

# Contingent Capital and Bail-In Debt: Tools for Bank Resolution

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## INTRODUCTION

In the recent global financial crisis, many banks failed, or were in danger of doing so. Internationally, the public policy responses to failing banks differed substantially, depending on the size and complexity of the banks in question. Small, less complex banks were allowed to fail, and their failures were usually managed in accordance with existing procedures for liquidation and winding up. These failures resulted in shareholders being totally wiped out, and the imposition of losses on debt holders and uninsured depositors, based on established rules for creditor-claim seniority and the resources available from the disposition of the failed banks.

In the case of failing large banks, the response typically involved public sector equity investment, together with substantial liquidity support and credit guarantees.<sup>1</sup> As a result, common shareholders of these major international banks generally suffered losses but were not wiped out, and preferred shareholders and creditors were protected. In addition, the managements of these banks, in most cases, stayed in place. Estimates of the amount of public sector capital injections used to directly bail out major banks are well in excess of US\$1 trillion; including guarantees and insurance provided by major governments during the recent crisis adds another US\$8.5 trillion (Alessandri and Haldane 2009).

These experiences showed that policy-makers around the world were unwilling or unable to allow major financial institutions to fail, particularly in a stressed financial

environment. Public sector authorities were worried about exacerbating financial stress, and wished to avoid the adverse consequences that could result from the failure of a large, complex financial institution. Authorities in many countries were concerned that they would not be able to resolve such institutions without causing a disruption in essential financial services and generating significant costs to the real economy. An implication of bailouts, however, is the creation of incentives that promote risk-taking behaviour by the private sector—in other words, moral hazard. Over time, such behaviour leads to a greater likelihood of bank failures, instability and future crises, with serious fiscal and social costs.

As a result, policy-makers have been reviewing their financial regulatory arrangements to develop more effective ways to respond to the risks posed by large, interconnected institutions. A wide range of approaches have been under discussion, including capital surcharges, systemic risk levies and funds, more effective supervision, contingent capital and bail-in debt, improved legal powers to restructure a failing bank, and living wills.

This report considers two related approaches to improving the resolution of failing banks: contingent capital and bail-in debt. Various types of contingent capital and bail-in debt mechanisms have been discussed in the academic literature and the press, and have been debated in policy circles. This report focuses on the types of contingent instrument that have been the subject of proposals by the Office of the Superintendent of Financial Institutions (OSFI) (Dickson 2010a,b) and, more recently, by the Basel Committee on Banking Supervision (BCBS) (2010), and that have been a focus of banking reform policy discussions more generally.

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<sup>1</sup> In Canada, the federal government and the Bank of Canada offered various forms of funding liquidity to Canadian financial institutions to mitigate the spread of liquidity problems, but there were no bank failures or bailouts. (See Zorn, Wilkins, and Engert 2009 for a discussion of these Bank of Canada liquidity actions.)

## WHAT ARE CONTINGENT CAPITAL AND BAIL-IN DEBT?

Contingent capital is a subordinated security, such as a preferred share or subordinated debenture, that converts to common equity under certain conditions. Such contingent capital instruments are contractual mechanisms; that is, the arrangements governing conversion would be set out in the contractual terms of the financial instrument purchased by the investor. As a result, investors in these instruments would accept the prospect of conversion under certain conditions, and therefore would require compensation for bearing this risk, depending on their expectations of conversion. With bail-in debt, this contractual mechanism is extended beyond the regulatory capital base to senior debt securities of the issuing bank. The trigger event that leads to conversion, as well as its timing, is a central feature of contingent capital and bail-in debt, and is considered next.<sup>2</sup>

### Gone-concern and going-concern contingent instruments

Contingent capital is typically differentiated as either *gone-concern* or *going-concern*. Gone-concern contingent capital converts to common equity when the financial condition of a bank is judged by its supervisor to have deteriorated to the point where it is no longer viable. Given this timing, gone-concern contingent capital would contribute to a resolution framework. In contrast, going-concern contingent capital converts to common equity earlier, well before

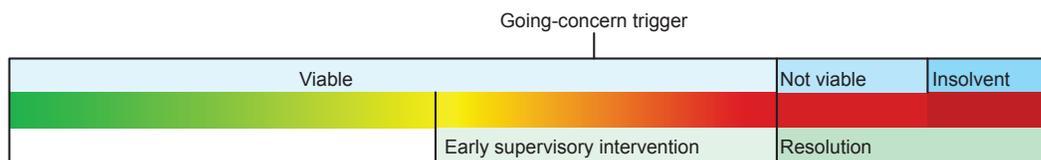
non-viability, for even modest erosions of capital. Further, conversion would be triggered by a breach of a given threshold, such as a capital ratio, or when the bank's stock price falls below a predetermined level, or when the aggregate value of the banking sector, as measured by a stock index, falls below a trigger value.<sup>3</sup> (For example, see Flannery 2005, 2009; McDonald 2010; and Sundaresan and Wang 2010.)

**Figures 1 and 2** provide a stylized perspective on the two types of contingent capital. As the bank's condition moves from the green area towards the red, supervisory concerns increase. If the threshold that triggers conversion of going-concern contingent capital is breached, the contingent capital security would automatically convert to common equity relatively early in the process, as illustrated in **Figure 1**. In the situation illustrated in **Figure 2**, however, the supervisor relies on other early-intervention tools to deal with a troubled bank (possibly including a directive to raise capital in the market), until the bank reaches the point of non-viability, which could then trigger conversion of debt to equity to help resolve the failing institution.

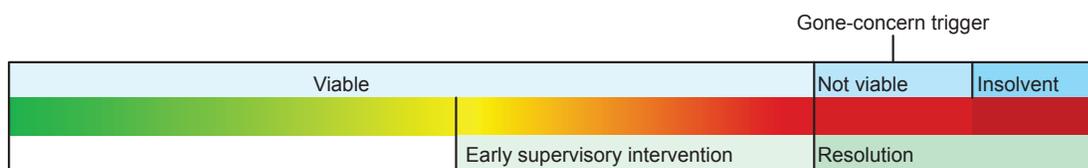
### Regulatory context matters

When considering contingent capital and bail-in debt, it is important to take account of the overall regulatory framework, particularly the incentives and powers of the supervisor and resolution authority to intervene in a timely manner when dealing with a troubled bank. As illustrated in **Figures 1 and 2**, going-concern contingent capital would

**Figure 1: Going-concern contingent capital and bail-in debt**



**Figure 2: Gone-concern contingent capital and bail-in debt**



**2** Another approach would be to simply write down the face value of specified debt securities following a trigger event (instead of converting debt to equity), which would have the effect of transferring wealth to the common shareholders of the troubled bank. This report does not discuss such an approach. As well, some commentators have proposed that, instead of relying on a contractual mechanism to effect conversion, public sector authorities should have the statutory power to write down or convert bank debt outside of the usual court-supervised restructuring and liquidation process. This report does not consider such proposals either.

**3** This means that the metric used to trigger conversion for a going-concern instrument (such as a capital ratio) needs to be a sufficient and reliable measure of firm value, for example. (In this regard, note that many banks that failed or experienced severe difficulties in the recent crisis had regulatory capital measures that met or exceeded regulatory requirements.)

provide for conversion relatively early in the troubles of a bank, following the breach of a specific metric. Arguably, going-concern contingent capital is focused on dealing with forbearance—a tendency of some supervisors to accommodate troubled institutions and to refrain from intervening with corrective measures (in the yellow-orange zone of **Figures 1** and **2**). This could occur because the supervisor lacks adequate incentives (the “will to act”) or the powers (the “ability to act”) to intervene effectively as the financial condition of the bank deteriorates. Put differently, going-concern contingent capital aims to reproduce elements of early intervention by emphasizing a rule that provides for the automatic recapitalization of the institution in the form of conversion of debt and capital instruments to common equity when a specific metric is breached, thereby reducing the scope for the exercise of supervisory forbearance.<sup>4</sup>

The Canadian regulatory framework has tried to address the supervisory will and ability to act by providing OSFI with particular incentives that condition its judgments, as well as adequate powers to act on them. The framework gives OSFI a clear mandate focused on the protection of depositors, policyholders and creditors. Together with operational autonomy and wide-ranging powers, this framework orients OSFI towards risk aversion and early intervention with regard to troubled banks.<sup>5</sup> As well, the Canadian financial safety net has been designed to encourage working relationships between OSFI and other federal agencies that have a strong interest in the ongoing quality of supervision, including the Bank of Canada, as lender of last resort, and the Canada Deposit Insurance Corporation (CDIC), the deposit insurer. (CDIC’s mandate also includes the resolution of failed CDIC-member institutions in a manner that minimizes loss.) This interaction among federal safety-net agencies further supports supervisory incentives for early and effective intervention. For example, the *Guide to Intervention for Federally Regulated Deposit-Taking Institutions* (OSFI 2008) sets out a structured process for early intervention that is jointly followed by OSFI and CDIC.<sup>6</sup> In addition, the major federal agencies with an interest in supervisory issues (OSFI, CDIC, the Bank of Canada, the Department of Finance and the Financial Consumer Agency of Canada) meet regularly under the chairmanship of the Superintendent of Financial Institutions to exchange information relevant to the supervision of regulated institutions. This forum, the Financial Institutions Supervisory Committee, also provides for the coordination of strategies when dealing with troubled

<sup>4</sup> Depending on the trigger, however, such an approach could transfer the operation of forbearance to the manipulation of the trigger variable (such as a capital ratio) if the supervisor’s objectives and incentives are not well specified.

<sup>5</sup> Dickson (2010c) discusses the importance of such institutional design for effective regulation and supervision. For a discussion of the evolution of the Canadian financial safety net, see Engert (2005).

<sup>6</sup> OSFI’s governing statute also recognizes that financial institutions need to compete and take reasonable risks. The legislation notes as well that the boards of directors and management of financial institutions are responsible for the management of risks, and that financial institutions can fail.

institutions. Further, the heads of the federal safety-net agencies are also members of CDIC’s Board of Directors.

In sum, OSFI operates within a safety-net framework designed to support both the will and the ability to act with regard to troubled institutions. This suggests that gone-concern contingent instruments, which focus on resolution, may provide relatively larger net benefits in the Canadian context than going-concern contingent capital.<sup>7</sup> The rest of this report addresses the role of gone-concern contingent capital instruments.

## Objectives of gone-concern contingent instruments

Gone-concern contingent capital and bail-in debt share two related objectives:

- (i) to support the resolution of a failing bank by providing sources of capital when the institution cannot recapitalize through private markets; and
- (ii) to ensure that equity holders and other providers of regulatory capital, as well as major creditors of banks, face risk of loss, even if the troubled bank is not closed and liquidated.

Such instruments could improve the incentives affecting private behaviour by exposing holders of common equity to a risk of significant dilution, and by widening the pool of market participants with credible “skin in the game.” Accordingly, market discipline could be improved and moral hazard reduced. As a result, such contingent instruments would reduce the likelihood of a government bailout of a large, complex institution and, in the event of such a bailout, would reduce the cost to taxpayers.

## HOW WOULD GONE-CONCERN CONTINGENT INSTRUMENTS HELP RESOLUTION?

The Basel Committee’s recent proposal on gone-concern contingent capital requires that all newly issued regulatory capital instruments that are not common equity include, in their contractual terms, a mechanism that creates common equity at the point of non-viability. Accordingly, these securities would be converted to common equity under two conditions:

- (i) when an institution is judged by its regulator to have reached the point of non-viability;<sup>8</sup> or

<sup>7</sup> Nevertheless, going-concern contingent capital might also provide useful incentives for investors to monitor bank risk-taking behaviour, and could contribute as an early corrective measure.

<sup>8</sup> If this trigger was not exercised and the bank failed, no conversion would take place, and there would be no impact on the established priority of the claims of shareholders and creditors.

- (ii) when the public sector provides capital or equivalent support to restore the failing bank, without which the bank would not be viable.

However, such gone-concern contingent capital might not by itself generate sufficient capital to effectively support the restoration of viability for a failing bank. Accordingly, bail-in debt, with the same conversion triggers, could increase the amount of private sector capital available at the point of non-viability. Distinct from contingent capital, however, these arrangements could be structured so that only a portion of the senior debt would convert to common equity at the point of non-viability, in recognition of its creditor-claim seniority relative to subordinated debt and equity instruments. This partial write-off, or haircut, would mean that most of the senior debt instrument would remain unchanged, even if conversion was triggered.

There is some debate about the scope of the liabilities that should be subject to such bail-in conversion, but a focus on senior, unsecured debt instruments would be relatively straightforward.<sup>9</sup> This particular scope of application would leave secured creditors, insurable depositors, short-term securities holders and a bank's counterparties unaffected by bail-in provisions.

Conceptually, conversion of contingent instruments could occur on a "par-to-market value" basis. For example, at conversion, holders of a contingent security could receive, in exchange for the security, common shares with a total value equal to the par value of the contingent instrument. For example, assuming a par value of \$100 for a preferred share subject to conversion, and a market value of \$2 for common equity at the time of conversion, the investor would receive 50 common shares. (The conversion terms for more senior contingent instruments could provide more beneficial arrangements.)

With the conversion of contingent instruments to common equity, the original equity would be heavily diluted, and converted preferred stock and subordinated debt would be subject to loss as common equity. Converted bail-in senior debt would also be exposed to loss as common equity. This process also implies that the value of the bank's liabilities would decline. The bank would therefore be recapitalized, with somewhat less leverage. Such restructuring could help to attract new private investment and liquidity for the bank, thus supporting resolution and the restoration of viability. (New private investment could be in the form of subordinated debt or preferred shares with warrants to provide scope for new investors to capture the potential upside.)

Together, contingent capital and bail-in senior debt should be seen as one of several tools that authorities could use to help resolve a failing bank. Others include taking control,

the replacement of management, CDIC-assisted transactions, the establishment of a bridge bank and winding-up powers. These other tools could be applied in combination with the conversion of contingent instruments, which could involve losses for a wider range of uninsured creditors and counterparties.

## How much contingent capital and bail-in senior debt?

The amount of contingent capital and bail-in debt issued by an institution would be an important factor in their effectiveness as possible resolution tools. The Basel Committee has proposed that all newly issued regulatory capital instruments that are not common equity must be gone-concern contingent capital. More generally, an objective could be that banks should have sufficient contingent capital and bail-in debt to be able to achieve recapitalization according to prudential requirements. This implies a predetermined minimum for the bank's funding in the form of contingent capital and bail-in debt.

Conceptually, the regulator could set the capital requirement for a bank based on the prudential risks posed by its business activities, as in the current Basel capital framework. Levels of contingent capital and bail-in senior debt could then be set to protect against insolvency and government bail-outs if, for any reason, the prudential capital requirement turned out to be inadequate. Put differently, in addition to the standard prudential capital requirements, the sum of common equity plus contingent capital and bail-in senior debt could be subject to an overall minimum requirement, chosen to provide for the restoration of prudential capital requirements. In practice, the choice of instruments (common equity, contingent capital and bail-in debt) could be left to banks and market participants, which, given their various constraints, would optimize to find the most efficient funding and capital structure. Following the establishment of such a requirement, the capital and funding structures of banks would correspondingly evolve over time.

## COSTS

As discussed above, the conversion of contingent capital and bail-in senior debt would take place at the point of non-viability, which is typically a low-probability event. Thus, it seems reasonable to expect that these instruments should generally be priced close to their underlying host instrument, plus an incremental cost reflecting the elimination of an expectation that government will bail out the failing bank (an implicit guarantee). To the extent that implicit government support had been expected—and if the prospect of conversion embedded in contingent capital and bail-in senior debt was seen to be credible—investors would demand a corresponding premium to compensate for their increased risk, depending on the financial health of the issuing bank. (The latter would influence the expected

<sup>9</sup> It could be technically or legally difficult to extend bail-in provisions beyond this class of liabilities. Doing so could have adverse implications regarding the management of risk and liquidity, particularly under unfavourable circumstances.

probability of conversion.) Any increase in costs might also be offset by the value investors ascribe to the conversion feature. That is, investors could view the potential gains embedded in the conversion mechanism as attractive, compared with a liquidation scenario where the recoveries to capital providers have historically amounted to cents on the dollar, or nothing. The impact on funding may not be limited only to contingent instruments, since the cost of bank common equity might increase as well, given that contingent instruments imply a risk of dilution of ownership under some conditions.

In addition to possibly affecting the cost of capital in this way, such contingent instruments could affect investor behaviour and market dynamics as a failing bank deteriorated to a level where conversion was generally believed to be likely; that is, when non-viability was expected. In that case, a bank's equity price would be under considerable downward pressure in anticipation of the substantial dilution associated with the prospective conversion of contingent instruments to common equity. Such a downward ("death") spiral would, however, be expected for the stock price of any firm approaching insolvency (appropriately, since common equity should lose value in such cases), and the prospect of conversion could exacerbate this dynamic. It seems likely that the market's behaviour in this context would be conditioned by the specific terms of conversion.<sup>10</sup>

Some commentators have suggested that, to the extent that contingent capital and bail-in debt are held by other financial institutions, these institutions would face greater risks, and that holdings of contingent instruments could exacerbate contagion under some conditions. However, this prospect already exists, owing to inter-institution holdings of financial institution securities: if an issuer was liquidated or restructured, investors could become residual claim holders. The argument that contingent capital and bail-in debt expose holders of bank securities to greater risks than the status quo implies that current inter-institution holdings of securities are protected by implicit guarantees. Of course, the use of contingent capital and bail-in debt aims to minimize the value of such guarantees, which necessarily exposes the holders of such securities to risk of loss. This, in turn, would create incentives that could usefully reduce interlinkages, or improve their management. Fundamentally, however, risks related to inter-institution holdings of securities already exist.

Finally, there is uncertainty about the extent of investor appetite for contingent capital and bail-in debt. For

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<sup>10</sup> It would appear to be relatively straightforward to include features in the conversion terms that would limit the decline in the price of the common stock, such as a pre-terminated minimum stock price to be used for conversion. As noted, death spirals and associated market behaviour (such as short selling of the common stock) might be expected when a bank is approaching insolvency even if it had not issued convertible instruments—unless it had the benefit of an implicit government guarantee, which would arrest such a spiral. Note also that there are innovative conversion proposals that might provide ways to mitigate the risk of a death spiral (e.g., Pennacchi, Vermaelen, and Wolff 2010).

example, the traditional mandates of institutional fixed-income investors might inhibit them from investing in instruments that convert to common equity (even though, in liquidation or traditional bankruptcy reorganization, investors would often receive a variable residual claim). In such cases, however, these investors could sell their positions in the market or hold the equity resulting from conversion in a trust arrangement for subsequent disposition.<sup>11</sup> Institutional investor mandates for fixed-income securities would also likely evolve over time to include these contingent instruments as these investors seek to retain their exposure to global financial institutions and develop a greater understanding of the instruments' risk and return characteristics. More generally, as is usually the case following the introduction of a new security, there would be a period during which market participants would learn about the characteristics of the instrument and how to value it, with corresponding pricing adjustments. This would also be associated with increasing market acceptance and greater liquidity for the securities.

## NON-VIABILITY AND SUPERVISORY DISCRETION

As noted above, one of the triggers for the conversion of gone-concern contingent capital and bail-in senior debt would depend on the supervisor's judgment of non-viability. In Canada, however, no new supervisory discretion would arise from the existence of such a trigger condition in the contractual terms of securities, since the Superintendent of Financial Institutions already has considerable discretion to respond to failing banks. For example, the Superintendent can take control of a bank if the regulatory capital of the institution has, in the Superintendent's opinion, reached a level or is eroding in a manner that may detrimentally affect depositors and creditors, or if the institution has failed to comply with an order of the Superintendent to increase its capital (Bank Act, s. 648(1)). Furthermore, the Superintendent can ask the Attorney General to apply for an order to wind up the bank on the sole ground that control of the bank or its assets has been taken (Bank Act, s. 651; Winding-Up and Restructuring Act, s.10.1). In addition, the trigger for establishing a bridge bank rests on the opinion of the Superintendent that the bank has ceased, or is about to cease, to be viable (CDIC Act, s. 39.1).

Thus, financial institutions and market participants already operate in a regulatory regime that provides OSFI with considerable discretion with regard to taking control, liquidation and the initiation of resolution proceedings, including bridge banks. The gone-concern contingent capital and

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<sup>11</sup> A trust could be established to hold the shares on behalf of new shareholders who are ineligible to hold them because of legal impediments or other constraints (similar to provisions applicable to ineligible persons in the terms of Canadian Tier 1 innovative instruments). The trustee could either effect the sale of the shares on behalf of the ineligible persons or would hold the shares until the legal impediments or other constraints were removed and the ineligible shareholder could hold the shares directly.

bail-in debt proposals being debated would operate under these same conditions.

## CONCLUSION

Several issues concerning contingent capital and bail-in senior debt require further analysis, including the precise form of any prudential rules to bring these mechanisms into effect; the amount of such contingent instruments to require; and the determination of the period over which such requirements would become binding. Other issues include how these mechanisms would relate to other tools in the regulators' resolution toolkit; their incentive effects on market participants, including when conversion seems likely; and the implications for investors holding instruments that are not subject to conversion.

These issues should be addressed as policy-makers around the world continue to debate the set of tools to be included in an effective framework for bank resolution. The framework should recognize the possibility that financial firms can fail, and that they need to be resolved efficiently, in a way that minimizes disruption to the wider economy and reduces the risk of moral hazard. Relying on higher prudential requirements for common equity is undoubtedly part of the solution, as was recently proposed by the Basel Committee. In addition, contingent capital and bail-in debt could improve the capacity of the private sector to contribute to the resolution of failing banks while reducing risks to the public sector and improving the incentives that condition market behaviour.

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