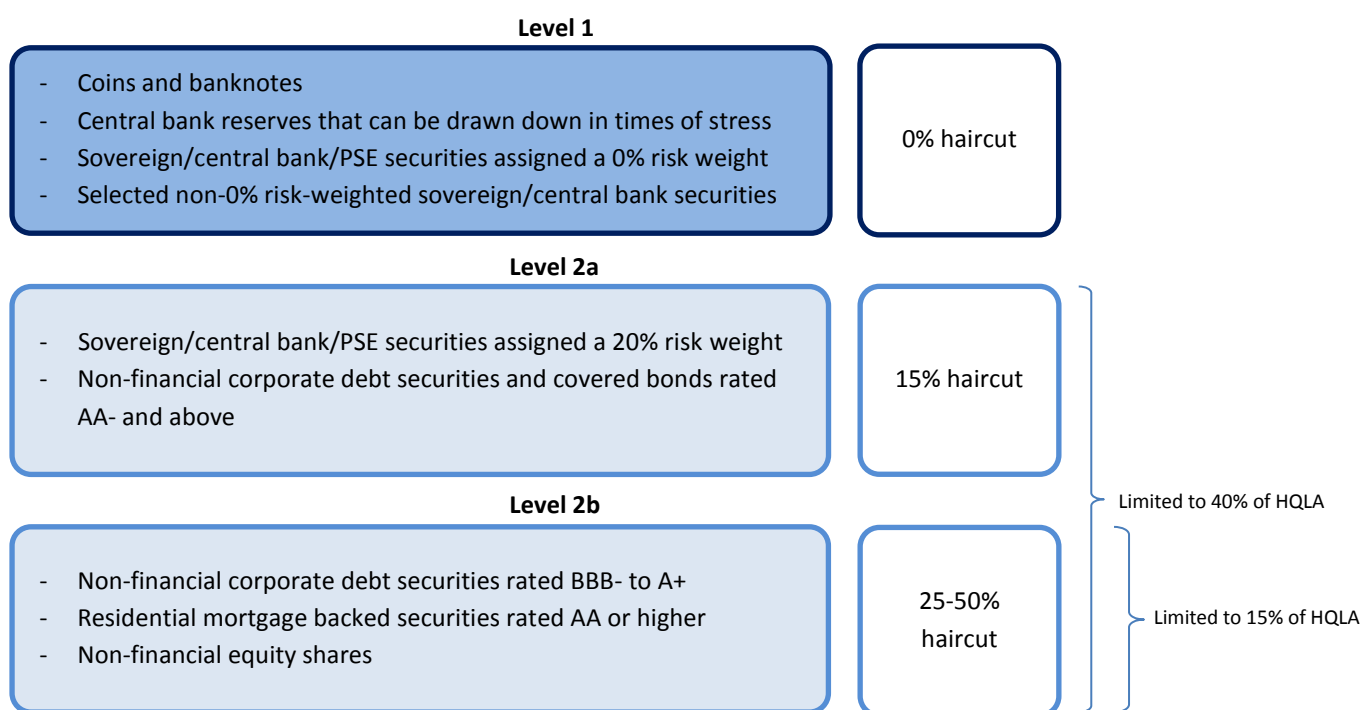
Total net cash outflows for a bank are calculated using its on and off-balance sheet items that are contractually due in the next 30 days. These items are multiplied with the corresponding outflow or inflow factors to obtain the bank's expected cash outflows and inflows over the next 30 days. The total net cash outflows is the difference between the total expected cash outflows and inflows (subject to an aggregate cap):

$$\text{Total net cash outflows over next 30 days} = \text{Total expected cash outflows} - \min(\text{Total expected cash inflows}, 75\% \text{ of total expected cash outflows})$$

The outflow and inflow factors applicable to major categories of balance sheet items are shown in Table 3.

It should be emphasised that the requirements described in this section of the report represent the minimum standard prescribed by the Basel Committee, which comprises parameters that have been internationally “harmonised”. Several EMEAP member jurisdictions have introduced additional parameters or adjusted existing parameters in the standard to reflect jurisdiction-specific conditions. For example, while the Basel Committee minimum standard allows for all secured funding transactions with the central bank to be accorded a 0% outflow factor regardless of collateral pledged, Australia requires the transactions to be contracted against Level 1 HQLA or under its Committed Liquidity Facility, with other secured funding transactions with the RBA receiving the same outflow factor as equivalent transactions with a private sector counterpart. Singapore and Malaysia have introduced a domestic currency LCR requirement in addition to the all-currency LCR requirement prescribed by the Basel Committee.⁶

Figure 1: Main categories of HQLA with corresponding haircuts and limits



⁶ The Basel Committee’s minimum standard requires banks to meet and report their LCR in a single currency. Nevertheless, banks are expected to be able to fund their liquidity needs in each currency and maintain a stock of HQLA consistent with the distribution of their liquidity needs by currency.

Table 3: Outflow and inflow factors of major categories

Outflows	
Retail Deposits	
Stable (insured and conforms to additional requirements in footnote 17)	3%
Stable (insured but does not conform to additional requirements in footnote 17)	5%
Less stable	10%
Non-financial Corporate Deposits	
Operational (insured)	3-5%
Operational (uninsured)	25%
Non-operational (insured)	20%
Non-operational (uninsured)	40%
Financial Institution Deposits	
Operational (insured)	3-5%
Operational (uninsured)	25%
Non-operational	100%
Committed Credit and Liquidity Facilities	
To retail and small business customers	5%
To non-financial corporates, sovereigns and central banks	10-30%
To banks and other financial institutions	40-100%
Secured Borrowing	
Against Level 1 assets/with central bank counterparty	0%
Against Level 2A assets	15%
Against Level 2B assets	25-50%
Against all other assets	100%
Derivatives	100%
Inflows	
Loans	
To retail	50%
To non-financial corporates	50%
To financial institutions	100%
To central bank	100%
Secured Lending	
Against Level 1 assets	0%
Against Level 2A assets	15%
Against Level 2B assets	25-50%
Against all other assets	100%
Derivatives	100%

4 Survey of EMEAP Monetary Policy Frameworks

In order to carry out an analysis of the impact of the LCR on central bank monetary operations and monetary policy transmission mechanisms, the working group conducted a detailed survey of monetary policy frameworks in EMEAP member jurisdictions. The survey focuses on the types and characteristics of monetary policy instruments used by members in conducting monetary operations to achieve their monetary policy targets. This information is useful in determining how the monetary policy instruments used could interact with the LCR requirement. Table 4 indicates the monetary policy instruments currently in use by member central banks.⁷

The survey results show that for liquidity-injecting operations, the most commonly-used instruments are repos against HQLA and outright purchases of government securities, though most respondents indicated that outright purchases are used infrequently and only under specific liquidity conditions. For liquidity-withdrawing operations, reverse repos against HQLA and the acceptance of term deposits/unsecured borrowing are among the most-commonly used instruments. Many respondents also use FX swaps and issue central bank securities to withdraw liquidity, though FX swaps are used more infrequently and irregularly.

⁷ The table indicates monetary policy instruments currently in use by member central banks but does not give an indication of the frequency of usage. Most central banks surveyed rely on frequent usage of some but not all of their available monetary policy instruments, with the remaining instruments used only when certain conditions are met.

Table 4: Monetary policy tools currently in use by EMEAP central banks for monetary operations

Demand for Central Bank Reserves

	BI	BNM	BoJ	BoK	BoT	BSP	HKMA	MAS	PBC	RBA	RBNZ
Reserve requirement	✓	✓	✓	✓	✓	✓	N.A.	✓	✓		
Reserve remuneration	✓		✓				N.A.		✓	✓	✓

Liquidity Injection

Operation	BI	BNM	BoJ	BoK	BoT	BSP	HKMA ⁸	MAS	PBC	RBA	RBNZ
Repo against HQLA	✓	✓		✓	✓	✓	N.A.		✓	✓	✓
Repo against non-HQLA							N.A.			✓	✓
Collateralised lending against HQLA			✓	✓			N.A.		✓		
Collateralised lending against non-HQLA			✓	✓		✓	N.A.				
FX swaps	✓	✓			✓		N.A.			✓	✓
Outright purchase of govt securities	✓	✓	✓	✓	✓	✓	N.A.			✓	✓
Outright purchase of other assets			✓				N.A.				
Early redemption of central bank securities	✓			✓			N.A.				

Liquidity Withdrawal

Operation	BI	BNM	BoJ	BoK	BoT	BSP	HKMA	MAS	PBC	RBA	RBNZ
Reverse repo against HQLA	✓	✓		✓	✓	✓	N.A.	✓	✓	✓	✓
Reverse repo against non-HQLA							N.A.				
Term deposits/unsecured borrowing	✓	✓		✓	✓	✓	N.A.	✓		✓	
FX swaps	✓	✓			✓	✓	N.A.	✓		✓	✓
Outright sale of govt securities	✓	✓				✓	N.A.				

⁸ The monetary policy objective of the HKMA is currency stability, defined as a stable external exchange value of the currency of Hong Kong. The HKMA does not conduct open market operations and has no reserve requirements.

Issuance of central bank securities	✓	✓	✓	✓	✓ ⁹	✓	✓	✓
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In addition to surveying the instruments used, the working group also sought inputs on tenors used in liquidity-injecting and liquidity-withdrawing operations. Since the LCR is a measure of liquidity adequacy under a 30-day funding stress scenario, central bank operations would impact a bank's LCR differently depending on whether the tenor of operation was below or above 30 days. The results are presented in Figure 2.¹⁰

For liquidity injection, repos against HQLA, collateralised lending against non-HQLA and FX swaps are used by members across a wide range of tenors (overnight to 12 months). Regardless of tenor, repos against HQLA are LCR-neutral from the bank's perspective.¹¹ Collateralised lending against non-HQLA would be LCR-positive for the bank since secured funding with central bank counterparties are accorded an outflow factor of 0%.¹² The mean tenor of FX swaps is considerably above one month, which means that a bank's domestic currency LCR (if applicable) would increase and foreign currency LCR (if applicable) would decrease after it transacts with the central bank, though the LCR as reported in a single currency would be unchanged.

For liquidity withdrawal, reverse repos against HQLA, term deposits/unsecured borrowing and FX swaps are used across a wide range of tenors as well (overnight to six months for reverse repos against HQLA, overnight to 12 months for term deposits/unsecured borrowing and FX swaps). Again, reverse repos against HQLA are largely LCR-neutral irrespective of tenor.¹³ The mean tenor for term deposits/unsecured borrowing is below one month, which means that the return leg can be included as an inflow for the bank for a significant proportion of such transactions (subject to the inflow cap). The mean tenor of FX swaps is considerably above one month, which means that a bank's domestic currency LCR (if applicable) would decrease and foreign currency LCR (if applicable) would increase after it transacts with the central bank, though the LCR as reported in a single currency would be unchanged.

⁹ Under Hong Kong's currency board system, Exchange Fund Bills and Notes (EFBN) are a component of the HKD Monetary Base and are fully backed by USD reserves. Additional EFBN can only be issued when there are net inflows of funds into the HKD.

¹⁰ Only instruments used by at least three member jurisdictions are included. Outright purchases and sales of assets are not included as these transactions involve an exchange of assets on a bank's balance sheet, and are not affected by the inflow and outflow factors accorded to unsecured and secured borrowing or lending transactions.

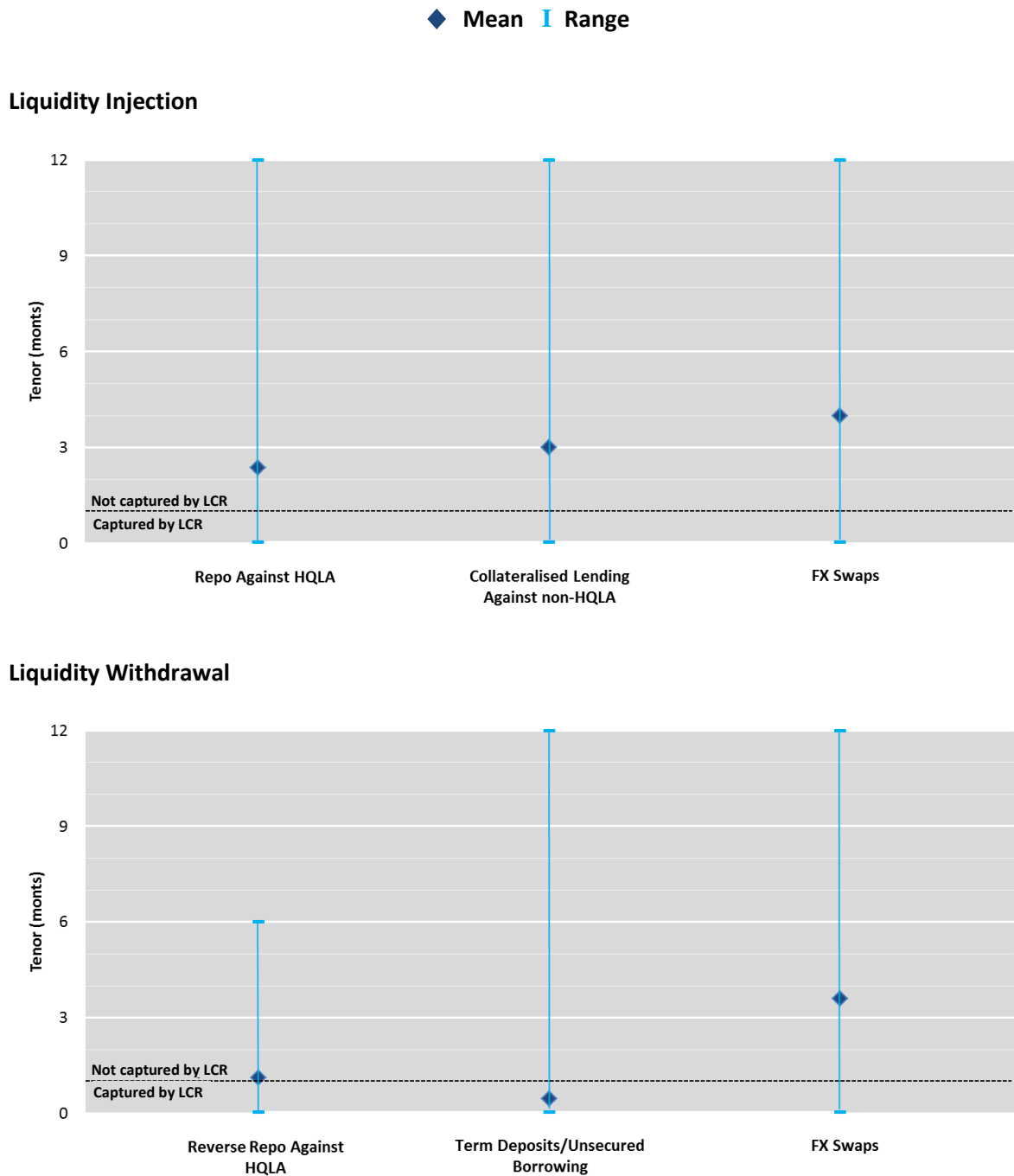
¹¹ There could be a slight impact on LCR if the haircuts (if any) applied to the collateral differ from the haircuts for Level 2A and Level 2B HQLA prescribed under the Basel Committee's LCR framework.

¹² This reasoning applies for collateralised lending transactions with a tenor of one month or less. For transactions of a longer tenor, the bank receives cash for non-HQLA with the maturity date falling outside the one-month LCR computation window, hence its LCR would also increase.

¹³ There are a few possible exceptions. First, reverse repos against HQLA maturing within 30 days could have a positive impact on the bank's LCR if the collateral received was Level 2A or Level 2B assets which are not re-hypothecated by the bank, since these assets have a positive inflow rate (assuming that the central bank's haircuts for these assets are largely similar to those prescribed by the LCR requirement). Second, reverse repos against HQLA maturing beyond 30 days could be LCR-negative for the bank if it substitutes cash for Level 2A or Level 2B assets, which will have haircuts applied to them in the computation of the bank's stock of HQLA.

These results suggest that the implementation of the LCR in member jurisdictions is thus likely to have varying degrees of impact on different monetary policy instruments used by EMEAP central banks. The next section provides a detailed analysis of the impact of the LCR on money markets, central bank monetary operations and monetary policy transmission.

Figure 2: Tenors of instruments used by members for liquidity injection and withdrawal



5 Impact of the LCR

Impact on Money Markets

To investigate the impact of LCR on money markets and central bank monetary operations, the working group surveyed member central banks and consulted market participants on both potential and realised effects of the implementation of LCR in their respective jurisdictions. Figure 3 shows how various aspects of the LCR requirement could affect different areas of money markets and central bank monetary operations.¹⁴

One of the key parameters of the LCR is that by design, it focuses on the short-term liquidity risk profile of banks by considering only net cash outflows over the next 30 calendar days. Banks operating below or near their LCR requirement would thus alter their funding preferences between inflows and outflows within the 30-day window and those outside this window. For example, in unsecured interbank markets, banks would be incentivised to lend at tenors shorter than 30 days and borrow at tenors longer than 30 days, since the former inflow would be included in its LCR computation¹⁵ while the latter outflow would not. This leads to greater willingness to lend (borrow) at shorter (longer) tenors and decreased willingness to lend (borrow) at longer (shorter) tenors, which will result in a steepening in the short-term unsecured money market yield curve. In Malaysia, for example, banks' preparation for the implementation of LCR on 1 June 2015—coupled with slower growth in the overall deposit base—has led to a steady increase in unsecured interbank term rates for tenors greater than 1 month, as reflected by the upward movement in the 3-month KLIBOR in 2H2014 after BNM's policy rate hike in July. While the overall impact on the volume of interbank unsecured transactions is less clear, anecdotal feedback from counterparties from most EMEAP jurisdictions has indicated that liquidity and transaction volumes have fallen as a result of the significant mismatch between demand and supply of liquidity.

With decreased reliance on interbank funding, banks in several jurisdictions have turned to other funding sources, and yields and volumes in those markets have in turn been affected as well. Following the implementation of the LCR, Australia observed an increase in the original term to maturity of bills and certificate of deposits (CDs) issued by its banks. From November to December 2014, the stock of 6-month and 12-month bills increased by 11% and 43% respectively, while that of 5-month bills declined by 8.5%. Correspondingly, spreads on longer-term bills widened by a larger extent.¹⁶ In South Korea, several banks increase issuance of CDs with maturities between 4 and 6

¹⁴ For ease of analysis, Figure 3 assumes the minimum standard prescribed by the Basel Committee; the precise impact would likely differ among jurisdictions. This is because several EMEAP member jurisdictions have introduced additional parameters or adjusted existing parameters to address jurisdiction-specific issues, and to mitigate the potential impact on money markets and central bank monetary operations.

¹⁵ For interbank borrowing, transactions with a tenor shorter than 30 days would not affect a bank's LCR in most cases as HQLA and net outflows should increase by the same amount (assuming the bank is not bound by its inflow cap at 75% of its gross outflows). However, borrowing at a tenor longer than 30 days would increase a bank's LCR as HQLA increases without a corresponding increase in net outflows, which would thus make borrowing at longer tenor relatively more attractive.

¹⁶ Based on the RBA's assessment, the widening spread between bank bills and OIS observed in late-2014 did not indicate a deterioration in bank creditworthiness, but instead reflected the new liquidity regime combined with other market dynamics. The widening is least pronounced in the 1-month tenor, as issuing a bill of that

months in October 2015 to satisfy their LCR requirements in early 2016, as the LCR requirement for commercial banks was scheduled to be raised from 80% in 2015 to 85% in 2016. This resulted in a significant increase in the proportion of longer-term issues (i.e. above 3 months) in the CD market.

Another key characteristic of the LCR is that it accords preferential treatment (in terms of higher inflow rates and lower outflow rates) to deposits that are deemed to be more reliable and longer-term in nature. For the purposes of fulfilling the LCR requirement, banks would thus prefer retail and operational deposits, both of which receive a significantly lower outflow rate compared to wholesale deposits. Malaysia and Singapore reported that banks were seen to be competing for deposits that qualified for a lower outflow factor under the LCR requirement. In order to qualify for a lower outflow factor, banks tightened conditions on these accounts in exchange for higher interest rates offered on balances.¹⁷ Transactions are treated differently based on counterparty as well: transactions with central banks are given preferential treatment under the LCR requirement.¹⁸ For example, secured funding transactions with central banks are accorded an outflow factor of 0% regardless of collateral type, which could result in increased demand for funding via central bank operations and facilities, potentially leading to decreased activity among private participants.

The LCR also imposes caps on two key areas: (i) a 40% and 15% limit on Level 2 and Level 2B assets respectively as a proportion of total HQLA; and (ii) for the purposes of calculating total net cash outflows, total expected cash inflows are capped at 75% of total expected cash outflows. A bank operating near its limit for Level 2 and Level 2B assets could be more unwilling to lend against such collateral in the repo market. Similarly, a bank operating near its inflow cap could be less incentivised to participate in money markets, as any activity would negatively impact its LCR. Market liquidity would be affected, and banks facing wider bid-ask spreads may as a result choose to look elsewhere to obtain funding. Nevertheless, it should be noted that these caps only affect banks operating at the margin and thus their impact should not be very significant, especially in jurisdictions where banks operate comfortably above their LCR requirement.

Lastly, the LCR is to be met and reported in a single currency.¹⁹ This means that certain cross-currency derivatives such as FX swaps are LCR-neutral at the spot leg as one currency is exchanged for

tenor has little attraction to a bank and comes at a relatively high liquidity cost given that it would mature within the 30-day window covered by the LCR.

¹⁷ For deposits to qualify as stable deposits with an outflow factor of 5%, banks have to demonstrate that (i) the deposits are fully insured by a deposit insurance scheme; (ii) the depositors have established relationships with the bank that make deposit withdrawal highly unlikely; and (iii) the deposits are in transactional accounts (e.g. depositors credited their salaries automatically to these accounts). In order to qualify for the lower 3% factor, the deposit insurance scheme has to (i) be based on a system of prefunding; (ii) have adequate means of ensuring ready access to additional funding if need be; and (iii) allow access to the insured deposits by depositors in a short period of time once the deposit insurance scheme is triggered.

¹⁸ Aside from central banks, other types of counterparties are differentiated by outflow factors as well. For example, secured funding transactions with domestic sovereigns, multilateral development banks and domestic PSEs as a counterparty enjoy a preferential 25% cash outflow rate (if they are not backed by Level 1 or Level 2A HQLA), which is lower than the 50%-100% outflow rate for transactions with other counterparties with the same collateral class. For undrawn committed credit and liquidity facilities provided to counterparties, commitments to retail and small business clients enjoy the lowest outflow factor (5%) while liquidity lines with non-bank financial institutions and other legal entity customers can incur a 100% outflow factor.

¹⁹ Some jurisdictions have also implemented additional requirements such as domestic currency LCR requirements. For example, in Malaysia and Singapore, banks subject to the LCR have to meet the LCR requirement in the domestic currency. In such cases, transacting in FX swaps could negatively impact a bank's

another (though an FX swap that has a maturity shorter than 30 days will have corresponding inflows and outflows that offset the decrease or increase in cash for both currencies). While a broad decrease in reliance on interbank markets has been observed, banks in some jurisdictions continue to participate actively in the FX swap market. For example, in Singapore, the deep USDSGD FX swap market continued to grow (in terms of daily average transacted volumes) in 2015, when banks were making preparations for the implementation of the LCR.

Figure 3: Potential Impact of LCR on Money Markets and Central Bank Operations

Aspect of LCR	Potential Impact on Money Markets and Central Bank Operations				
	Interest rates and yields	Money markets volume and liquidity	Bank funding preferences (instruments)	Bank funding preferences (tenors)	Bank funding preferences (counterparties)
Restriction to 30-day funding window	✓	✓		✓	
Preferential treatment for more reliable sources of funding	✓	✓	✓		✓
Caps on Level 2 HQLA and inflows		✓	✓		
LCR to be met and reported in a single currency			✓		

Impact on Central Bank Operations

The working group also assessed how the parameters of the LCR would affect banks' incentives to participate in central bank monetary operations such as open market operations (OMOs). Table 5 summarises the findings. Most instruments used by EMEAP member central banks are LCR-neutral from a bank's perspective under most circumstances. The three that could potentially have an impact—repos against non-HQLA, collateralised lending against non-HQLA and outright purchase of other assets—are infrequently used by most member central banks, as shown in Table 5.

Most members thus agreed that the impact of the LCR on central bank operations is likely to be manageable, and counterparties for OMOs have not changed their behaviour or participation in operations noticeably. Nevertheless, several members highlighted the need for central banks' operating frameworks to be able to flexibly accommodate any potential increase in demand for central bank liquidity. While central bank operations would generally be LCR-neutral from a bank's perspective, they could appear relatively more attractive under specific scenarios e.g. if transacting with other counterparties would negatively impact a bank's LCR, or if liquidity in money markets was not forthcoming. For example, in Australia, settlement balances held with the RBA are considered HQLA, and an insufficient supply of HQLA securities could theoretically result in increased demand for surplus settlement balances. However, in practice this is unlikely to affect the implementation of monetary policy as the largest banks are meeting LCR requirements with the Committed Liquidity

domestic currency LCR if the tenor is greater than 30 days due to the absence of a corresponding inflow to offset the decrease in domestic currency-denominated HQLA.

Facility (CLF)²⁰, and the RBA can accommodate any changes in demand for settlement balances from smaller institutions via its regular market operations.

Another possible impact is increased usage of certain central bank facilities. Due to the (i) preferential treatment accorded to repo transactions with the central bank as a counterparty; and (ii) unique design characteristics of selected central bank facilities; banks may find that turning to these facilities for liquidity may become more attractive than other options for the purposes of meeting their LCR requirement. For example, BSP’s Special Deposit Account (SDA) facility²¹ could be used more often if banks needed to deploy funds in PHP-denominated deposits, given the limited supply of PHP-denominated government bonds in the domestic market. The BSP also runs a rediscounting facility that allows eligible financial institutions to borrow funds using promissory notes and loan papers as collateral. Borrowing from this facility increases a bank’s LCR as it substitutes non-HQLA for HQLA (cash), and would be attractive if the bank were operating near its LCR requirement. While increased usage of central bank liquidity facilities is not necessarily a concern per se, such behaviour would have implications on the central bank’s liquidity management and monitoring will be required to avoid over reliance on the central bank for funding.

Table 5: Impact of instruments on LCR and banks’ incentive to participate in central bank monetary operations

= No change ↑ Increase ↓ Decrease

Liquidity Injection		
Instrument for OMOs	Impact on bank’s LCR and incentive to participate in central bank operations	Remarks
Repo against HQLA	= ²²	Substitution of two types of HQLA (cash and asset)
Repo against non-HQLA	↑	Substitution of non-HQLA for HQLA (cash) with 0% outflow factor
Collateralised lending against HQLA	=	Substitution of two types of HQLA (cash and asset)
Collateralised lending against non-HQLA	↑	Substitution of non-HQLA for HQLA (cash) with 0% outflow factor

²⁰ Please see page 23 for a description of the CLF.

²¹ The SDA facility allows banks and trust entities of banks and non-bank financial institutions to place fixed-term PHP-denominated deposits with the BSP. It was introduced in November 1998 to enable the BSP to expand its liquidity management toolkit. However, effective 3 June 2016, the BSP formally adopted an interest rate corridor (IRC) system as a framework for conducting its monetary operations. As a result, the SDA facility was replaced by the Overnight Deposit Facility (ODF) and Term Deposit Facility (TDF), though the latter serves as the main tool for absorbing liquidity.

²² Subject to caveats in footnote 11.

FX swaps	= ²³	Substitution of HQLA in one currency for HQLA in another currency
Outright purchase of government securities	=	Substitution of two types of HQLA (cash and asset)
Outright purchase of other assets	↑	Substitution of non-HQLA for HQLA (cash)
Early redemption of central bank securities	=	Substitution of two types of HQLA (cash and asset)

Liquidity Withdrawal

Operation	Impact on bank's LCR	Remarks
Reverse repo against HQLA	= ²⁴	Substitution of two types of HQLA (cash and asset)
Reverse repo against non-HQLA	= or ↓ ²⁵	Dependent on tenor of transaction
Term deposits/unsecured borrowing	= ²⁶	Substitution of two types of HQLA (cash and asset)
FX swaps	= ²⁷	Substitution of HQLA in one currency for HQLA in another currency
Outright sale of government securities	=	Substitution of two types of HQLA (cash and asset)
Issuance of central bank securities	=	Substitution of two types of HQLA (cash and asset)

Impact on Monetary Policy Transmission Channels

Taking reference from the study carried out by the Committee on the Global Financial System—Markets Committee (CGFS-MC) on “Regulatory Change and Monetary Policy”, the working group analysed how the channels of monetary policy transmission could be affected by the implementation of the LCR. Box 1 describes the three main transmission channels in an economy with a typical interest rate regime: the interest rate channel, bank lending and bank capital channel, and

²³ This applies to FX swaps with tenors longer than 30 days, and assumes that the LCR is to be met and reported in only one currency. The exact impact would be a decrease in foreign currency LCR and an increase in local currency LCR at the spot leg for an FX swap involving the local currency and a foreign currency.

²⁴ Subject to caveats in footnote 13.

²⁵ For transactions with a maturity of under 30 days, the bank substitutes cash for non-HQLA with a 100% inflow factor and hence there is no change to its LCR. For repos with maturity longer than 30 days, the bank would be substituting HQLA (cash) for non-HQLA without a corresponding inflow factor and its LCR would decrease as a result.

²⁶ This assumes term deposits/unsecured borrowing transactions are contractually repayable on notice from the depositing bank; or if funds constitute a loan against which the bank can borrow on a term basis or on an overnight but automatically renewable basis.

²⁷ This assumes that the LCR is to be met and reported in only one currency. The exact impact would be an increase in foreign currency LCR and a decrease in local currency LCR at the spot leg for an FX swap involving the local currency and a foreign currency.

risk-taking channel. This section broadly discusses the implications for a central bank operating under an interest rate regime, which applies to the majority of EMEAP member jurisdictions.²⁸

The implementation of the LCR could impact monetary policy transmission channels in the following ways:

- (i) **Interest rate channel.** In an interest rate regime, the LCR could potentially affect the interest rate transmission channel of monetary policy via the relationship between the short-term policy rate and other interest rates in the economy. For example, spreads between the policy rate and other short-term rates may widen due to a steepening in the short-end of the yield curve, and a lower policy rate may be needed to induce the same expansionary effect on real economic activity. However, this is more of a concern for economies that are operating close to the zero lower bound for interest rates as it would necessitate unconventional easing measures such as quantitative easing, which is not the case for the majority of EMEAP member jurisdictions.

In addition, based on market feedback in certain EMEAP member jurisdictions, some banks have altered their pricing mechanisms for loans and deposits, which would affect how policy rate adjustments translate to changes in economic activity. For example, in a jurisdiction that is experiencing increased competition for corporate deposits, resulting in a rise in deposit rates offered, policymakers would have to pay more attention to the corporate deposit market as an increasingly important determinant of bank behaviour.

²⁸ Of the 11 EMEAP central banks, HKMA and MAS operate under an exchange-rate based monetary policy framework, and hence its monetary policy transmission channels are not directly affected via the implementation of the LCR. Of the other central banks, the BoJ is currently conducting monetary policy by providing ample liquidity mainly in exchange for other Level 1 HQLA such as Japanese Government Securities (JGSs). Thus, the current monetary operation is basically LCR-neutral and its implementation is unlikely to affect monetary policy transmission channels.

Box 1: Monetary policy transmission channels in a typical interest rate regime

Interest rate channel. In a typical interest rate regime, the central bank sets a target for the short-term interest rate and uses its monetary policy tools to achieve its target. Changes to the short-term policy rate induce changes to other longer-term interest rates in the economy, such as lending rates banks charge to households and firms. Such changes in turn influence the spending and investment decisions of households and firms, and hence affect the level of activity in the real economy.

Bank lending and bank capital channel. To ensure that short-term interest rates are in line with its policy rate, the central bank influences the level of central bank reserves in the banking system. If the central bank reduces the amount of reserves via liquidity-withdrawing operations, banks that risk their reserve requirements becoming binding could reduce lending if they are not able to source for non-reservable sources of funding (e.g. certificates of deposit). The process outlined above is known as the bank lending channel. Monetary policy can also be transmitted to the real economy via the bank capital channel. This channel arises from capital requirements imposed on banks that make banks' lending decisions dependent on their financial structure.²⁹ For example, when a bank suffers a negative shock to its capital level, it could cut back on loans if its capital requirement became binding and it was costly to issue more equity. In fact, Van den Heuvel (2002) shows that even when the capital requirement is not binding, a bank with low capital may optimally forgo profitable lending opportunities in order to reduce the risk of breaching its capital requirements in the future. Bank capital level is in turn influenced by monetary policy, as changes to interest rates can affect bank profitability and hence capital.

Risk-taking channel. Following the global financial crisis, research has suggested the existence of a risk-taking channel for monetary policy transmission in various economies. The existing literature postulates that prolonged periods of low interest rates could increase the propensity for banks to take on additional risk in search of higher returns. Extended periods of accommodative monetary policy could induce changes in banks' portfolio composition in favour of riskier assets (Rajan 2006), leading to credit creation via laxer lending criteria. Banks could also seek to take on more risk by expanding their balance sheets through leverage (Adrian and Shin 2010). The reverse happens when market conditions deteriorate sharply as they did during the global financial crisis, as banks race to deleverage and shed the risky assets they had taken on their balance sheets earlier. Easing and tightening of monetary policy would thus impact the real economy in terms of influencing aggregate demand, but would also have a financial stability dimension through the potential build-up of financial imbalances (which could lead to disorderly deleveraging when risk sentiment turns).

- (ii) **Bank lending and bank capital channel.** Theoretically, one would expect banks that are holding sufficient liquid buffers to be more resilient to shocks to their holdings of central bank reserves. If the LCR achieves its objective of increasing the short-term resilience of banks, they would be less likely to cut back on lending in response to a negative shock. The degree of impact however, would depend on the relative ease of use of HQLA

²⁹ This results in the breakdown of the Modigliani-Miller theorem, which states that in a world with perfect frictionless capital markets, banks should be indifferent between forms of financing.

allowed under the jurisdiction in question. In addition, while the bank lending channel could be weakened as a result, it should be noted that banks may have already adjusted their behaviour by cutting back lending in anticipation of having to comply with the LCR.

The impact of LCR on the bank capital channel, on the other hand, is expected to be limited. Under the current Basel framework, banks are required to hold capital as a percentage of their risk-weighted assets. Since HQLA is typically 0% risk-weighted under this framework, a bank that is faced with a binding capital requirement due to a negative shock would still have to reduce non-HQLA assets (e.g. loans) in order to make up for the shortfall.

- (iii) **Risk-taking channel.** The impact of the LCR on the risk-taking channel of monetary policy transmission would depend on how it affects banks' risk-taking behaviour across periods of accommodative and tightening monetary policy. Should jurisdictions calibrate and vary the LCR with evolving economic conditions, there could be a countercyclical effect which discourages excessive risk taking during periods of accommodative monetary policy. This possibility aside, however, the risk-taking channel is unlikely to be impacted—prolonged periods of accommodative monetary policy are likely to still encourage risk-taking behaviour so long as banks are able to satisfy their LCR requirement.

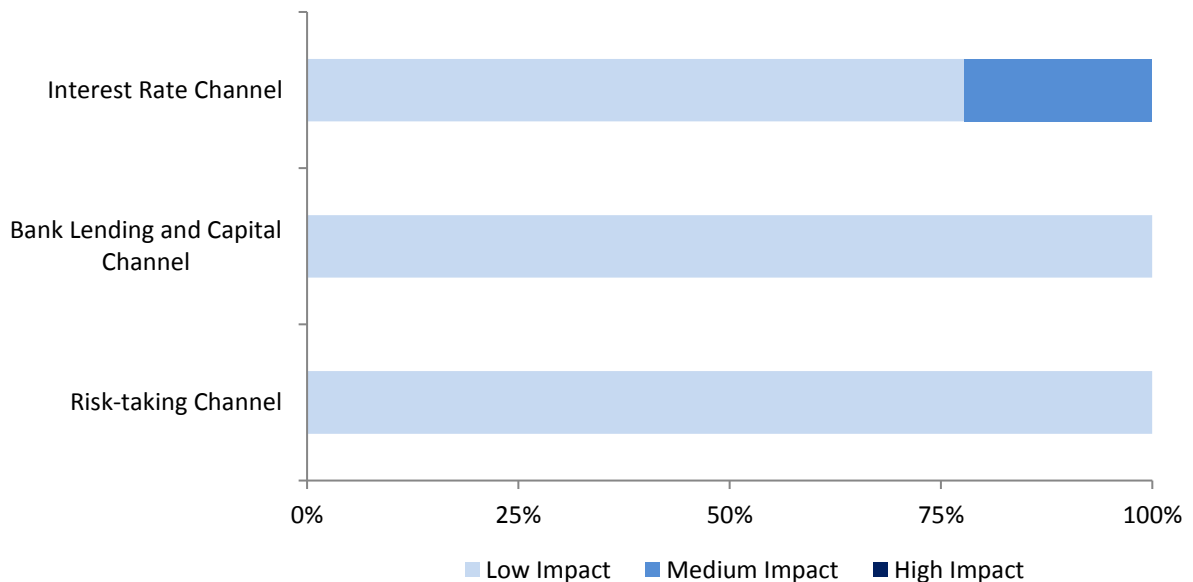
To investigate the impact of LCR on monetary policy transmission channels within EMEAP member member jurisdictions, the working group carried out a qualitative survey. Members were asked to classify the impact of LCR on each of the three monetary policy transmission channels as “low”, “medium” or “high” and describe the specific conditions and circumstances within their jurisdiction that resulted in the impact level indicated. The results are shown in

Figure 4.

For the interest rate channel, the majority of members indicated “low impact”, with a minority indicating “medium impact”. Jurisdictions that indicated “medium impact” cited changes in interest rates as the main reason. For example, Malaysia noted that in the run-up to LCR implementation, the spread between the 3-month interbank rate (KLIBOR) and its policy rate widened. Australia reported changes to liability pricing, most notably in bank and large corporate deposits as a result of LCR implementation. Changes to interest rates independent of a shift in the central bank's target policy rate and monetary policy could lead to undesired interactions with the interest rate channel, particularly if the marginal source of funding for banks has changed. Members that indicated “low impact” either did not operate under an interest rate regime (e.g. Hong Kong and Singapore), or had banks with sufficient liquidity buffers without changing their funding and pricing models.

For the bank lending and bank capital channel, members generally did not observe any evidence suggesting the LCR has introduced additional constraints on banks that necessitated a reduction in loans. Jurisdictions which have not seen significant acceleration in credit growth since the introduction of the LCR do not expect this channel to be strong in the future either, since liquidity and capital requirements are unlikely to constrain lending at current growth rates.

Figure 4: Impact of LCR on monetary policy transmission channels among EMEAP member jurisdictions



The impact on the risk-taking channel is limited as well, with all members indicating “low impact”. Most jurisdictions noted that since the implementation of the LCR, banks in general have become less reliant on short-term funding, preferring more stable sources such as deposits.³⁰ While there has been broad agreement that this would likely result in banks having more resilient funding profiles and lower liquidity risk, there has been no evidence thus far to suggest that such changes will affect banks’ risk-taking behaviour across various stages of the monetary policy cycle.

³⁰ There are some exceptions. In Australia for example, banks significantly reduced the risk of their funding structures following the global financial crisis to use less short-term wholesale funding and more stable domestic funding. The implementation of the LCR has not induced further changes in funding structures or lending practices of banks in a way that materially affects risk.

6 Central Bank Response

A survey of EMEAP central banks indicated that responses to address potential issues arising from the implementation of LCR in respective EMEAP jurisdictions can be broadly classified into three categories.

The first category comprises jurisdictions that qualify for alternative treatment under the Basel Committee’s LCR requirement. These jurisdictions have demonstrated that their markets meet specific criteria³¹ and are hence allowed to adopt alternative treatment under the LCR standard. There are several options for alternative treatment, all of which enable jurisdictions to put in place special measures or provisions to ensure that banks operating within their markets are able to meet the LCR requirement.

For example, the RBA chose to address the problem of low supply of HQLA in Australia³² by offering a CLF. The CLF entitles banks to borrow AUD funds from the RBA at a rate no more than 25 basis points above the policy rate. As the range of eligible collateral for the CLF is broader than HQLA, banks will effectively be able to meet their LCR requirement using selected non-HQLA assets. To ensure that the CLF interferes as little as possible with the RBA’s lender-of-last-resort (LOLR) function, the central bank will extend CLF commitments only to institutions subject to the LCR, and only to the extent needed for compliance with the LCR.

In Hong Kong, there are similar structural constraints limiting the aggregate supply of HKD-denominated HQLA. The supply of government bonds is low due to the strong fiscal position of the Hong Kong Government, and the mechanics of Hong Kong’s exchange rate regime may under certain macroeconomic conditions constrain the issuance of Exchange Fund Bills and Notes (which constitute the majority of Level 1 HQLA). In contrast, the abundance of foreign currency-denominated HQLA implies that most financial institutions would have no major difficulties meeting the LCR on an all-currency basis. The HKMA has thus adopted alternative treatment to allow the use of foreign currency-denominated HQLA to cover domestic currency liquidity needs.

The second category comprises jurisdictions that are not adopting alternative treatment, but have made policy and/or operational framework adjustments to address any potential impact arising from the implementation of the LCR. The majority of EMEAP member jurisdictions belong to this category.

Some members have made adjustments to existing policies to allow certain liquid assets held by banks to qualify as HQLA under the LCR requirement. For example, MAS formalised its policy to allow cash balances held with the central bank to be drawn down completely overnight under

³¹ To qualify for alternative treatment, jurisdictions are required to meet the following criteria: (i) there is an insufficient supply of HQLA in its domestic currency; (ii) this insufficiency is caused by long-term structural constraints that cannot be resolved in the medium term; (iii) the jurisdiction has the capacity to mitigate the risk that the alternative treatment cannot work as expected; and (iv) the jurisdiction is committed to observing obligations relating to supervisory monitoring, disclosure, and periodic self-assessment and independent peer review of its eligibility for alternative treatment.

³² In Australia, the only AUD-denominated securities that qualify as HQLA are those issued by the Australian Government or by the governments of the states and territories.

situations of stress. This ensured that central bank reserves, including required reserves, would be considered Level 1 HQLA, which is consistent with MAS' policy stance on the use of central bank reserves. Another example is term deposit placements with central banks, which are required to satisfy a set of conditions before they can be considered Level 1 HQLA (see footnote 26). BNM and BI have affirmed that term deposit placements with them would be considered Level 1 HQLA. This was done by stating explicitly in the terms and conditions that term deposits placed with the central banks are repayable on notice.

Several members have also changed aspects of their monetary operations in response to the implementation of the LCR. Most of the changes involve adjusting existing instruments used for OMOs to ensure that they would be LCR-neutral so as to not disincentivise bank participation in such operations. While the discussion in the previous section has indicated that the large majority of instruments used by most members at OMOs are LCR-neutral, some members felt that slight adjustments could make a difference at the margin. For example, FX swaps do not impact the LCR under most circumstances, but they would not be LCR-neutral in jurisdictions with a domestic or foreign currency-LCR. In response to this, from 2014 to 2015, MAS increased its usage of central bank bills (which is LCR-neutral under all circumstances) as a tool for withdrawing liquidity, while decreasing their reliance on FX swaps.

At the same time, policy adjustments have been taken to ensure that banks do not become overly reliant on central bank funding, which is generally treated more favourably under the Basel Committee's proposed LCR requirement. For example, all maturing secured funding transactions with the central bank are accorded an outflow factor of 0%, which could make banks more inclined to fund against lower-quality HQLA or non-HQLA with the central bank than with other counterparties. To address this concern, the RBA applies a 0% outflow factor only to transactions contracted against Level 1 HQLA securities or under its CLF, with other maturing secured funding transactions receiving the same outflow factor as an equivalent transaction with a private sector counterparty.

New facilities have also been introduced to facilitate a smooth transition into the LCR framework. For example, BNM established a Restricted Committed Liquidity Facility (RCLF)³³ to provide banks with a broader set of tools to manage their liquidity risk, as well as to mitigate unintended consequences arising from compliance with the LCR requirement on an entity and system-wide level. To utilise the facility, banks are required to enter into a contractual arrangement with and pay a fixed commitment fee to BNM. The total undrawn portion of the facility will be recognised as Level 2B HQLA for the purposes of the banks' compliance with the LCR.

The third category comprises jurisdictions where financial institutions hold high levels of HQLA and are well-compliant with the LCR requirement, such as Japan.³⁴ The BOJ thus has not had to take special measures in response to the implementation of the LCR.

Many of the measures described above were undertaken following EMEAP central banks' consultations with industry participants prior to the implementation of LCR in their respective

³³ The Basel LCR standard was updated in January 2014 to incorporate the RCLF framework, whereby the undrawn portion of the facility can be recognised as Level 2B HQLA (<http://www.bis.org/press/p140112d.pdf>).

³⁴ The BOJ is currently providing ample liquidity (excess reserves) mainly in exchange for other Level 1 HQLA (JGSs) via the large scale purchase of JGSs. Thus, its current monetary operations are basically LCR-neutral and financial institutions continue to hold sufficient levels of HQLA.

jurisdictions. The responsiveness of central banks in the region is likely to have played a significant role in minimising any undesirable impact of the LCR on money markets and participation in central bank operations. Nevertheless, as most jurisdictions are still in the process of phasing-in the LCR, member central banks are closely monitoring for any undesired effects on market liquidity, asset pricing and liquidity facility usage.

7 Concluding Remarks

The findings of this report show that on the whole, the impact of the LCR on EMEAP member jurisdictions has been largely limited. This is in part due to the fact that instruments used in central bank operations are mostly LCR-neutral, thus ensuring that market participants' incentive to participate in central bank operations has not been significantly altered. However, central bank responsiveness in implementing measures and policy changes to mitigate any negative impact arising from the implementation of the LCR has also played a significant role. Most of these measures were put in place prior to or during the early phases of LCR implementation following consultation with private market participants, and served to ensure the smooth and orderly functioning of markets as participants adjusted to the new LCR requirements. The differences in the extent of policy and operational adjustments undertaken by EMEAP members can be attributed to differences in market conditions and the prevailing monetary policy framework in respective jurisdictions.

The above findings for EMEAP member jurisdictions are thus largely in line with those reported by the CGFS-MC Working Group on "Regulatory Change and Monetary Policy". While the CGFS-MC report assessed the combined impacts of selected key new regulations—the leverage ratio, large exposure limits, net stable funding ratio (NSFR) in addition to the LCR—on monetary policy, it argued that the combined impacts are likely to be "limited and manageable", with central banks making adjustments best suited to their existing policy frameworks and financial systems. Nevertheless, aside from presenting the perspective of EMEAP member jurisdictions, this report builds on the CGFS-MC report's findings by highlighting two main implications pertaining to the LCR:

- (i) **Impact on interest rate channel not exacerbated by current macroeconomic conditions.** The CGFS-MC report highlighted as one of the key implications of the new regulations, the potential changes in relationships between policy rates, market interest rates and asset prices. As discussed, one likely impact is that short-term interbank rates above one month could be higher vis-à-vis policy rates. This can complicate policymaking for central banks close to the zero-lower bound, as they would no longer be able to rely on conventional monetary policy to ease (i.e. reducing the policy rate without introducing negative interest rates). However, the large majority of EMEAP member jurisdictions running interest rate-based regimes currently still have ample policy space to ease via cutting their respective policy rates, which have not come close to the zero-lower bound.
- (ii) **Buffers kept by banks will be an important factor in influencing the impact of the LCR.** The CGFS-MC report noted that the market implications of liquidity standards such as the LCR will be determined more by the size of buffers banks hold above the regulatory standard and not the level stipulated by the regulatory standard itself. This EMEAP report studied the impact of the LCR at a time where most jurisdictions had already begun or was close to implementing the standard, and hence many member central banks were able to observe the ratios maintained by banks in their respective jurisdictions. Notably, even as many jurisdictions made adjustments to their operational frameworks and clarified that banks would be able to draw down on their LCR in times of stress, anecdotal evidence suggests that many banks in regional jurisdictions were

voluntarily maintaining sizeable buffers in meeting their LCR requirement. One key area for future study would thus be the degree to which banks allow these buffers to vary with evolving market conditions³⁵, as this could significantly dampen or exaggerate the impact of the LCR on the wider market and economy.

It is however worth mentioning that while it is in the interest of central banks to ensure that the LCR does not have a disruptive impact on markets, the mitigating measures taken should not interfere with the policy intent of the regulation. For example, as demonstrated, an overarching impact of the LCR is that it is likely to push banks away from short-term funding in favour of longer-term funding, which would make banks operate with more resilient liquidity profiles. If a central bank responded by widening the pool of collateral it accepted at its standing facility to help banks meet their LCR requirements more easily³⁶, it should be prepared to continue providing the same amount of funding on similar if not better terms (e.g. it should not increase the haircuts applied to the collateral dramatically) during a liquidity stress scenario to avoid overstating the strength of the bank's current liquidity position.

In today's changing global regulatory landscape, authorities have initiated other major regulatory reforms aside from the LCR, such as those analysed in the CGFS-MC report as well as over-the-counter (OTC) derivatives reforms. Individually, these regulations would impact money markets, central bank monetary operations and monetary policy transmission channels in EMEAP member jurisdictions as well, but their combined effect is less clear and could differ significantly from the findings presented in this report, which focuses only on the LCR.³⁷ After regional authorities have begun making preparations for the implementation of these other regulatory reforms in the future, it would be useful for policymakers to conduct another study to analyse the combined impact of these regulations on money markets, central bank operations and monetary policy transmission.³⁸ As is the case for the LCR, we would expect the extent of impact of these regulations, together with the degree of policy adjustments taken by central banks, to differ across member jurisdictions due to heterogeneity in market characteristics and monetary policy frameworks.

³⁵ For example, a bank originally maintaining an LCR of 120% could either allow its LCR to fall to 110% when faced with more onerous outflows under worsening market conditions, or it could look to increase its holdings of HQLA to keep its LCR unchanged at 120%.

³⁶ Since secured funding transactions with the central bank have an outflow factor of 0%, counterparties could conceivably pledge non-HQLA to obtain cash (HQLA), thereby improving its LCR position.

³⁷ As an example, consider the NSFR, which aims to limit overreliance on short-term wholesale funding and promote funding from stable sources on a structural basis. A bank providing unsecured funding out of its existing cash balances would have its NSFR reduced regardless of tenor or counterparty type. This would cause short-term rates to increase as a whole. In contrast, the LCR would cause rates under one month to decrease and rates above one month to increase.

³⁸ Aside from OTC derivatives reforms, which have been implemented in several jurisdictions as of 2H2014, the other regulations have yet to be implemented. The NSFR and leverage ratio will be fully implemented only in 2018, while the large exposures framework will be fully implemented only in 2019.

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