



Implementation of Basel III in Canada

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Introduction

In 2010, the world's financial regulators launched an intensely ambitious, global financial regulatory reform: Basel III. On October 31, 2014, the Basel Committee on Banking Stability (the "BCBS")¹ released the final version of the last outstanding piece of Basel III, bringing this agenda to a close.

The purpose of this paper is to provide an overview of the combined product of these past four years of regulatory reform, from the perspective of a Canadian financial institution. I begin the paper with an overview of the Basel III framework, then discuss each of the components in detail. I present the liquidity coverage ratio and net stable funding ratio, two liquidity risk management measures introduced in Basel III, then the risk-weighted capital adequacy requirements and leverage ratio, before turning to the non-viable contingent capital and bail-in regimes. I then discuss some of the operational and business challenges the Basel III reforms have and will continue to pose for Canadian financial institutions.

The new regulatory burden is perhaps somewhat less onerous for Canadian banks, having avoided the worst of the financial crisis, than it is for their European and American counterparts. Nonetheless, Canadian regulators have fully embraced the regulatory goals of Basel III and are, in many cases, moving to implement the new initiatives ahead of schedule. Each bank will experience the effects of this shift in focus differently, depending on its market position, management, and growth plan.

Basel III: The Impetus and Framework

The Basel III regime has required a significant departure from the established thinking and practices of banking regulation. The financial regulatory reforms were created by the BCBS in the wake of the financial crisis and endorsed by the Group of 20 (G-20) in 2010. Its signature features arise directly from three lessons of the 2007-2008 global financial crisis.

First is the priority placed on liquidity management. During the crisis, financial institutions were urgently seeking liquidity from central lenders and relying to some extent on the sale of assets to generate much-needed liquidity. The crisis revealed the danger of this strategy as prospective purchasers were absent at precisely the time when there were few buyers and minimal leveraged finance available. The Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR) aim to guard against insufficient short- and long-term liquidity. They are a central tenet of Basel III and were put forward by the BCBS as an area of focus as early as 2008, when it published the paper, *Principles for Sound Liquidity Risk Management and Supervision* ("Sound Principles").

Second, Basel III also upped the standards in the BCBS's traditional area of focus: capital adequacy (as in, the holding by banks and other deposit-taking institutions of sufficient capital assets, valued according to risk factors pertaining to each asset class, in relation to the bank's lending profile). The financial crisis reiterated that financial regulators are in the business of confidence, and a capital reserve stocked with high-quality capital is the most effective way to boost confidence and ensure resilience. Basel III assesses the capital adequacy of a bank in part through a risk-based capital ratio. A hallmark of the Basel regime, a risk-based capital ratio, is used to weigh assets according to their relative vulnerability to credit risk, operational risk, and market risk. The specific ratios applicable to various assets are set out, and have been tightened, in each Basel iteration.

In Canada, the assets to capital multiple has historically been used as a second measure of capital adequacy. However, as of January 2015, Canadian banks will be adopting the leverage ratio. The leverage ratio is an overall

¹The BCBS is a group of central bankers and bank supervisors from 27 countries. It works to enhance financial stability by strengthening the regulation, supervision and practices of banks. Though it has no powers of enforcement, guidelines are implemented by national regulators.

metric to assess risk and aggregate leverage; its adoption is aimed at providing a straightforward backstop to limit leverage independent of capital adequacy models.

Third, the financial crisis underscored the immense cost and moral hazard created by massive public bailouts of systemically important banks. Global financial regulators have integrated this lesson by moving the risk of bank failure to a bank's owners -- its equity holders -- through capital conversion measures that facilitate resolution without public subsidies and with minimal market disruption. By creating a requirement that financing instruments be subject to conversion into common shares when a bank approaches failure, regulators provided a tool for forced bank recapitalization. Such measures have been endorsed for the largest global banks at the G-20, and domestically for the six largest Canadian banks by OSFI.

The whole regime -- comprised of higher capital requirements, the new leverage ratio, and the short-term and long-term liquidity requirements -- is targeted at systemic risk. The lessons learned in the financial crisis are fully on display in Basel III, with its emphasis going beyond the risk-based capital adequacy focus of Basel II, to include pragmatic controls to limit leverage, encourage ready access to liquid resources, recognize systemically-important institutions, and provide for a countercyclical buffer to prevent potential credit balloons. Many of these measures were features, or at least objectives, of the Canadian banking regulatory framework prior to Basel III -- the assets to capital multiple being a prime example. The confidence of OSFI that Canadian financial institutions will be Basel III compliant in a timely manner is therefore warranted. However, the liquidity requirements -- arguably the hallmark of the Basel III programme -- are as novel from a Canadian perspective as they are for most major capital markets. The LCR in particular, with its earlier implementation and focus on a 30-day crisis period, poses new challenges to Canada's deposit-taking institutions.

Liquidity Standards

As mentioned above, the BCBS developed two minimum standards for funding liquidity -- the LCR and NSFR -- to complement the principles expressed in *Sound Principles*. The LCR is envisaged as encouraging short-term resilience of a bank's liquidity position, such that the bank can survive a stress scenario for a period of one month. The NSFR contemplates a full year of liquidity pressure and provides a maturity structure for assets and liabilities. Compliance with the two standards, and with the principles of sound liquidity risk management, is set out as the minimum standard of liquidity for internationally active financial institutions.

Introducing the Liquidity Coverage Ratio

The LCR requires a bank to carry a minimum ratio of unencumbered high-quality liquid assets ("HQLA") that meets or exceeds 100 percent of its total net cash outflows for the 30 day stress period. The "crisis" contemplated by the LCR standards involves a number of likely sources of liquidity pressure. Many of these took place in the financial crisis, such as the significant draw-downs on credit facilities combined with withdrawals in deposits and cash holdings that led dramatically to the run on Northern Rock in the United Kingdom. Other pressures include the possibility of, the need for greater collateral in the event of downward pressure on the bank's external credit rating, a tightening of available credit, and general volatility in the debt and equity capital markets.

The imposition of the LCR requirements is material for many global banks. A 2012 BCBS Basel III impact study concluded that the weighted average LCR for a sample of internationally active banks with Tier 1 capital assets greater than 3 billion euro would be 91%, requiring significant rebalancing to get to the 100% minimum.

The calculation of LCR encompasses treatments of virtually all of the bank's liquid assets, including fixed-term deposits, its contractual receivables, and short-term payment obligations. The LCR standards provide detailed

guidance on both sides of the ratio calculation: first, the standards specify what instruments may be considered HQLA; secondly, liquidity “run-off” rates are standardized to determine a bank’s total net cash flows.

Timeline

The BCBS expects banking regulatory supervisors to phase in the LCR over a four-year period from 2015 to 2019, with annual incremental increases. OSFI elected not to phase in the measure, and financial institutions in Canada will have to be in full compliance as of January 1, 2015. A summary of the implementation schedule is included as Appendix A.

HQLA

The aim of HQLA is to retain liquidity in the market during a stress period, thereby securing emergency support to a bank if needed. HQLA are divided into two categories: Level 1 Assets and Level 2 Assets. Level 1 Assets represent the most liquid and easily convertible assets -- for instance, cash, sovereign-guaranteed securities, and certain central bank reserves. Level 2 Assets are relatively riskier, and permit the inclusion of well-rated private-sector securities. Level 2 Assets are discounted according to prescribed amounts and in the aggregate cannot account for more than 40% of a bank’s total HQLA. Level 2 Assets are divided into Level 2A Assets and Level 2B Assets. Level 2B Assets represent a relaxation of the requirement; they are subject to a larger discount, and can account for no more than 15% of the bank’s total HQLA, yet they permit riskier assets, including certain mortgage-backed securities, exchange-traded common stock, and certain lesser-rated corporate debt securities. Notably, none of the corporate debt or common equity in Level 2 may be issued by a financial institution.

At any level, HQLA must be “unencumbered,” which is defined as being free of security or contractual restriction, and also free of any legal or regulatory impediment to the bank’s ability to sell, transfer, or assign the asset. Assets received by a bank as collateral in reverse repurchase (repo) agreements, securities financings, or derivatives transactions may be included in the bank’s HQLA portfolio, provided the collateral is available (legally, contractually and functionally) for the bank’s use. The goal being short-term liquidity in a crisis, the creation of future obligations to debtors or counterparties arising from the use or alienation of collateral is not relevant to the LCR calculation.

Total Net Cash Outflows

Total net cash outflows are the denominator of the LCR equation, the amount against which HQLA is compared. A bank’s net cash outflows are defined simply as the difference between the bank’s total expected cash outflows and inflows during a 30-day period. Outflows are calculated by multiplying the outstanding balances of certain liabilities by their presumptive draw-down (“run-off”) rates during the stress period. Inflows are calculated by multiplying the balances of certain receivables by rates at which their payers are presumed to make payments during the stress period. Inflows cannot exceed 75% of outflows. The presumptive run-off rates are set out in the LCR standards according to instrument and receivable types (i.e. retail term deposits, government secured lending, corporate credit facilities), and generally have the virtue of being unilaterally imposed across all of the Basel member states. There is very little room for national variance.

A few examples of such run-off assumptions include: retail term deposits, for which the run-off rate for stable deposits benefitting from a public insurance scheme such as the Canadian Deposit Insurance Corporation (“CDIC”) is 3 percent. The LCR standards assume that a bank will experience drawdowns on liquidity or credit facilities and as such banks must assume a 100 percent drawdown on liquidity facilities for non-bank financial institutions, 40 percent for interbank credit and liquidity facilities, and 30 percent for other categories of borrowers, such as corporations, sovereigns, or central banks. Interestingly, these assumptions are not mirrored on the inflow side: in a

stress period, banks are not entitled to assume they will be able to draw down any amount on liquidity or credit facilities provided for their benefit.

Standards are high, but flexible

The BCBS has advised that in times of unusual systemic stress, banks and financial institutions can fall below the 100% threshold of HQLA holdings, subject to supervision from their respective national regulator. The statement reflects a central dilemma of liquidity risk management: to maintain liquidity, a bank must hold a high number of liquid assets at the very moment (the stress period) when demands on the bank's most liquid facilities would be greatest. The reaction of the BCBS might be that this is precisely the point of the LCR requirement, and it is to some degree a problem faced by every financial institution with a capital adequacy requirement of any kind. It remains for national regulators to respond to a bank's LCR falling below 100%. In such a scenario, one might expect OSFI and its equivalents to consider the matter on a case-specific basis and thereby avoid the imposition of the most rigid decision-making in a time of crisis.

The New Net Stable Funding Ratio

The NSFR is the second stage of the liquidity management framework advanced by the BCBS, and the final major initiative of the four-year regulatory project that has been Basel III. The NSFR complements the LCR and other efforts in attempting to address the tendency for banks to over-rely on cheap short-term funding sources to meet their liquidity requirements, an approach that proved fatal when liquidity dried up in the 2007-2008 financial crisis. To avoid this, the NSFR requires banks to monitor the availability of stable funding to meet expected funding requirements, based on liquidity risk factors and off-balance sheet liabilities, over a one-year time horizon of extended stress. The NSFR is a comparison between the available stable funding, meaning funding that is expected to be reliable over the next period of time, and the required stable funding, which is determined with reference to the liquidity profiles and maturities of the assets held. The NSFR must always exceed 100 percent; that is, a bank must always have stable funding sufficient to support, at minimum, a prescribed proportion of its assets or off-balance sheet exposures.

The BCBS released its final guidance on the measure in October, 2014, and banks will be obligated to comply by January 1, 2018. While OSFI has yet to translate the global guidance into its Canadian context, the BCBS commentary is directly relevant as it will be the source material for OSFI's forthcoming guidance. Moreover, OSFI has prepared for the release of the NSFR, leaving a placeholder for it in the Liquidity Adequacy Requirements as released in mid-2014. When exactly OSFI will choose to adopt the NSFR is unclear but it is unlikely to be 2018. OSFI's confidence in Canadian financial institutions has typically meant an implementation schedule well ahead of the BCBS minimums. It would be keeping with this tradition to see the NSFR mandatory by 2016, and banks should consider this possibility.

Calculation

Two common sense assumptions shape how the NSFR categorizes assets and liabilities and how it assigns weights to those categories. First, the BCBS views longer-term liabilities as more stable than short-term ones, and second, it accepts that funding from retail and corporate customers is more stable than wholesale funding of the same maturity from other sources. The effects of these assumptions are evident in the adjustment factors used to determine the appropriate weight for funding that is either available or required.

To calculate the NSFR, banks must determine the carrying value of an asset or liability and then adjust that value according to prescribed weights that reflect its impact on liquidity over the coming year. The weighting of a liability

for the purposes of assessing funding availability depends on the contractual maturity of an institution's liabilities and the propensity of various funders to withdraw their funding. For example, capital instruments and liabilities with effective residual maturities of more than one year are multiplied by a 100 percent factor to count their full weight towards available stable funding, whereas liabilities without a stated maturity receive no weight. On the required funding side, highly liquid assets such as central bank reserves do not result in any funding requirement, while deposits held at another financial institution count for 50 percent of their carrying value. Illiquid assets such as those encumbered for more than a one year term are given a 100 percent weighting.

The effect of the NSFR is to push banks to hold more stable funding, perhaps by increasing their regulatory capital or boosting deposits by retail and small business customers, and minimize their holdings of illiquid assets that could require funding support.

Capital Adequacy

The preceding discussion provided an overview of what is arguably the most significant component of Basel III: the introduction of the liquidity management framework. However, regulators have also made considerable change in how banks are required to measure and report capital adequacy. The next section covers this more familiar territory, specifically regarding increases in the risk-weighted capital adequacy requirements and the introduction of the leverage ratio.

Higher Capital Adequacy Requirements

The primary measures of capital adequacy that are amended by Basel III are the risk-weighted capital adequacy requirements. Basel III aims to increase the quality and quantity of capital that banks are required to hold. As of January 1, 2015, the minimum BCBS capital requirements will have financial institutions holding 4.5 percent of their risk-weighted assets as common shares and retained earnings, termed Common Equity Tier 1 capital. In conjunction with Additional Tier 1 capital, primarily made up of other equity and some preferred shares, the minimum total Tier 1 capital is 6 percent. Tier 2 capital includes preferred shares that do not qualify as Additional Tier 1 capital, and subordinated debt with a maturity of at least five years. The total regulatory capital position (Tier 1 and Tier 2 capital together) will remain at 8 percent of a bank's risk-weighted assets, indicative of the shift towards higher capital quality. Tier 3 capital, which included various subordinated and unsecured instruments and was limited to 250 percent of a bank's Tier 1 capital, is being phased out over a ten-year period that will conclude in 2022.

Timeline

In addition to the global minimums in Basel III, OSFI has exercised its discretion to implement a more stringent requirement domestically. Canadian financial institutions are expected to be in full compliance with the final BCBS minimums five years ahead of schedule. That is, OSFI has set the following "all-in" capital targets for 2014: common equity is to be 7 percent (including the 2.5 percent capital conservation buffer, discussed below), total Tier 1 capital is to be 8.5 percent, and total capital is to be 10.5 percent. Institutions that fall short of these targets will be subject to supervisory intervention. This ambitious schedule is indicative of OSFI's confidence in the capital levels Canadian institutions already carry. See Appendix A for a summary of the implementation schedules adopted by the BCBS and OSFI.

Capital Buffers

The Basel III reform also introduces a capital conservation buffer with the objective of using equity to absorb or minimize sudden losses in a time of stress. The buffer will allow for drawdowns in times of stress without breaching regulated minimum capital levels. OSFI has set capital conservation ratios to limit distribution of earnings via share buybacks, dividend payments or discretionary staff bonuses in the event of a drawdown on the capital buffer. The proportion of earnings that must be retained increases as common equity falls towards the 4.5 percent minimum requirement.

Immediate implementation of the capital conservation buffer is how OSFI mandated banks meet their “all-in” capital targets. Specifically, banks were required to have an additional 2.5 percent of common equity Tier 1 capital in place as of January 1, 2013, in addition to the prescribed 4.5 percent minimum, totalling a 7 percent common equity requirement and a comparatively high 10.5% minimum total capital ratio.

Basel III also provides for a counter-cyclical buffer, enabling national regulators to impose, either continuously or in periods of protracted aggregate or high credit growth, an additional 2.5 percent (or less) common equity Tier 1 capital holding requirement. This buffer would stack on top of the other capital requirements and may help address one shortcoming of risk-weighted approaches.

One criticism of the risk-based approach highlights the pro-cyclical tendencies of increased capital adequacy controls². Risk-weighting means banks are required to increase capital ratios as risks increase, resulting in less lending at a time of an economic downturn, when easier access to credit may be an essential ingredient in recovery. While the counter-cyclical buffer is certainly not a direct response to this criticism, it does acknowledge the benefits of counter-cyclical regulatory measures from the “upside” perspective by encouraging capital conservation when credit markets are perhaps too liberal.

OSFI has left open the possibility of imposing this additional buffer across the board or for individual institutions when it believes aggregate credit growth is creating material systemic risk in Canada or a jurisdiction where an institution has credit exposure. This determination is to be made in consultation with the other members of the Financial Institutions Supervisory Committee (“FISC”).³

DSIB Capital Surcharge

OSFI has designated the six largest banks in Canada (Bank of Montreal, Bank of Nova Scotia, Canadian Imperial Bank of Commerce, National Bank of Canada, Royal Bank of Canada, and The Toronto-Dominion Bank) as “domestic systemically important banks” or DSIBs. Their central position in the Canadian financial system brings a higher onus for stability and their designation as DSIBs makes these six banks subject to higher capital adequacy requirements.

The six DSIBs will be subject to a 1 percent risk-weighted capital surcharge extension on their capital conservation buffer. By January 1, 2016, DSIBs will have to meet an all-in Common Equity Tier 1 target of 8 percent, comprised of the 4.5 percent minimum capital requirement, 2.5 percent capital conservation buffer, and 1 percent DSIB capital

² For instance, M. Gordy and B. Howells, *Procyclicality in Basel II: Can we Treat the Disease Without Killing the Patient?*, a paper for the Board of Governors of the Federal Reserve System, May 2004.

³ Chaired by OSFI, FISC includes the Canada Deposit Insurance Company, the Bank of Canada, the Department of Finance, and the Financial Consumer Agency of Canada. It serves to facilitate information sharing about financial supervision and coordinate strategies for dealing with troubled institutions.

surcharge. DSIBs are also subject to a number of heightened disclosure requirements, such as those related to the leverage ratio discussed above.

Adopting the Leverage Ratio

In addition to increasing capital adequacy requirements, Basel III introduces the leverage ratio to replace the assets to capital multiple that has been in place for thirty-plus years in Canada. OSFI will require Canadian banks to be actively using the leverage ratio by the first quarter of 2015. The leverage ratio is a different and arguably simpler measure designed to provide an overall metric for risk modelling and ease of assessing the leverage in a particular bank. The leverage ratio is a comparison between a bank's capital measure -- total Tier 1 capital -- by the total value of its on-balance sheet exposure, derivatives exposure, securities financing exposure, and off-balance sheet exposure. The minimum Basel requirement (to be supplemented by national regulators) is the continuous maintenance of a leverage ratio in excess of 3 percent. OSFI also has the power impose higher requirements through private bilateral arrangements on an institution-by-institution basis.

After thirty-plus years with the assets to capital multiple, Canadian banks are better prepared for the operational aspects of compliance with the leverage ratio than financial institutions in some other jurisdictions. The multiple, which continues in effect until the leverage ratio is introduced in 2015, serves a similar purpose as the leverage ratio by providing a straightforward summary of leverage absent potential biases of risk-based approaches. However, the leverage ratio adopts a narrower definition of capital and a broader approach to exposure.

One of the primary benefits of the leverage ratio is that it facilitates comparison between banks across jurisdictions, by virtue of its relative simplicity. Further to that aim, OSFI has implemented the "Public Disclosure Requirements related to Basel III Leverage Ratio," which will require all banks to disclose, in standard forms, their current leverage ratio and its component measures.

Disclosure

DSIBs will have to include leverage ratio disclosure beginning with their 2015 first quarter reports. Specifically, they have to disclose: (i) a summary table reconciling their balance sheet assets with the leverage ratio exposure measure, (ii) a disclosure template that details the component measures making up their leverage ratio, (iii) an explanation of the material variations between their balance sheet assets and their on-balance sheet exposure, and (iv) an explanation of the key drivers of material change in the components of the leverage ratio since the previous reporting period.

Banks that have not been designated as a DSIB will have until the end of 2015 to disclose the primary components of their leverage ratio on an all-in basis. All banks will have to disclose this information in their regular financial statements, or make it available on their websites.

Non-Viable Contingent Capital and Bail-in Debt

Canadian financial regulators are moving along a well-worn path with the evolutionary reform of capital adequacy requirements discussed in the previous section. Introducing the leverage ratio as a basic backstop for bank leverage and accelerating the imposition of additional capital buffers will impose costs on Canadian financial institutions, but the measures are familiar in their focus and method. The same cannot be said for two measures introduced to save banks on the brink of failure: non-viable contingent capital ("NVCC") and bail-in debt.

The financial crisis starkly illustrated the costs and repercussions of using public funds to support complex international banks in danger of failing. Public sector authorities were compelled to provide massive capital injections, guarantees and insurance to institutions deemed “too big to fail” in order to avoid the significant adverse consequences of the failure of large, systemically important institutions. As a result, financial regulators have sought to shift more of the risk of systemically important bank failure to the hands of private actors. NVCC and bail-in debt both reduce the likelihood of bank failure, and ultimately government intervention, by allowing regulators to recapitalize a failing bank via the forced conversion of securities ranking above common stock.

Contingent capital instruments are subordinated securities such as preferred shares and subordinated debt that convert to common shares upon certain predetermined conditions being met. The conversion of these instruments would wipe out their relative priority in liquidation proceedings and significantly dilute the value of common shares. For a price, investors take on the risk of conversion according to the contractual terms of the instrument.

Bail-in debt effectively mirrors this structure in the context of senior debt instruments issued by a bank. Upon the realization of certain pre-established conditions, the debt can be converted to common shares. In both cases, defining the triggering event and determining when it has occurred are of central importance to the ability of these instruments to fend off bank failure.

Non-Viable Contingent Capital

The NVCC regime provides for the conversion of non-common regulatory capital into common shares when a bank approaches non-viability, a point to be determined by OSFI. The NVCC requirement was set out by the BCBS in January 2011 and OSFI rolled it into their Capital Adequacy Requirements. Ten principles govern NVCC in Canada. They require that all non-common Tier 1 and Tier 2 capital instruments issued by deposit-taking institutions after January 1, 2013 include contractual provisions to permit their conversion into common shares. Outstanding capital instruments that do not include the required provisions have been deemed non-qualifying and are being phased out. While the Basel rules afford national regulators the discretion to write down rather than convert NVCC instruments, OSFI has elected to provide for conversion out of a desire to maintain consistency with prevailing insolvency priorities and regimes.

At minimum, the NVCC clause must stipulate that conversion will be triggered by either of the two following triggering events: OSFI makes a public statement that the institution is or is about to be non-viable, or the institution accepts provincial or federal government support, without which OSFI would have declared it non-viable. OSFI will not be acting alone, however, as the decision to declare a bank non-viable is to be made in consultation with the other financial regulators on FISC. Coordination is necessary because efforts to maintain an institution as a going concern are likely to require interventions beyond NVCC conversion and outside of OSFI's powers.

Upon the occurrence of a triggering event, conversion would cause a significant dilution of common equity through an influx of new shares. In addition to recapitalizing the bank, it would reduce the value of a bank's liabilities and remove leverage. The issuer determines the specific conversion factor for each instrument, which is disclosed in the clause governing that instrument. OSFI only requires that conversion reflect the hierarchy of the former securities in liquidation; that is, subordinated debt holders must receive more favourable economic entitlements than those received by former preferred shareholders.

Results to Date

After almost two years with the NVCC requirement in place, Canadian banks have issued an array of NVCC instruments and investors have shown little concern about the conversion risk. The market for preferred shares and

subordinated debt from banks was silent in 2013 as issuers figured out how to structure their offerings. This dry stretch may have helped boost demand for NVCC instruments when they came to market in 2014, as twelve different issues have been sold in ten months with multiple offerings upsized due to heavy subscription. Altogether, over \$4.5 billion in preferred shares have been sold, and three banks have issued a total of \$3 billion in NVCC bonds. The conversion formulas adopted to date provide for preferred shareholders to receive a number of common shares equal to their value, defined as issue price plus declared and undistributed dividends, divided by the market price of common shares, subject to a five dollar floor price. NVCC bonds use essentially the same formula, with necessary adjustments for par value and accrued and unpaid interest, but benefit from a higher multiplier of 1.5 to account for their superior position in liquidation. Investors have not balked at the conversion risk posed by NVCC instruments, hopefully more from confidence in Canada's banking regulators than from ignorance of the risk, as the estimated premium on the preferred shares relative to a similar non-NVCC instrument has been only 10 to 30 basis points.

One of the goals of including the NVCC clause is to increase investors' stake in the ongoing viability of financial institutions. The risk of conversion aligns investors' incentives with regulators to the extent that it encourages support for more cautious capital and liquidity management approaches. However, pre-set conversion formulas could create a risk of perverse incentives as financial institutions approach non-viability. A failing institution may find it near-impossible to recapitalize on the open market if short-sellers push down the price of common shares and acquire NVCC or bail-in instruments in anticipation of an impending conversion. Concerns about such a "death spiral" are partially to blame for the full year delay before any NVCC instruments were issued. 2014 has proven issuers and investors are comfortable with the solution adopted.

The Proposed Bail-in Regime

Unlike the other regulatory initiatives discussed in this paper, the origin of Canada's bail-in debt regime is not Basel III but rather the G-20 leaders' 2011 endorsement of a report by the Financial Stability Board⁴ (the "FSB"), entitled *Key Attributes of Effective Resolutions Regimes for Financial Institutions*. Nonetheless, the proposed bail-in regime warrants discussion because it is inextricably linked to the conversion of NVCC as both target the same problem with essentially the same tools.

The bail-in debt regime, which has been proposed but not yet finalized, will provide regulators with a statutory power to convert a DSIB's long-term unsecured debt into common shares if NVCC conversion proves insufficient to recapitalize the affected institution. It will only apply to DSIBs. As mentioned above, the purpose of this power is to push back against the moral hazard created by bailouts in the financial crisis and to insulate taxpayers from the costs of bank recapitalization. Canada is following jurisdictions such as the UK, US, and EU, which have either implemented or are in the process of implementing bail-in regimes of their own.

Eligible liabilities are defined as those issued, originated or renegotiated after the implementation date of the bail-in regime, and include non-NVCC preferred shares or subordinated debt, as well as long-term senior debt. Long-term senior debt means unsecured debt that is tradable and transferable with an original term to maturity of more than 400 days. Given that banks will likely have their preferred shares and subordinated debt count as regulatory capital, long-term senior debt is likely to comprise the bulk of bail-in debt issued.

⁴ The Financial Stability Board, currently chaired by former Bank of Canada Governor Mark Carney, is comprised of economic regulators from 25 member states and ten international economic organizations. It was created in 2009 as a more inclusive successor of the Financial Stability Forum and, like the BCBS, is hosted at the Bank for International Settlements in Basel.

Decision-making

Unlike NVCC, the bail-in debt regime is being developed as a statutory power rather than a contractual term of the instrument. The framework, laid out in a Department of Finance consultation paper in August, 2014, proposes to grant the CDIC the power to convert some or all of a DSIB's long-term senior unsecured debt into common shares, and the power to cancel existing shares. The CDIC already has powers with regards to the depositors insurance scheme generally and the bank resolution framework more specifically, and bail-in is seen as a complementary to these roles.

Conversion of bail-in instruments is not automatic. An OSFI declaration of non-viability and complete conversion of NVCC are necessary but not sufficient conditions for bail-in to occur. CDIC retains residual discretion about whether to convert the debt and, if so, in what proportion. If the conversion is not complete, all eligible senior debt would be converted on a pro rata basis.

The conversion factor would be a prescribed multiple of the most favourable conversion formula among the bank's outstanding NVCC instruments, applied to each dollar of par value of the instrument. This approach attempts to ensure both that the conversion factor is publically available information for investors, and that the priority of senior debt holders is acknowledged with more favourable treatment than the lower-ranking NVCC instruments. Additionally, the proposal provides that no creditor or shareholder be made worse off than under a traditional liquidation, unless they agreed to specific terms of conversion as a contractual term of the security. A right of compensation is provided through provisions in place under the *Canada Deposit Insurance Corporation Act*.

HLA

Interestingly, the bail-in regime includes a Higher Loss Absorbency (HLA) requirement to be imposed on DSIBs. The HLA is effectively an added capital adequacy requirement that would be administered by OSFI but set by the Government. The proposal calls for a specific figure set within the range of 17 - 23 percent of risk-weighted assets, or at least 5.5 percent more than DSIB's total regulatory capital requirements. The HLA requirement would be public and apply to all DSIBs, with the discretion to require higher levels of HLA for specific banks if required. Though the proposal allows banks to increase regulatory capital or rely on long-term senior debt in order to meet this requirement, it is a significant increase in capital and banks have been loading up on capital as a consequence. Analysts have suggested that meeting the HLA could require Canadian banks to hold twice as much capital as they did prior to the financial crisis. An FSB initiative is pushing a similar total loss absorbing capacity requirement on some of the largest global banks, which will likely have to undertake significant capitalization efforts to meet the requirements.

It is also worth noting that the bail-in regime is being developed by the Department of Finance, rather than OSFI. Though OSFI may have been a logical choice, remarks by OSFI Assistant Superintendent Mark Zelmer suggest that the Department of Finance has taken the lead because the statutory bail-in approach is not a bank capital issue. That may be true for the bulk of the bail-in regime, but the inclusion of the HLA blurs the line to some extent.

Adapting to the Challenge of Basel III

This paper has, to this point, provided an overview of the various regulatory changes that make up Basel III and examined their implications. It began with the two liquidity measures, then considered the leverage ratio and capital adequacy requirements, and finally turned to the imposition of the NVCC and bail-in regimes. Now is the chance to step back and assess how Canadian banks are responding to all of Basel III, and discuss the challenges they face going forward.

Canadian banks have the oft-mentioned benefit of being well-capitalized and conservatively managed. The Canadian banking regulatory scheme is sophisticated; Canadian capital markets are generally stable and not prone to shock. Canada has not experienced the crisis in confidence in sovereign debt that shook the Eurozone and certain developing economies. However, a number of initiatives on the capital adequacy front are prompting Canadian financial institutions to add to their capital cushion. Particularly in the case of DSIBs, initiatives such as the capital conservation buffer surcharge and HLA are pushing banks to load up on capital to an extent not seen before. Moreover, the new liquidity regimen (particularly the LCR) necessitates a major compliance initiative and potentially encourages a more conservative approach to the conduct of banking business generally.

OSFI has not elected to impose stricter leverage or liquidity ratios, choosing instead to require early and complete compliance with the timelines of Basel III. For example, the minimum leverage ratio will be 3 percent as set by the Basel Committee. Higher leverage ratios are permitted; for example, the Federal Reserve finalized the leverage ratio for the largest banks at 5 percent in April 2014. The security of the Canadian mortgage market is the main reason OSFI is satisfied with 3 percent, though the discretion to impose higher minimums as needed also appeals to the conservative tone of Canadian regulators.

Marketing Savings Products

The introduction of the LCR and NSFR provide strong incentive for banks to improve their cash holdings. The “best” HQLA, and the easiest to monitor, are cash and monetary instruments. Cash holdings are Level 1 Assets for HQLA purposes and weigh favourably in the calculation of NSFR (they also, coincidentally, contribute to a healthy Tier 1 regulatory capital position). A bank’s treasury position, and its depositors, are the key sources of cash holdings. Fixed-term deposits are treated relatively favourably in the “run-off” discount standards set for the purpose of calculating a bank’s net outflows, particularly as the deposits are protected by an effective deposit-insurance scheme.

Capital-light Operating Models

Aside from a return to emphasizing savings products, banks can opt for changes to business practices in lending which may have the effect of protecting liquidity. A particular example is the desirability of collateral, particularly in forms which will enable the bank to alienate or assign it.

Canadian banks are well-positioned, given their emphasis on retail and business banking, to make these changes. A switch to an emphasis on liquidity is unlikely to be noticed, from the perspective of the ordinary borrower. Higher-risk borrowers, or new borrowers in a capital-intensive stage of their business, might find revolving credit or facilities less available, and the bank taking a more aggressive posture with respect to security and collateral. The cost of increased liquidity security may be diminished short-term profits for the sector as a whole.

Compliance Costs

The simplicity of the LCR formula undersells the inherent complexity of its calculation, and the costs of monitoring and compliance. Banks must position themselves to assess, regularly and comprehensively, the treatment of their portfolio for inclusion in the HQLA or other liquidity measures. Compliance will require data from the bank’s business, retail, commercial, and investment banking operations, as well as knowledge of the bank’s cash position and short-term treasury funding plans.

Unlike credit control, liquidity cannot be supervised as easily by setting lending or trading limits in advance. Indeed, and particularly with respect to derivative transactions, the risk-management techniques employed to limit credit

exposure often have short-term, adverse liquidity consequences. In short, LCR oversight, and liquidity risk management generally, are major challenges for compliance; the costs of which can be significant.

On the other hand, the switch to a leverage ratio, described above, is meant to be a simpler means of calculating a bank's required capital cushion. Unlike the outgoing assets to capital multiple, the leverage ratio does not weigh assets in accordance with their relative market or credit risk. However, mortgages demonstrate the potential difficulties for Canadian banks with respect to the new, simple calculation. The fact that the highest-ratio mortgages in Canada are backed by a mortgage insurer is not a factor in the leverage calculation; as such, banks in Canada may need to bulk up their capital position to cover exposure to an insured risk.

Conclusion

Four years of continuous regulatory change have been marked by regular updates regarding BCBS or OSFI consultation papers and guidelines. After the release of the BCBS guideline for the NSFR in October 2014, the bulk of the Basel III project has been completed. As we wait for OSFI's integration of this final component into the Canadian regulatory landscape, there is an opportunity to step back and assess the totality of Basel III in Canada. This paper has provided an overview of the full range of measures prompted by Basel III, and traced their implications for Canadian financial institutions.

By and large, the trend is good. Unlike so many others, Canadian banks have excelled at meeting their regulatory requirements. The short implementation timetable set by OSFI for implementation of the Basel III requirements has, thus far, received little push-back from Canadian regulated entities. Guidelines have been developed transparently and incrementally, with opportunities for comment throughout. As a result, banks have had sufficient lead time to ensuring their internal management and compliance reporting lines and technology are in place to meet the administrative and reporting obligations OSFI has imposed. Though the measures Basel III introduces will require compliance costs, including the significant acquisition of additional capital already underway, Canadian banks are well-positioned going forward.

Appendix A

Summary Table of Implementation Dates for Basel III Requirements

Measure	Minimum Level	Implementation Date (Q1 unless otherwise noted)	
		OSFI	BCBS
Liquidity Measures			
LCR	HQLA/Net Cash Flow \geq 100%	2015 (Jan 1)	2019 (Jan 1) Phase in from 2015
NSFR	Avail. funding/Req'd funding \geq 100%	To be announced (2018 or sooner)	2018 (Jan 1)
Capital Adequacy Measures			
Leverage Ratio	Capital = 3% of Exposure	2015	2018
Leverage Ratio Disclosure	--	DSIB: 2015 Non-DSIB: Q4 2015	2015
Common Equity Tier 1 (CET1)	4.5% of RWA	2013	2015
Capital Conservation Buffer	2.5%	2013	2019 Phase in from 2016
CET1 + capital conservation buffer	7.0%	2013	2019 Phase in from 2013
"All-in" Total Tier 1	8.5%	2014	2019 phase in from 2013
"All-in" Total Capital	10.5%	2014	2019 phase in from 2013
Common Equity Surcharge	1% - 3.5%	2016 (DSIB 1%)	2016
Non-Viable Contingent Capital	All non-common regulatory capital	2013	2013