



Institute of Banking Studies Research »

Liquidity Regulation in Kuwait

Consultancy and Research Department

March 2018

Please note that the findings and recommendations presented in this report are the sole responsibility of the author and do not reflect the views of the Central Bank of Kuwait or any other government body.



Table of Contents

Section	Page
Executive Summary	3
Section 1: Overview of liquidity regulation in Kuwait.....	4
1.1 Pre-Basel III liquidity regulations in Kuwait.....	4
1.2 Basel III liquidity regulations in Kuwait	6
1.3 Brief outline of Sections 2, 3 and 4.....	8
Section 2: The liquidity coverage ratio.....	9
2.1 Kuwaiti banks' liquidity in a regional and global context	9
2.2 Comparing Kuwaiti banks' LCRs	12
Section 3: The regulatory liquidity ratio.....	14
3.1 The purpose of the regulatory liquidity ratio.....	14
3.2 Does the LCR make the regulatory liquidity ratio redundant?	15
Section 4: The net stable funding ratio and the maturity ladder.....	17
4.1 Flaws in the maturity ladder approach	17
4.2 The net stable funding ratio	19
Conclusion	21
Endnotes	22
About the author.....	24

EXECUTIVE SUMMARY

Once the full implementation of Basel III is complete at the end of 2018, Kuwaiti banks will have to comply with five different sets of liquidity regulations: the regulatory liquidity ratio, the maturity ladder approach, the loan-to-available sources of funds ratio, the liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR). The introduction of the Basel III rules – the LCR and NSFR – provide a perfect opportunity for the Central Bank of Kuwait to consider whether other regulations can be adjusted or removed.

With specific reference to the **liquidity coverage ratio**:

- Kuwaiti banks are very liquid, and are sufficiently protected against a 30-day liquidity crunch. At the end of 2016, the average LCR of the Kuwaiti commercial banks was 159.8 percent, far in excess of 100 percent, the minimum required by 2019.
- Kuwait is advanced in the implementation of the LCR compared to international peers.
- Kuwaiti banks have lower LCRs than Saudi and Omani banks, but higher LCRs than banks in fully developed markets such as Singapore, Hong Kong, the UK and US. Too much liquidity can dampen profitability, yet more liquidity is appropriate in an environment in which liquidity management capabilities are less advanced. Kuwaiti banks appear to have struck an appropriate balance between profitability and prudence.

The **regulatory liquidity ratio**, set at 18 percent in Kuwait and very high by international standards, is an older form of liquidity regulation that, to some degree, overlaps with the LCR. It is less efficient than the LCR which takes account of bank-specific potential cash inflows and outflows during a 30-day stress period; and recognizes the degree to which banks use various forms of wholesale funding in addition to traditional types of customer deposits.

The regulatory liquidity ratio currently takes precedence over the LCR: compliance with the former ensures compliance with the latter (except that the regulatory liquidity ratio is only measured against KWD deposits in Kuwait, while the LCR is consolidated for all currencies). Yet given the LCR's higher specificity, it might be more appropriate to make the regulatory liquidity ratio the 'backstop' regulation.

Maturity mismatch is currently regulated using the **maturity ladder approach** (MLA). As of 2018, banks will also have to comply with the Basel III **net stable funding ratio**.

While both regulations aim to achieve the same outcome (ensuring appropriate limits to maturity transformation), the NSFR, by taking account of the *stability* of funding rather than just type — i.e. government guaranteed demand deposits may have a short maturity but are very stable — is much less likely to lead to balance sheet distortions. For this reason, we believe that the introduction of the NSFR marks an appropriate time to withdraw MLA targeting.

SECTION 1: OVERVIEW OF LIQUIDITY REGULATION IN KUWAIT

This study, written at the bequest of the Institute of Banking Studies' Research and Studies Committee, considers and examines the different methods which the Central Bank of Kuwait uses to monitor and regulate the way commercial banks in Kuwait manage their liquidity.

Broadly speaking, liquidity regulation aims to ensure that banks are effective in managing the risks that arise from having a mismatch between the duration of their assets and liabilities; for instance when a long-term loan is funded by demand deposits. In the most extreme case, regulations are intended to ensure that banks have enough liquidity (cash or assets readily and easily turned into cash) to meet unexpected and high levels of demand for repayment from creditors.

History has shown on repeated occasions, including during the 2007/8 global financial crisis, that while a liquidity crunch (often referred to as a 'run on the bank') is usually triggered by depositors and other creditors being concerned about bank solvency; effective management of liquidity can provide a bank with the necessary time to arrange re-capitalization or other forms of resolution without the liquidity crunch precipitating unruly bank failure.

1.1 Pre-Basel III liquidity regulations in Kuwait

Kuwait currently regulates liquidity risk in five different ways. Two of the rules (the liquidity coverage ratio and the net stable funding ratio) are contained in Basel III¹; the other three, significantly pre-dating Basel III, having been in operation for many years.

a. Regulatory liquidity ratio. Under this regulation, introduced in 1997:

"Local banks are required to maintain 18 percent of their KD customer deposits in the form of balances with the Central Bank of Kuwait (current account or deposits) in addition to Kuwaiti Treasury bills and bonds, or any other financial instruments issued by the Central Bank [of Kuwait]."²

b. The maturity ladder approach. Also introduced in 1997, each bank is required to maintain a minimum mismatch, or gap, between assets and liabilities across various time horizons, from '1-day' to '6 months or less'. For instance, the net difference between the cash inflows from maturing assets and potential cash outflows from maturing liabilities, in the 7 days or under time horizon, must be no greater than 10 percent of total liabilities.³

c. The loan to deposit ratio (LDR). Under this regulation, introduced in 2004, a bank must ensure that the ratio of KD-credit facilities to KD-deposit balances must not exceed 90 percent; where

credit facilities include customers and financial institutions, and deposits include private deposits, government deposits and deposits of financial institutions.⁴

In addition to this 'simple' LDR, the Central Bank of Kuwait put into effect a more complex version in May 2012 known as maximum lending limit regulation, with a view to increasing the amount of loanable funds, improving asset-liability matching and encouraging increased usage of debt instruments like bonds and sukuk .

The maximum lending limit regulation broadened the range of deposits that can be counted (for instance, interbank deposits and certificates of deposit can be included) while applying varying weights to deposits depending on their maturity profile. For instance, banks were allowed to lend up to 100 percent of their deposits of longer maturities (over one year) but only 75 percent of short maturities (three months or less).⁵

In its 2012 Financial Stability Report, the Central Bank of Kuwait explained its rationale for maintaining (and expanding) its use of the LDR as a regulatory tool. The report noted that LDRs had been dropped by many regulators around the world in the 1980s and 1990s as banks were increasingly expanding the range of funding instruments beyond traditional deposits. With such a heavy reliance on wholesale funding, the simple LDR was viewed by many as too blunt and narrow an instrument through which to regulate liquidity risk management. Yet since the financial crisis, the LDR has re-gained favor, as some countries have begun to view it again as an effective way to restrict credit growth. As such, the Central Bank of Kuwait remains committed to its use in Kuwait.⁶

On March 2016 The CBK has amended its maximum lending limit regulation, through setting a certain percentage on amounts that can be lent by local banks to be 90% of qualifying sources of funds. Qualifying sources of funds are private sector deposits, government deposits, financial institutions deposits (excluding banks), medium & long-term loans, deposit certificates issued, and issued bonds.

No doubt, even in a relatively small banking market like Kuwait, simple LDRs can be limited in scope as funding sources have expanded far beyond the traditional deposit base. In Kuwait, for instance, at the end of 2016, funding from banks and other financial institutions made up 35 percent of NBK's total liabilities and 20 percent of KFH's. These deposits included Government deposits since PFISS deposits are classified as other financial institution deposits.

Yet, the LDR can still be viewed as an effective backstop for regulators, akin to the way the simple leverage ratio complements (also as a backstop) the risk-based capital ratios within Basel III. While, as will be discussed, there is more obvious overlap between, on the one hand, the regulatory liquidity ratio and the liquidity coverage ratio, and, on the other, the maturity ladder

approach and the net stable funding ratio; the LDR may be sufficiently different in scope to merit its continued use.

Without more public data on domestic operations⁷, it is not possible to say more about the impact of the LDR on individual bank balance sheets. Instead, it is recommended that the Central Bank of Kuwait monitors the correlation between the LDR and other liquidity regulations. A high correlation over a suitable time period may show that the LDR is less necessary than assumed, given the introduction of Basel III regulation.

1.2 Basel III liquidity regulations in Kuwait

The Central Bank of Kuwait, in accordance with its intent to regulate the domestic banking system to the highest global standards, has committed itself to implementing Basel III capital and liquidity regulations in Kuwait. This includes the liquidity coverage ratio and the net stable funding ratio; two complementary sets of liquidity and maturity mismatch regulations.

a. The liquidity coverage rate (LCR).

According to the Basel Committee on Banking Supervision, the LCR:

“Aims to ensure that a bank maintains an adequate level of unencumbered high-quality liquid assets that can be converted into cash to meet its liquidity needs. At a minimum, the stock of liquid assets should enable the bank to survive until Day 30 of the stress scenario, by which time it is assumed that appropriate corrective actions can be taken by management and/or supervisors, and/or the bank can be resolved in an orderly way.”⁸

Specifically, banks are expected to continuously meet the following standard:

$$\frac{\text{Stock of high quality liquid assets}}{\text{Total net cash outflow over the next 30 days}} \geq 100 \text{ percent}$$

The LCR is therefore defined by a stock of assets and a potential net flow of funds out of the bank. This flow is calculated on the basis of a 30-day stress scenario in which there is a market-wide shock that leads to a run-off of either one or both of retail deposits and wholesale funding sources; offset only by non-market traded assets, such as personal and corporate loans, maturing during the same 30-day period.

As the table below shows, assets and flows are assigned factors depending on the possibility of being able to monetize the asset, and the likelihood of ‘run-off’ or withdrawal in the case of an outflow.

For instance, the highest quality assets, coins and banknotes in hand and balances held at the Central Bank have zero chance of not being available to repay creditors in a liquidity crunch;

therefore, they are assigned a 100 percent weighting. On the cash outflow side, so-called 'stable' deposits, which are transactional balances fully insured by an effective deposit insurance scheme, are subject to a run-off factor of 5 percent; i.e. the assumption is made that only 5 percent of those deposits will be withdrawn during a liquidity crunch that extends over a 30-day period. At the same time, it assumed that a bank will receive repayment of all cash related to its performing loan book maturing within the same period.

Template of liquidity coverage ratio calculation with examples of assets, inflows and outflows

Item	Example	Factor
High quality liquid assets: (Factor = inclusion rate)	1. Bonds/sukuk issued by the Central Bank of Kuwait or the Government of Kuwait	100%
	2. Corporate bonds which have a long-term credit rating of at least AA-	85%
Cash outflows: (Factor = run-off rate)	1. Uninsured retail deposits over KD 150,000 up to KD 250,000	20%
	2. Wholesale operational deposits generate by clearing, custody and cash management	25%
Cash inflow: (Factor = inflow rate)	1. Performing loans expiring during the 30-day period	100%

$$\text{Liquidity coverage ratio} = \frac{\text{High quality liquid assets}}{\text{Cash outflows less cash inflows}}$$

Source: Central Bank of Kuwait, rules and regulations concerning liquidity system

Rules regarding the implementation of the LCR in Kuwait were published by the Central Bank of Kuwait in December 2014.⁹ The implementation schedule is as follows:

Year Beginning:	March 2016	2017	2018	2019
Minimum LCR	70%	80%	90%	100%

b. The net stable funding ratio (NSFR)

While the LCR is focused on the short-term resilience of a bank during a liquidity crunch, the objective of the NSFR is to reduce funding risk over a longer time horizon by requiring banks to fund their activities with sufficiently stable sources of funding.¹⁰ The NSFR is defined as the amount of *available stable funding* relative to the amount of *required stable funding*, with a bank needing to maintain the ratio equal to or above 100 percent at all times.

$$\frac{\text{Available amount of stable funding}}{\text{Required amount of stable funding}} \geq 100 \text{ percent}$$

Available stable funding is defined as the portion of capital and liabilities expected to be reliable (i.e. not withdrawn) over the next 12 months. The amount of such stable funding required (required stable funding) is a function of the liquidity characteristics and residual maturities of the various assets held by the bank.¹¹

For instance, no stable funding is required for cash, because it is instantaneously usable; on the other hand, banks are required to provide 100 percent stable funding (from their liabilities which mature within one year) for loans with over one year to run. Compliance with the rule therefore necessitates close attention to and management of maturity mismatch risk.

Guidelines for the NSFR were approved by the Central Bank of Kuwait Board of Directors at its meeting on October 25, 2015¹²; with the banks expected to comply in 2018.

1.3 Brief outline of sections 2, 3 and 4

Section 2 will provide an analysis of the LCRs reported by the Kuwaiti banks at the end of 2016. It will consider the liquidity position of the banks in relation to each other and in relation to regional and global peers.

Section 3 will look in more detail at the reserve requirement and consider whether, given that the LCR is now being implemented, it could be lowered.

Section 4 will compare and contrast the maturity ladder approach to the NSFR, asking whether both sets of regulations are necessary.

SECTION 2: THE LIQUIDITY COVERAGE RATIO

2.1 Kuwaiti banks' liquidity in a regional and global context

Table 1 below provides comparative data on the LCR among the Gulf countries and developed markets – Singapore and Hong Kong, because, as city states, they share similar features with Kuwait, and the UK and US, as examples of advanced diversified (and in some cases 'universal') banks.

LCRs are reported as of December 31, 2016, with the exception of the US banks, which only began full disclosure at June 30, 2017. The table shows which jurisdictions require their banks to currently provide full disclosure and which do not. The largest three banks, by assets, are listed as representative of the country as a whole.

Table 2.1: Kuwait, GCC and Global LCR ratios

Country	Bank	LCR	Full Disclosure
GCC countries			
Oman	Bank Muscat	356%	No
	Bank Dhofar	274%	Yes
	National Bank of Oman	363%	Yes
	<i>Average of big 3</i>	<i>331%</i>	
Saudi Arabia	NCB Saudi Arabia	172%	Yes
	Al Rajhi	233%	Yes
	Samba Group	259%	Yes
	<i>Average of big 3</i>	<i>221%</i>	
Kuwait	National Bank of Kuwait	159%	Yes
	Burgan Bank	158%	Yes
	Kuwait Finance House	164%	Yes
	<i>Average of big 3</i>	<i>160%</i>	
Qatar		No disclosure at present	
UAE		No disclosure at present	
Bahrain		No disclosure at present	
GCC average		238%	
Developed markets			
Singapore	DBS	133%	No
	OCBC	145%	No
	UOB	154%	No
	<i>Average of big 3</i>	<i>144%</i>	
Hong Kong	Bank of China HK	107%	Yes
	Hang Seng Bank	254%	Yes
	Standard Chartered HK	134%	Yes
	<i>Average of big 3</i>	<i>165%</i>	
UK	HSBC	123%	No
	RBS	123%	No
	Barclays	131%	No

	<i>Average of big 3</i>	126%	
US	JPMorgan & Chase	115%	Yes
	Bank of America	126%	Yes
	Wells Fargo	124%	Yes
	<i>Average of big 3</i>	122%	
<i>Developed markets average</i>		139%	

Source: company annual reports and LCR disclosures

The key takeaways from the table are:

1. Kuwait is advanced in its disclosure requirements. Not all jurisdictions in the sample require, as yet, their banks to disclose Basel III LCR ratios. Three countries in the GCC (UAE, Qatar and Bahrain) have not as yet made it mandatory. And, in some developed markets, notably Singapore and the UK, full disclosure beyond the headline ratio is also not yet required.

2. Developed market vs GCC LCR levels. While there is significant intra-country variation (especially in Hong Kong and Singapore), there is a fairly pronounced difference between GCC and developed market LCRs. The average LCR of the banks surveyed in the nine GCC banks is 238 percent, the average of the banks in developed markets is 139 percent. There are a number of possible explanations:

- Large external financial surpluses (exports greater than imports) lead to domestic financial surpluses as net exports mean, by definition, that a country is producing more than it is consuming (it's income is greater than its spending). In a fixed exchange rate environment, and in the absence of Central Bank sterilization to offset the external inflow, this situation will lead to the accumulation of banking deposits and greater liquidity in the banking system, relative to the demand for credit.
- Relatively high risk aversion in the GCC exhibited by banks and borrowers alike.
- Less developed risk management capabilities. While on the face of it, a higher LCR implies less liquidity risk, LCRs around the Gulf are, arguably, too high. In this context, it should be noted that banks in developed markets, while wanting to ensure that they are secure and liquid, also appear to want to keep excess liquidity to a minimum. Holdings of high quality liquid assets (required by the LCR rules) inevitably pay lower returns than higher risk assets, such as conventional bank loans. A reallocation of assets from Treasuries to bank lending will therefore lead to an increase in net interest margins and overall profitability.

3. Kuwait compared to Saudi Arabia

While Table 1 suggests that Kuwaiti banks may have higher levels of liquidity than they need, potentially dampening their profitability, the three largest Kuwaiti banks do have significantly lower LCRs than their Saudi and Omani counterparts. In the context of the above discussion, this suggests that they may be doing a better job balancing the competing claims of managing liquidity risk and increasing profitability than GCC peers.

Table 2 draws out the key differences accounting for Kuwait's lower LCRs at the end of 2016. Each column represents *the consolidation* of the appropriate lines in the LCR disclosure and balance sheet of the three banks listed in Table 1. (Table 1 shows the average).

Table 2.2: Explaining why Kuwait's LCRs are lower than Saudi Arabia's

Ratios reflect the consolidation of the three banks listed in Table 1, not the average, which is the LCR stated here is different to the simple average shown in Table 2.1

Ratio	Saudi Arabia	Kuwait
LCR	208%	161%
High quality liquid assets (HQLA) to total assets	24%	20%
<i>Related to cash outflows:</i>		
HQLA to unsecured wholesale deposits	276%	137%
HQLA to total cash outflows	163%	71%
<i>Related to cash inflows:</i>		
Cash inflows from performing loans to total performing loans	5%	21%

Source: company annual reports, company LCR disclosures and IBS calculations

The key factors accounting for higher LCRs in Saudi Arabia are:

- The Saudi banks are holding higher proportion of HQLAs to their total assets than the Kuwaiti banks.
- The Saudi banks have a much higher ratio of HQLAs to unsecured wholesale deposits than the Kuwaiti banks. This reflects that Kuwaiti banks are more reliant on wholesale funding than Saudi banks; often undertaking a significant amount of 'carry trade' in which they generate returns from accepting deposits from financial institutions placing them back into various money markets at a higher yield.
- Although of less materiality, Saudi banks also have less outflows per HQLAs related to derivative activities, contingent funding and other, unspecified contractual outflows. These factors, together with the relative levels of wholesale funding account for the large difference in HQLAs to cash outflows.
- Inflows for both the Saudi and Kuwaiti banks are predominantly related to performing loans. The significantly higher inflow rate in Kuwait suggests a generally shorter maturity in the loan book. (Of course, while a relatively short duration loan book lowers each

bank's liquidity risk, the risk of a funding crunch being passed on to the borrowers is increased. This issue is discussed in a previous IBS study, *Analyzing Listed Kuwait*¹³.)

To reiterate, Kuwait's LCRs are high and this fact should provide a lot of comfort to regulators, depositors and other creditors and stakeholders. The comparison with Saudi Arabia is therefore not intended to raise concerns, but only to explain differences; and in this case to explain why the Saudi banks have potentially excessive levels of liquidity.

That said, the relatively high level of inter-bank funding in Kuwait underscores the need for the LCR rules in the first place; and it is expedient on the part of the Central Bank of Kuwait to advise banks to maintain comfortable buffers in excess of 100 percent.

2.2 Comparing Kuwaiti banks' LCRs

Table 3 below mirrors the analysis above in Table 2; however here, the aim is to compare the individual Kuwaiti banks.

As with before, the findings are based on LCR disclosures made at the end of 2016.

Table 2.3: Differences among the Kuwaiti banks

Ratio	ABK	Burgan	CBK	Gulf	NBK	AUB	Boubyan	KFH	KIB	Warba
LCR	163%	158%	155%	124%	159%	287%	334%	164%	133%	157%
High quality liquid assets (HQLA) to total assets	13%	11%	10%	18%	23%	16%	11%	21%	19%	11%
<i>Related to cash outflows:</i>										
HQLA to retail deposits and small business deposits	387%	323%	291%	314%	674%	616%	441%	210%	664%	835%
HQLA to unsecured wholesale deposits	113%	98%	74%	108%	107%	123%	115%	314%	123%	120%
HQLA to total cash outflows	71%	58%	39%	70%	72%	85%	75%	74%	93%	93%
<i>Related to cash inflows:</i>										
Cash inflows from performing loans to total performing loans	12%	15%	32%	16%	23%	18%	16%	21%	9%	6%

Other cash inflows to total assets	2%	4%	5%	1%	5%	0%	0%	5%	0%	0%
------------------------------------	----	----	----	----	----	----	----	----	----	----

Source: company annual reports, company LCR disclosures and IBS calculations

As the table shows, all Kuwaiti banks recorded LCRs at the end of 2016 that far surpassed the minimum required (80 percent by the end of 2017, 100 percent – full implementation – by the end of 2019). The average reported LCR, according to calculations by the Central Bank of Kuwait was 159.8 percent.¹⁴ Gulf Bank recorded the lowest at 124 percent, Boubyan the highest at 334 percent. As previously discussed, this could imply that Gulf Bank is taking a more active stance on liquidity management in order to increase profitability. Likewise, it could imply that Boubyan has significant excess liquidity.

Even so, the only real standout bank from the table is the Commercial Bank of Kuwait. While CBK reported a headline LCR of 155 percent, placing it firmly ‘in the pack’, it is actually far more liquid than the other banks, including Boubyan. Indeed, had it calculated the LCR as per the basic calculation (HQLA divided by net cash flows) it would have reported an LCR of 619 percent, far in excess of any other bank surveyed in the GCC or in developed markets. Instead, CBK reported 155 percent, because the LCR rule limits cash inflows to the lower of the calculated number or 75 percent of cash outflows.

A further look at CBK shows that the bank’s excess liquidity is not a function of high holdings of HQLA, as CBK has the lowest proportion of HQLAs to total assets of any of the banks. Instead, it appears to be due to its relatively high level of expected cash inflows during a 30-day liquidity crunch. Specifically, a substantially higher proportion of its performing loans (32.2 percent) appear to repayable within 30 days; and a larger proportion of its total assets – CBK has a large equities portfolio – are invested in assets that can easily be converted into cash if need be (5.3 percent). In other words, CBK’s high liquidity appears to reflect a deliberate choice by management to take greater investment risk.

As a final point, while the Central Bank of Kuwait has written separate rules to cover Islamic Banks, Table 3 shows that there are no discernable patterns to suggest any difference in the liquidity management of Islamic compared to conventional banks. And while KFH has a lower ratio of HQLAs to retail deposits and a concomitantly higher proportion of HQLAs to wholesale deposits —suggesting a greater reliance on retail funding relative to the other banks —there is no reason to link this with KFH’s status as an Islamic bank.

SECTION 3: THE REGULATORY LIQUIDITY RATIO

Over the past 30 to 40 years the role played by liquidity requirements around the world has diminished significantly. And while most countries retain some form of liquidity (or reserve) requirement, Kuwait now has one of the highest requirements in the world.

For instance, according to a 2010 IMF survey of 121 countries, only 15 countries had reserve or liquidity requirements of over 15 percent. This puts Kuwait in a basket of countries that also includes Bhutan (16 percent reserve requirement), Cape Verde (25 percent), Comoros (25 percent), Iraq (22 percent), Liberia (15.5 percent), Malawi (25 percent), Maldives (24.5 percent) and Sao Tome & Principe (24.5 percent).¹⁵ It probably goes without saying that Kuwait's level of economic development far exceeds these countries.

Regulators in Kuwait need to consider three inter-related questions: (1) what purpose does the liquidity requirement serve; (2) is it necessary given the introduction of Basel III's LCR; and (3) should the requirement be lowered?

3.1 The purpose of the regulatory liquidity ratio

Reserve requirements have generally been used for two purposes. The first, the original purpose, is to require banks to keep cash (on reserve) to meet unexpected withdrawal demands from depositors. In this context, the reserve requirement is related to financial stability; in today's language it is a 'macro-prudential' regulation.

Reserve requirements have, however, also been used as a form of monetary policy, alongside inflation, money supply and exchange rate targeting. By requiring banks to put aside customer deposits in reserve, a Central Bank creates a so-called fractional reserve banking system, whereby changes in the reserve ratio are multiplied through the banking system to free up (if the reserve is decreased) or restrict (if the reserve is increased) deposits available for lending. Although most economics textbooks still explain monetary creation in the context of fractional banking systems, the use of reserve requirements as a tool in monetary policy is relatively rare today, with most Central Banks using open market operations to affect interest rates.

It appears likely that the original purpose of the liquidity requirement in Kuwait was related to financial stability. Kuwait's financial system was still recovering from the impact of the Gulf War, and the requirement's introduction in October 1997 coincided with the Asian crisis in which many banks in the Far East were facing deposit runs while currencies were collapsing (having previously been fixed to the US dollar). In this context, it is understandable that in the heat of the crisis regulators in Kuwait would have viewed a high liquidity requirement as an important step to reducing concerns among domestic depositors. Moreover, given that the requirement has only been adjusted once in 20 years (from 20 percent to 18 percent), it seems reasonable to

think that the Central Bank of Kuwait has never viewed the regulatory liquidity ratio as a monetary policy tool. It is purely about systemic risk.

3.2 Does the LCR make the regulatory liquidity ratio redundant?

The LCR and the regulatory liquidity ratio therefore have the same purpose: to ensure that banks are able to meet demand for repayment during a period of financial stress. Indeed, one might posit that the LCR requirement is best thought of as the ‘reserve requirement 2.0’, a liquidity regulation suited to an age in which banks’ sources of finance have extended far beyond traditional deposits, to include various forms of wholesale and interbank funding. Indeed, the LCR calculation is extremely detailed in the way it assesses cash inflow and outflow risk in relation to different types of credit, with vastly different maturities and risks.

In short, the LCR is a finely tuned instrument aimed at ensuring that a bank has enough liquidity on-hand to meet potential net cash outflow over a 30-day stress period. The reserve requirement is a somewhat blunter instrument in which the requirement is set without considering potential crisis-related cash flows.

Some experts have argued that Basel III rules are over complex; that, for instance, a simple leverage ratio is preferable to a more complex risk-adjusted capital mechanism. They argue that more complexity just leads to more gaming of the system without actually successfully lowering systemic risk.¹⁶ Even so, the majority consensus is that a blunter instrument is a useful way to provide a *backstop* to a more complex rule. In the context of capital regulations, the simple leverage ratio is set at a level so as to provide a backstop to the risk-adjusted rules. As things stand, unless a bank has been remarkably ‘creative’ in managing its assets, compliance with the risk-weighted adjusted formula almost invariably means compliance with the simple leverage ratio.

And so it could also be with the regulatory liquidity ratio. Overlapping rules raise the risk of distorting incentives, potentially undermining the efficacy and purpose of regulation. But the distorting impact of overlapping regulations is less of a problem when rules are written to make a clear distinction between those that are ‘leading’ and those that act as a ‘backstop’; as with risk-based capital rules and the simple leverage ratio. In other words, the Central Bank of Kuwait could look specifically into the question of which regulation, the LCR or the regulatory liquidity ratio, is more effective and which should lead and which should be a backstop.

As already discussed, the LCR is deliberately designed in the context of the specific cash flow liquidity risks faced by each individual bank; this specificity means that it is a more effective way of managing risk than the reserve requirement. Yet, our calculations suggest that the regulatory liquidity ratio requirement, set at 18 percent, is more binding than the LCR threshold of 100 percent, or for that matter, an LCR threshold of 120 percent.

Table 4 shows our estimate of how much the minimum reduction in the reserve requirement would have to be for the LCR to take precedence, showed under the assumption that the Central Bank of Kuwait decide to set the minimum LCR to 120 percent. The calculations are based on the consolidation of all 10 private commercial banks.

The table incorporates an explanation of assumptions and method.

Table 3.1: Possible reductions in the regulatory liquidity ratio, based on LCR thresholds

	KD '000/percent	Explanation/comment
Net cash outflow	7,939,292	Consolidated net cash outflow.
High quality liquid assets	13,119,511	Consolidated HQLA.
LCR	165.2%	HQLA divided by net cash outflow.
Qualifying reserves	5,662,972	Consolidated reserves.
Imputed domestic deposits	31,460,956	Assume the banks are, in aggregate, holding reserves of 18 percent of KWD deposits; therefore we estimate imputed KWD deposits. (It should be noted that the banks are in fact reported a regulatory liquidity ratio of 27.7 percent – see below).
HQLA with LCR set to 120%	95,27,151	If LCR at 100 percent, then will need this amount of HQLA.
Reduction in HQLA	3,592,360	Current HQLA less HQLA were LCR at 100 percent.
New reserves	2,070,612	Assume that reduction in HQLA achieved by reducing assets that qualify as reserves.
New reserve requirement	6.6%	New reserves divided by imputed deposits gives possible new reserve requirement should the requirement be set on an equal footing to the LCR.

Source: company annual reports, company LCR disclosures and IBS calculations

To summarize: Table 4 shows that had the Central Bank of Kuwait wanted to make the LCR the dominant liquidity ratio at the end of 2016, then the regulatory liquidity ratio would have needed to be reduced. If the LCR threshold was 120 percent, then the regulatory liquidity ratio would have had to have been less than 6.6 percent.

Making the LCR the leading liquidity regulation, and the regulatory liquidity ratio the backstop, does not mean that the banks would necessarily increase their liquidity risk. After all there are, as discussed, economic reasons that explain high levels of liquidity in the GCC; and Kuwaiti banks have historically chosen to run much higher regulatory liquidity ratios – at the end of 2016 the sector reported a ratio of 27.7 percent. But it does mean that the banks would have more choice over how to manage their balance sheet. In theory, more funds could be freed up to meet borrowing needs while enabling the banks to expand their net interest margins; all of

which would be occurring in a context in which liquidity risk was still being managed effectively and within the remits of Basel III.

SECTION 4: THE NET STABLE FUNDING RATIO AND THE MATURITY LADDER

The LCR and reserve requirement are two sets of rules that aim to ensure that a bank has sufficient cash and liquidity available in a crisis. The maturity ladder approach (MLA) and net stable funding ratio (NSFR) are two regulations that aim to ensure that banks are, during normal times, managing their liquidity appropriately; the assumption being that better liquidity management at all times lessens the risk that a bank's creditors will demand money back during a crisis. And better risk management capabilities should make a financial crisis less likely in the first place.

While banks, as discussed in the introduction, by definition tend to borrow short term (e.g. demand deposits) and lend long term (e.g. 15 year personal loans), there is international consensus among bank regulators that there should be controls in place to ensure that individual banks are not taking on excessive maturity mismatch risk.

In this regard, the Central Bank of Kuwait currently uses the maturity ladder approach. But, as of 2018, it will also make compliance with the NSFR mandatory. As both sets of regulations are written to achieve the same outcome (sensible, not onerous, maturity mismatch risk control), it makes sense to ask whether both are necessary, and whether one is better than the other.

In short, in this Section, it is argued that the MLA exhibits certain weaknesses that are not contained in the NSFR. Thus, the introduction of the NSFR, may be an appropriate time to reconsider the MLA in Kuwait. Switching to the NSFR does not imply that the Central Bank of Kuwait should not use the MLA to monitor liquidity, rather that the MLA should not be specifically targeted.

4.1 Flaws in the maturity ladder approach

Each asset and liability is placed in a column corresponding to its maturity. The columns are: overdue, 7 days and under, over 7 days to 1 month, over 1 month to 3 months, over 3 months to 6 months, over 6 months to 1 year and over 1 year.

The assets in each maturity period are totaled, as are the liabilities; the mismatch in each period is calculated as the difference between total assets and total liabilities, and a cumulative mismatch is calculated. For example, the cumulative mismatch, or liquidity gap, for 7 days and under equals the 'overdue' gap plus 'the next day' gap plus the '7 days and under' gap. The funding gap is calculated as the difference between maturing liabilities and maturing assets

taken as a percentage of total liabilities. The maximum mismatch limits have to be abided by for all currencies as a whole (Kuwaiti dinar and foreign currencies), as well as for foreign currencies.

The maximum limits for the cumulative gaps for the four time periods from 'sight' up to 6 months are as follows. (Note the banks have to disclose longer time periods as well.)

- 7 days and under: 10 percent
- 1 month and under: 20 percent
- 3 months and under: 30 percent
- 6 months and under: 40 percent

Table 5 illustrates the MLA for all assets and liabilities of the consolidated Kuwaiti banking sector (conventional and Islamic, but excluding ABK, as this bank does not separately disclose asset and liabilities up to 3 months duration outstanding), as reported in financial statements at the end of 2016. It shows that, once consolidated, the banks are exactly at the limit of the allowed 'gap'.

Table 3.2: Together the Kuwaiti banks have the maximum gap allowed at 3 months and under

Item	KD'000, December 31, 2016
Assets up to 3 months in duration:	
Cash and balances with banks and financial institutions	10,679,588
Central Bank of Kuwait bonds	1,391,750
Kuwait Government treasury bonds	123,744
Short term murabaha	1,930,069
Loans/financing receivables	11,791,131
Trading properties	223,416
Investments	1,625,584
Other assets	505,774
Total assets	28,271,056
Liabilities up to 3 months in duration:	
Due to banks and financial institutions	9,439,347
Depositors' accounts	28,974,131
Other liabilities	2,000,730
Total liabilities	40,414,208
Liquidity gap (assets less liabilities)	-12,143,152
Liquidity gap (assets less liabilities as a percentage of liabilities)	-30.0%

Source: Company accounts

On the face of it, the MLA looks sensible and reliable: given a certain amount of liabilities with maturities of under 3 months, a bank is required to have matching assets that can be used to repay those creditors. Moreover, allowing a bank to operate with a 'gap' of up to 30 percent is entirely reasonable given that many deposits are very unlikely to be withdrawn.

However, in another sense, the 30 percent gap is entirely problematic, because in reality the chance of 30 percent of funding being withdrawn is very low indeed. Indeed, the ‘gaps’ fail to properly take account of the *stability* of funding. After all, in Kuwait, currently the government guarantees all customer deposits; as a result, it is very difficult to conceive of a run on customer deposits affecting a Kuwaiti bank. If a depositor knows that his or her deposit is protected, then there is no need to ever assess the likelihood of no repayment; and thus one cannot imagine the conditions that would bring about a run on deposits.

Deposit guarantees, historical evidence and the practicalities of payment systems mean that deposits, which in many cases are short-term (and withdrawable on sight) represent very stable sources of funding for a bank.

The main problem with the MLA is that it forces the banks to manage liquidity in a certain way, distorting the balance sheet, for a goal that is fairly blunt and not necessarily a good reflection of the actual liquidity conditions of varying sources of funding. And any doubt the banks are not letting the rule guide behavior should be dispelled by the finding, shown in the table above, that the banks, as a whole, reported a liquidity gap of 30 percent at the end 2016, exactly in line with the maximum allowed for assets and liabilities with durations under 3 months.

The MLA could lead to further balance sheet distortion, as banks aim to game the system. A large gap at a particular maturity can, for instance, be resolved by borrowing further up the ladder to purchase the necessary assets at a shorter maturity. Seen in this light, MLA thresholds could, in theory be counterproductive as banks could end up taking on further risk by, for instance, raising wholesale funds in long-term maturity buckets for the sole purpose of buying assets in shorter maturities. A bank may end up with a ladder of additional and more risky liabilities each taken on to enable compliance in the previous maturity bracket. The MLA may be a contributing factor to explain why Kuwaiti banks have such large inter-bank balances.

4.2 The net stable funding ratio

It is because the stability of funding is more critical in liquidity management that the Basel Committee opted for the NSFR over the MLA in Basel III. By focusing on stability not necessarily type, the NSFR aims to improve liquidity/maturity mismatch risk management while also lessening the potential for rules to lead to balance sheet distortion.

The key principle of the NSFR is that each bank should have enough available stable funding (ASF)— in the form of liabilities (with under one year in duration) and capital — to fund assets which cannot be immediately turned into cash. Compliance with the rule, by definition, requires banks to lower liquidity and maturity mismatch risk in a manner that recognizes the stability of liabilities and the duration of assets.

As the tables show below, the NSFR assigns certain weights to different kinds of assets and liabilities based on an assessment of stability.

Examples of available stable funding (ASF) categories and factors are¹⁷:

ASF component	Factor	Explanation
Regulatory capital	100%	The 100 percent factor acknowledges that while shareholders' funds are volatile, subject to profits and losses, they cannot be redeemed.
Stable demand deposits	95%	Demand deposits, for example, covered by deposit insurance can be redeemed without notice, but widespread withdrawal is very unlikely, and likely to be very limited.
Less stable retail deposits	90%	Retail deposits not insured are still very unlikely to run off in any great amount during any particular year. (Note: in Kuwait all deposits are considered to be uninsured despite the Government guarantee).
Wholesale funding	50%	Only half the funding over 6 months but less than one year in duration from financial institutions can be expected to be rolled over.
All funding sources not explicitly mentioned in the rule	0%	Includes all liabilities over one year in duration.

Examples of required stable funding (RSF) categories and factors are:

ASF component	Factor	Explanation
Coins and banknotes	0%	Already money.
Unencumbered loans to financial institutions with terms of less than 6 months	10-15%	Very low risk that the asset could not be monetarized in one year. Varying between 10 and 15% depends on whether loan is securitized by a Level 1 or Level 2A asset.
Loans to financial institutions with a maturity greater than 6 months and less than 1 year	50%	Reasonable risk that asset could not be monetarized in under one year.
Loans to non-financial corporates, retail and SME customers with maturity of less than one year	50%	Reasonable risk that asset could not be monetarized in under one year.
Unencumbered residential mortgages with a standardized risk weight of 35% (for capital purposes) and maturity of one year or more	65%	While direct repayment is not likely to occur within one year, these residential mortgages can, most likely, be sold and monetized with an appropriate haircut.
All assets with a term of one year or more	100%	Monetarization will not be taking place within one year.

Source: Basel Committee for Banking Supervision; IBS explanation

Given that Kuwaiti banks will not have to report NSFR data until 2018, it is not possible to provide a numerical analysis of the performance of the banks or how the NSFR and MLA might interact.

However, the theoretical discussion in this section does demonstrate how the NSFR is written deliberately to avoid the pitfalls of the MLA:

- It is focused on asset liability mismatch across the whole spectrum of assets, rather than on cumulative gaps under 6 months in duration. The whole point is to ensure that there is enough funding with duration of less than one year that is stable enough to support assets that cannot be instantaneously cashed in, or have terms of one year or more.
- The key focus is on stability of short-term funding rather than duration. It therefore better reflects the reality of banking in the current economic and regulatory environment (i.e. blanket deposit insurance).
- By focusing on empirical run-off rates, it ensures attention to maturity risk control, while limiting the extent to which arbitrary limits at various durations can distort the balance sheets, potentially giving rise to unintended risks.

In the light of this discussion, we would recommend that the Central Bank of Kuwait, considers whether, going forward, both sets of regulations, the MLA and NSFR, are necessary. The introduction of the NSFR might mark an appropriate time to withdraw the MLA.

CONCLUSION

This study has examined the various mechanisms which the Central Bank of Kuwait uses to regulate liquidity. The study has included a discussion of the regulatory liquidity ratio requirement, the maturity ladder approach and the loan-to-available sources of funds ratio, as well as Basel III regulations on liquidity, the liquidity coverage ratio and the net stable funding ratio.

The Kuwaiti banking sector is in compliance with the regulation, and given high liquidity coverage ratios, is well protected against a liquidity crisis.

The study has shown that there is an overlap in regulation between the LCR and regulatory liquidity requirement, on the one hand, and the MLA and NSFR on the other. We believe that the Central Bank of Kuwait should consider lowering the regulatory liquidity ratio, making the LCR the leading regulation and the regulatory liquidity requirement its backstop. It has also been argued that the NSFR approach to maturity mismatch risk control is sufficiently superior to the MLA for the Central Bank of Kuwait to consider whether both sets of regulations are necessary.

ENDNOTES

¹ Basel III rules were written by the Basel Committee for Banking Supervision under the auspices of the Bank for International Settlement with the purpose of tightening standards previously set by Basel I and Basel II. In the wake of the 2007/8 global financial crisis it was concluded by OECD central banks that capital and liquidity regulation had been insufficient. Specifically, banks around the world had funded themselves with too much debt (often in the form of opaque off-balance sheet wholesale funding) and invested in assets with higher than expected levels of default. Basel III rules increased the quality of quantity capital which banks were required to fund themselves with. Basel III also, for the first time, introduced global standards for liquidity, specifically the liquidity coverage rate and the net stable funding ratio. For more detail, see <http://www.bis.org/bcbs/basel3.htm>. For an analysis of Basel III capital rules in Kuwait, see the previous IBS study, *Quantifying the Impact of Capital Standards on Kuwaiti Banks*, <http://www.kibs.edu.kw/our-services/consultancy-research/research-and-studies/>, May 2016.

² Central Bank of Kuwait, *Rules and Regulation Concerning Liquidity System*, <http://www.cbk.gov.kw/en/legislation-and-regulation/cbk-regulations-and-instructions/instructions-to-conventional-banks.jsp>, p. 2, October 14, 1997. Please note that the original minimum reserve requirement was set at 20 percent. It was subsequently reduced to 18 percent pursuant to Central Bank of Kuwait circular No. 2/BS/234/2008, issued on December 4, 2008.

³ Ibid, pp. 3-11.

⁴ Central Bank of Kuwait, *Instructions issued in connection with the rationalization and organization of banks credit policy*, <http://www.cbk.gov.kw/en/legislation-and-regulation/cbk-regulations-and-instructions/instructions-to-conventional-banks.jsp>, pp. 33-34. Please note: the original rule set the maximum loan to deposit ratio at 80 percent. This ceiling was raised to 80 percent according to Central Bank of Kuwait circular No. 2/BS,IBS/224/2008, dated October 8, 2008.

⁵ Central Bank of Kuwait, *Financial Stability Report 2012*, Box 1.2, Loans to funding ratio as a regularity tool, <http://www.cbk.gov.kw/en/statistics-and-publication/publications/financial-stability-report.jsp>, pp. 10-11.

⁶ Ibid.

⁷ For instance, the Kuwaiti banks do not disclose their domestic balance sheet nor do they make sufficiently clear the distinction between deposits from financial institutions and other wholesale funding. In other words, with the data available it is impossible for the author to calculate each bank's LDR. (A previous IBS study, *Enhancing Kuwaiti Banks' Financial Disclosure*, February 2017, included detailed recommendations about how Kuwaiti banks could increase disclosure.)

⁸ Basel Committee on Banking Supervision, *Basel III: International framework for liquidity risk measurement, standards and monitoring*, Dec. 2010, p. 3, <http://www.bis.org/publ/bcbs188.pdf>, (retrieved Jan. 20, 2012).

⁹ Central Bank of Kuwait, *The Liquidity Coverage Ratio Guidelines for Conventional Banks*, December 23, 2014, in "2. Rules and Regulations Concerning Liquidity System", <http://www.cbk.gov.kw/en/legislation-and-regulation/cbk-regulations-and-instructions/instructions-to-conventional-banks.jsp>, pp. 25-78.

¹⁰ Basel Committee on Banking Supervision, *Basel III: the net stable funding ratio*, October 2014 <http://www.bis.org/bcbs/publ/d295.htm>, pp. 1-2.

¹¹ Ibid. p. 2

¹² Central Bank of Kuwait, *The Net Stable Funding Ratio: Guidelines for Conventional Banks*, October 25, 2015, p. 3

¹³ Christopher Payne, *Analyzing Listed Kuwait: Growth outlook for corporate and investment banking*, Institute of Banking Studies, April 2017, pp. 21-23

¹⁴ Note: this is not the simple average of the 10 listed banks in the table; rather it is the average LCR as calculated by the Central Bank of Kuwait, taking into account the IBK and NBK's majority ownership of Boubyan Bank.

¹⁵ Simon Gray, *Central Bank Balances and Reserve Requirements*, IMF Working Paper 11/36, Appendix VII, February 2011, pp. 54-55

¹⁶ For instance, see Andrew Haldane, *The Dog and the Frisbee*, Jackson Hole symposium speech, August 31, 2012.

¹⁷ These examples are taken from Table 1, p.6 of the Basel Committee's finalized proposals for the NSFR, *Basel III: the net stable funding ratio*, Basel Committee on Banking Supervision, October 2014, <http://www.bis.org/bcbs/publ/d295.htm>

ABOUT THE AUTHOR

Dr. Christopher Payne

Dr. Payne has been writing research for IBS since September 2014. Previously, he was senior economist at Bloomberg Government, based in Washington D.C., where he authored numerous studies on Dodd-Frank, Basel III, and U.S. monetary and fiscal policy. Prior to that, based in London, he was Vice President of Asian equities for JPMorgan and fund manager of Emerging Market equities at F&C Asset Management. He began his career at PriceWaterhouse Coopers, where he qualified as a chartered accountant. He holds a bachelor's degree from Cambridge University, England, and masters and doctorate degrees from the London School of Economics. His book, "The Consumer, Credit and Neoliberalism: Governing the Modern Economy" relates economic theory to monetary and banking policy in the U.K. and U.S. leading up to the global financial crisis of 2008.