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Eric S. Halperin

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"Even the most carefully crafted regulations cannot ensure that liquidity crises will not happen again. But, if moral hazard is effectively mitigated, and if financial institutions and investors draw appropriate lessons from the recent experience about the need for strong liquidity risk management practices, the frequency and severity of future crises should be significantly reduced."[1]

"A nickel ain't worth a dime anymore."[2]

I. Introduction

The financial crisis unearthed truths that regulators would have preferred remain behind the curtain. This is not a presumptuous statement; Federal Reserve Bank of New York President and Chief Executive Officer William C. Dudley remarked that "the Fed and other regulators, both here and abroad, did not sufficiently understand some of the critical vulnerabilities in the financial system."[3] These exigencies included misaligned incentives, institutional interconnectivity and the rise of shadow banking.[4] Through the lens of hindsight, rules have been proposed to account for prior defects in the system, but to focus solely astern does not assuage the difficulties that lie ahead.

With an eye towards the future, many have speculated on the efficacy of contingent convertible capital (CoCo). Outlined most basically, CoCo could bolster the amount of capital available to systemically important institutions by converting certain debt instruments into common equity under specified conditions. The convertibility of such instruments in times of duress eases the debt burden on banks (or other critical bodies) by creating equity when raising it by other means would be most difficult.

Contingent convertible capital can take a variety of forms. Proposals include Call Option Enhanced Reverse Convertibles (COERCs), enhanced notes, reverse convertible debentures (RCDs) and a host of other derivations. The Basel Committee on Banking Supervision has recognized the importance of this innovation and proposed that all non-common Tier 1 and Tier 2 instruments contain clauses requiring them to be written off in the form of common stock at

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[1] Ben Bernanke, Chairman, Fed. Reserve, Address at the Federal Reserve Bank of Atlanta Markets Conference, (May 13, 2008).

[2] Yogi Berra, The Yogi Book: "I Really Didn't Say Everything I Said!" 19 (1999).

[3] *See* William C. Dudley, President and CEO, Fed. Reserve, Address at the Columbia University World Leaders Forum (Dec. 7, 2009).

[4] *Id.*

the time of a trigger event.[5] However, the American Bankers Association has cautioned that regulations that demand too much may unduly increase the cost of capital to banks and apply too broadly to tiered instruments.[6] The best form of contingent convertible capital likely rests somewhere between these posed extremes.

Part II of this article illustrates the functionality of CoCo at the basic level, providing a hypothetical to illustrate its approach. Part III discusses the various forms CoCo may take, contrasting them through pricing, triggering and other key variables. Part IV presents CoCo in action through two issuances that occurred this prior year. The article concludes by advocating the implementation of CoCo in the financial system, while cautioning that CoCo is but one weapon within the arsenal needed to fortify the creation and use of capital throughout the global economy.

II. THE FUNCTIONALITY OF CONTINGENT CONVERTIBLE CAPITAL

> In late 2002, Professor of Finance Mark J. Flannery prophesied that [i]t is therefore puzzling that firms do not make advance arrangements to re-capitalize themselves if large losses occur. Financial distress may be particularly important for large banking firms, which national supervisors are reluctant to *let fail*. The supervisors' inclination to support large financial firms when they become troubled mitigates the ex ante incentives of market investors to discipline these firms.[7]

This view was affirmed by the actions of the government in late 2008, as firms deemed Too Big to Fail (TBTF) were protected, landing a blow to advocates of market discipline. More recently, Flannery assessed the market and concluded that an alternative channel is needed to induce TBTF firms to prepare for adverse investment outcomes.[8] The rapid movements of a market in both times of health and strain decrease the ability of regulators to exert their influence.[9]

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[5] *See* Basel Committee on Banking Supervision, *Consultative Document: Proposal to ensure the loss absorbency of regulatory capital at the point of non-viability*, issued Aug. 2010.

[6] *See* Mary Frances Monroe, American Bankers Association, *Re: Consultative Document: Proposal to ensure the loss absorbency of regulatory capital at the point of non-viability*, Oct. 1, 2010. Letter from Mary Frances Monroe, Vice President, Office of Regulatory Policy, American Bankers Association to Basel Committee on Banking Supervision, Bank for International Settlements (Oct. 1, 2010).

[7] Mark J. Flannery, *No Pain, No Gain? Effecting Market Discipline via "Reverse Convertible Debentures", in* CAPITAL ADEQUACY BEYOND BASEL: BANKING SECURITIES AND INSURANCE 171 (Hal S. Scott ed., 2005) (emphasis added).

[8] Mark J. Flannery, *Stabilizing Large Financial Institutions with Contingent Capital Certificates* 1 (University of Florida, Working Paper No. 4, 2009), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1485689 (due to regulatory reliance on book accounting values, their knowledge lags the market in times of financial difficulty).

[9] *Id.* at 2.

Firms have fallen short in their ability to remedy self-created predicaments. When injections of capital are most crucial, lenders tighten the purse strings, leaving key institutions unable to meet their obligations and creating contagion that can cripple the economy. Lenders will be wary of assuming new credit as overhang de-emphasizes new debtholders in favor of shareholders who will use increased leverage to strengthen their position. Outside equity holders will likewise refrain from purchasing equity stakes as their funds will be used to meet the debtholders' outstanding obligations. Any fair value that new equity entrants receive will come out of the pockets of the initial shareholders.[10] Valuation further exacerbates difficulties as the asymmetric flow of information limits market knowledge.

It has become a surety that capital requirements will be raised in response to the catastrophe. Yet this response imposes costs to the viability of institutions that are reluctant to tie up their reserves in Tier 1 equity. CoCo instruments afford flexibility that can aid banks and their investors. The securities have the same upside as regular debt. As long as companies operate with vigor and within prescribed capital ratios, the bonds pay contractual coupon rates to their holders. However, should unwelcome circumstances arise, the bonds convert to equity, with the accompanying potential of a total loss in value if a firm is beyond rescue.[11]

Flannery proposes the introduction of contingent capital certificates (CCC) to fill the buffer between debt and equity.[12] An ideal system may have TBTF firms maintaining high ratios of equity to their risky assets, but such an arrangement loses the Federal Tax Code's advantages offered to debt. CCC originates as debt and should receive the same tax advantages in its unconverted state.[13] As long as the CCC remains unconverted, it will continuously provide those tax advantages, making its carrying cost low to the issuing firm.[14] However, once a firm experiences losses, this will upset certain ratios stated in the covenants of the certificate, triggering an automatic conversion into equity. Upon conversion, the ratios can be restored to safe levels without needing to resort to the outside market. The company can remain viable and eventually replenish its supply of CCC to stem any future incursions below the trigger line.

To demonstrate CCCs in action, imagine a market that requires a capital ratio of 4%. Firm A possesses a 5% capital ratio and its CCC covenants demand that Firm A maintain this ratio following any negative movement in the firm's value. Its stock is currently priced at $5, and ten shares are outstanding. The balance sheet also maintains $900 in deposits

[10] *Id.* at 14.

[11] *See* Monroe, *supra* note 6, at 2.

[12] Flannery, *supra* note 8, at 3.

[13] Currently there is no rule covering these contingent securities. If regulators are to favor the introduction of contingent capital, it would be nonsensical not to offer it favored tax treatment.

[14] *See* Flannery, *supra* note 8, at 5.

and $50 in CCC, yielding $1000 in total assets. Due to losses or market downfall, the value of the assets decreases by $30. This loss is assumed by the equity, which is reduced to $20, leaving a capital ratio of 2.06%. This triggers the CCC conversion due to the covenant requiring the capital ratio be maintained at the level of 5%. Thus, $28.50 of CCC will convert into equity, leaving $48.50 in equity, a 5% capital ratio and $21.50 of CCC remaining in store. The firm has been returned to safe operating levels.[15]

After this conversion, the firm's ownership structure has been adjusted. When the assets took their initial hit, equity decreased in value from $5 to $2 a share (the $30 loss divided by ten shares). In return for the use of their CCC, the prior debt holders now receive shares commensurate with the market value at the time of conversion. Thus, the $28.50 conversion warrants 14.25 shares of stock, which represents nearly 60% of the ownership stake. The former debtholders may now maintain this stake (if so authorized by regulation) or sell their shares on the open market.[16]

Having illustrated its basic operation, the effect of contingent capital is readily evident. TBTF firms attain the ability to recapitalize via their internal financial structure. This ability averts the likelihood of failure and, with diligent assessment of the capital ratios, conversion can be seamlessly achieved (potential manipulations of the stock price will be addressed *infra*). Existing shareholders bear the brunt of the loss, as their stake is diluted by the new equity holders. This outcome is a preferable alternative to government assumption of shares or a complete loss of share value through liquidation, as these shareholders have failed to properly monitor their investment and allowed the firm's capital ratio to deteriorate. The existing shareholders maintain a stake in the company and can then reassess management structures and business strategies. Unlike unsecured debtholders in reorganization, any loss to CCC holders will be minimal and anticipatable. The use of CCCs avoids the drudgery of reorganization, and the certificate holders are able to recoup their value either through their equity stake or by selling the shares on the open market. Senior debtholders are undisturbed.

Flannery summarizes his proposal thusly: large financial firms need to maintain sufficient equity to render the possibility of default unlikely. The equity can satisfy one of two standards: "[c]ommon equity with a market value exceeding 6% of some asset or risk aggregate" or "[c]ommon equity with a market value exceeding 4% of total assets, provided [the firm] also has CCC debt that converts into shares if the firm's equity market falls below 4% of total assets and the CCCs represent at least 4% of assets."[17] The CCC would convert the day after market shares fall below the 4% level, and enough CCC will convert to

[15] This example has been drawn from Flannery, *supra* note 8, at 5-6.

[16] Flannery, *supra* note 8, at 5-6.

[17] Flannery, *supra* note 8, at 9.

leave the common equity market value as 5% of the on-book assets. The converted debt's face value purchases common shares based on the market price at conversion and the store of CCC should be replenished in time.[18]

III. PROPOSALS FOR STRUCTURING COCO INSTRUMENTS

The above criteria provide the general sketch of CoCo's potential use. The market can tailor the security to meet the needs of any individual firms or regional markets. This section outlines a variety of proposals, highlighting their individual strengths and weaknesses. The selected proposals are all notable for having garnered discussion in the field, but do not account for the myriad possible permutations, as feasible CoCo variations are virtually endless.

A. Determining the Conversion Trigger

1) The Market Value Trigger

In conjunction with the above outline setting the pricing condition at time of sale, Flannery urges a market value conversion trigger. The direct benefit of this trigger is that it should reflect changes as they occur, which measures such as GAAP standards omit due to the delay in processing information. Flannery fears that a trigger based on a GAAP equity value, rather than the market value, would permit manager manipulation, and would ultimately delay the conversion, perhaps to a point where the firm's true value would leave it insolvent.

Flannery emphasizes that a market value trigger concerns only the individual firm, rather than the market at large. Other schemes (addressed *infra*) would wait until regulators declare a systemic crisis or for financial firms' indices to fall in addition to the individual firm's price. Waiting for secondary signals from the market at large may in fact allow certain firms to fail. Such a result is incongruent with the goal of CoCo, which is to stave off insolvency without requiring outside bailouts from the government.

2) The Micro-level and Subjective Macro-level Dual Trigger

A proposal put forth by the Squam Lake Group (alternatively, the "Group")[19] states that conversion of CoCo should occur only upon the occurrence of two conditions: a declaration by regulators that the financial system is undergoing a systemic crisis and a bank's violation of

[18] Flannery, *supra* note 8, at 10.

[19] This group is a "non-partisan, non-affiliated group of 15 academics who have come together to offer guidance on the reform of financial regulation." *See* The Squam Lake Group, http://www.squamlakegroup.org/ (last visited Nov. 17, 2010).

covenants in the hybrid-security contract.[20] The Squam Lake Group justifies the double trigger based on the disciplining force that debt has on management. From the Group's perspective, allowing debt to transform to equity whenever there are losses undermines the disciplinary nature of debt by moving the obligation to meet coupon payments off the ledger. A corollary to this harsher treatment is that in dire times, but before a crisis is declared, no recapitalization will occur and banks may be left to fail. The Group proposes setting the bank-specific trigger as the ratio of Tier 1 capital to risk-adjusted assets.

The secondary trigger, declaration of systemic crisis, should not, by any means, be justification in itself to recapitalize. So long as firms are operating at levels above the covenanted trigger, there is no need to jump the gun on conversion. The Squam Lake Group argues that an objective trigger is a poor substitute for regulatory discretion due to the imprecise nature of the time-lagged data used by firms (note that this presumes some book-based, rather than external market value, reliance).[21]

Flannery critiques this methodology as inherently contradictory. Waiting for the declaration of systemic crisis substantiates that a firm is in fact systemically important. Allowing such a firm to fail may itself create contagion and counter the very premise of CoCo proposals.[22] As a declaration of systemic crisis is likely to encourage runs and sell-offs, those with the responsibility of proclaiming such an urgent state of affairs face incentives to delay a declaration in hopes of avoiding the negative consequences. Such a delay jeopardizes the remaining deteriorating TBTF institutions that are left to suffer while awaiting clearance to enact their ready-made contingency plan. This inaction may serve as the death knell for the struggling entities rather than the life raft meant to keep them afloat when the market ceases to offer aid.

3) The Dual Market Trigger

Robert McDonald also promulgates a dual trigger conversion using the individual firm's stock price and the value of a financial institution's index.[23] Despite its dual quality, McDonald's approach is much more harmonized with the market reliance of Flannery's CCC than the dual trigger of the Squam Lake Group. McDonald imagines a bank with a $100 stock price and a financial firm index also valued at $100. The bank issues 5-year, $1000 par bonds with a 6.25% interest rate. The trigger occurs when the stock price of the bank plummets below $50 and the financial index falls below $90.

[20] *See* Squam Lake Working Group on Financial Regulation, An Expedited Resolution Mechanism for Distressed Financial Firms: Regulatory Hybrid Securities 4 (April 2009) (working paper), *available at* http://www.squamlakegroup.org.

[21] *Id.*

[22] Flannery, *supra* note 9, at 12.

[23] Robert L. McDonald, *Contingent Capital with a Dual Price Trigger* (Feb. 15, 2010) (working paper), *available at*http://papers.ssrn.com/sol3/papers.cfm? abstract_id=1553430.

The gains from such a trigger include setting conversion in motion only upon widespread decreases in firm value across the sector. This allows an institution to fail if the broader industry continues to perform well. It eliminates the need for regulatory involvement, with its accompanying subjective determinations and political pressures, and avoids reliance on accounting rules and stated assets.

Yet it is unclear if a gain is truly achieved by letting a TBTF bank fail. McDonald poses the quandary of a financial index that will fall below the trigger only if an institution is left to fail, while the firm itself can only fail if CoCo is not triggered.[24] He acknowledges that in such a scenario, the index would never descend below the trigger because the market would know that such a falling would trigger the conversion, saving the firm. This scenario presents the odd circumstance of a firm teetering on the edge of rescue, but nonetheless failing because the rescue would commence only upon a trigger that would never be pulled, as the market's faith in the rescue prevents the index from dropping below the predetermined value. This clash begets the question of why a TBTF institution should ever be prevented from undergoing a CoCo conversion when conversion can mitigate danger to the financial system and spare the overwhelming burden of a reorganization or liquidation.

B. Pricing the Conversion

No matter the triggering condition, at some level each set of CoCo securities may convert to equity upon a given set of circumstances. The determinants behind the pricing upon conversion present the clearest opportunities for manipulation at the hands of speculators and possessors of CoCo bonds. This does not, however, suggest that regulation should set the conversion price level; if treated properly, the market should be able to attain workable pricing schemes that enthuse investment. This section outlines a variety of such methodologies, highlighting the advantages and disadvantages inherent in each.

1) Market Value Pricing

The conversion based upon present market value was presented above.[25] At the time of conversion, the face value of the debt converts into an equivalent share value, priced at the current market value. If the market trades the firm at $5 and the CCC of the firm is $50, the CCC holders receive ten shares. The most direct benefit to this scheme is that it compensates CCC holders at very safe levels; they will not find their certificates shriveled by the firm's troubles. This may allow for coupon rates at low values, indicative of the safety of the instruments.

[24] *Id.* at 6, n. 9.
[25] *See supra* note 15.

The most immediate effect of this market value pricing will be dilution of current shareholder value. The influx of additional shares issued by the firm lowers the overall price per share. Some theorize that the downward value movement could lead to a death spiral. Speculators may buy CCC, short the stock, and then receive under-valued shares upon conversion.[26] One study evaluating convertible debt and preferred stock issued by firms between 1994 and 1998 found many failed firms would have done so with or without the death spiral; their precarious solvency received temporary gains from converted securities but nonetheless failed.[27] However, the failing firms tended to be younger, smaller firms. Comparatively, this discussion focuses upon TBTF firms with massive capital structures and much less susceptibility to manipulation.[28]

Nonetheless, Flannery proposed three adjustments to the structure that can offset any potential short-selling gains. The first demands that the trigger be based on five to ten consecutive days of share prices, rather than one descent below the covenanted value.[29] The second adjustment selects the CCCs that will convert by lottery to prevent short-sellers from knowing that their security would be selected. The third changes the law, banning interested CCC holders from short-selling the underlying stock.[30] The latter solution begets the most difficulty and would require regulatory refinement before implementation, while the first two solutions offer more feasible options for this conversion value technique.

2) Fixed Share Pricing

The Squam Lake Group views Flannery's pricing scheme warily, noting the opportunities for manipulation through shorting the stock. Using a wider range of daily stock prices to set the trigger invites management to purposefully spark the covenants during a systemic crisis to force conversion at a sale price that is not amenable to stockholders.[31] In response, the Group proposes pricing the conversion at a preordained quantity of equity shares.[32] This would fix the number of shares received at the time of the certificate's issuance, avoid death spirals and dampen management motivations to purposefully trigger conversion, unless the stock price greatly cedes ground to the bond payments. In such times, the company would likely be in need of recapitalization due to its poor

[26] Flannery, *supra* note 8, at 18.

[27] *See* Pierre Hillion and Theo Vermaelen, *Death Spiral Convertibles*,7 J. FIN. ECON. 381-415 (2004), available at http://papers.ssrn.com/sol3/papers.cfm? abstract_id=273488.

[28] Flannery, *supra* note 8, at 19.

[29] This can also help prevent against Flash Crashes like that of May 6, 2010. *See generally* Tom Lauricella and Scott Patterson, *Legacy of the 'Flash Crash': Enduring Worries of Repeat*, WALL ST. J., Aug. 6, 2010, at A1.

[30] *See* Flannery, *supra* note 8, at 20.

[31] *See* Squam Lake Group, *supra* note 20, at 5.

[32] Squam Lake Group, *supra* note 20, at 5.

performance, so the intentional triggering may serve to help stockholders.[33]

McDonald also presents a fixed-share quantity conversion to accompany his dual price trigger.[34] Because of the delay in time between the trigger and subsequent conversion, he finds it likely that the price per share at conversion will decrease below the trigger value. Returning to his prior example, the stock price may fall below $50, but continue to decline to a value around $48. If CoCo holders were entitled to twenty shares no matter the market price at conversion, they would suffer decreased value compared to their bond at par. They too would demand higher interest rates to recompense this loss.[35]

A fixed-share quantity conversion should be less susceptible to profitable manipulation than a fixed-dollar conversion. McDonald and the Squam Lake Group seek to limit the potential for such rent-seeking through the fixed-share quantity conversion. With a fixed-dollar schema, similar to Flannery's, CoCo holders can gain by artificially manipulating share prices low enough to trigger conversion while reaping the subsequent gains as the stock returns to its true value. The lower the share price is manipulated, the greater the gain will be. To further limit the potential for manipulation, McDonald proposes employing a conversion premium. Instead of the initial covenant allotting twenty shares for the $1000 par bond with a trigger at $50, the bond can convert to nineteen shares with the same trigger value. If a bondholder attempted to force conversion by bringing the price from $51 to $49, they would recoup only $931 from their initial $1000 par. Manipulation would not be profitable unless the share price were significantly above the trigger value, in this case $2.63 a share,[36] requiring the value to be at least $52.63 to make manipulation profitable. Inspiring such a downward trend could be tremendously costly to market manipulators, and markedly so if their security remained subject to lottery before conversion.[37]

The fixed-share quantity conversion mechanism may provide a disincentive to potential buyers of convertible debt. Instead of receiving a conversion amount equivalent to the value of their holdings, they may be forced to convert into a fixed quantity of shares. This fixed amount may come at a time of rapid diminution in share value, presenting a much greater burden to the CoCo holders who will suffer their allotment of the firm's losses. Higher coupon rates would be necessary to compensate for the additional risk. CoCo investors, averse to receiving value below their regular payments, would have the added positive incentive to enhance monitoring of the firm's performance, due to the allocation of loss now portioned between shareholders and debtholders.

[33] Squam Lake Group, *supra* note 20, at 5.
[34] *See* McDonald, *supra* note 23, at 4.
[35] McDonald, *supra* note 23, at 5.
[36] ($1000-$950)/19 shares.
[37] *See* McDonald, *supra* note 23, at 11.

Management's feet would be held closer to the fire by increased discount rates. However, whether a market for such a security can emerge is still uncertain, and the peril of investors losing interest in CoCo makes a fixed share quantity conversion too risky to currently advocate.

3) Option Pricing

The potential for market manipulation has inspired an alternative form of CoCo securities, Call Option Enhanced Reverse Convertibles.[38] A COERC has two distinguishing features: it sets the conversion price significantly below the trigger price and allows shareholders an option to buy the shares back from CoCo holders following the conversion. These features combine to incentivize shareholders to exercise the call option and repay the securities at par value.[39]

A hypothetical COERC possesses a trigger price of $5 and a conversion price of $1. The highly leveraged firm at issue has assets of $1100, consisting of $1000 in secured debt, $30 in CoCo and $70 in equity. The equity is divided into seven shares, yielding a stock price of $10. Should the stock be manipulated to the $5 level, bondholders would convert their $30 of CoCo into thirty shares of $1 stock. This presents an overall equity structure of thirty-seven shares, with a non-manipulated value of $2.70.[40] The existing shareholders would immediately seek to exercise their call option, buying back these new shares at the $1 price. Should they neglect to exercise their option, their equity value falls from $70[41] to $18.92,[42] a loss of $51.08. Instead, by buying back the shares at $1, they reap a gain of $51.[43] The shareholders prevent dilution and the CoCo holders retain par value on their investment.

Juxtapose the above manipulation price to a scenario of financial distress causing the true value of the stock to drop to $5. At this point the CoCo again converts into thirty shares priced at $1, but now the value of the overall equity is just $1.76 a share.[44] Again, the shareholders would exercise their call option to buy back the shares, obtaining a gain of $22.80.

In every scenario that values the diluted stock price over $1, the shareholders will exercise the call option. The CoCo holders will be repaid in full. This would not occur if the price was set at the trigger

[38] *See* George Pennacchi, Theo Vermaelen & Christian C.P. Wolff, *Contingent Capital: The Case for COERCs* 3 (INSEAD, Working Paper 2010/89/FIN, 2010), *available at* http://papers.ssrn.com/sol3/papers.cfm? abstract_id=1711021.

[39] *Id.* at 9.

[40] *Id.* at 10-–11. This demonstration assumes the manipulation drove the stock to a level below its true value. To get $2.70, the $70 of equity and $30 of converted CoCo are divided by the number of shares.

[41] $7 x 10.

[42] $7 x 2.70.

[43] The $81 (30 x 2.70) true value minus the $30 (30 x 1) exercise price.

[44] *Id.* This consists of the thirty new shares, the $30 value of the new shares, and the $35 value of the old shares, divisible by the total number of shares.

value; in such a situation, the shareholders would only exercise the call when the fully diluted stock price exceeds the trigger, an unlikely scenario unless speculators are able to impact the price through manipulation.[45]

The COERC option mitigates both the risk to CoCo holders inherent in a fixed quantity conversion and the associated incentives to monitor management. It also prevents the dilution of ownership that Flannery discussed. Yet, by not allowing for a revised ownership structure, familiar stakeholders maintain their position in a company experiencing difficulty (a fact gleaned from triggering). The COERC proposal notes that to set conversion at low stock prices, significant increases in authorized shares will be necessary.[46] Upon conversion, the company will essentially have two options: deliver the shares or repay the debt (through the shareholder's call option). There are added difficulties to either option, as many countries limit the percentage of shares that can be repurchased or impose taxes upon buy-backs. If regulators created loopholes for these contingent convertibles, such difficulties could be avoided.

IV. COCO IN ACTION

While there is limited empirical evidence to document the potential of contingent convertible capital in TBTF firms, multiple studies have assessed the proper trigger points and benefits to a firm's capital structures. Two major issuances in recent years explored the demand for, and structure of, contingent convertible capital instruments. This section surveys these studies before setting out the features of the first splash of contingent convertible capital.

A. Viability of Using CoCo

The viability of CoCo's addition to a corporation's capital structure must be examined before any mass movement towards its incorporation. A 2010 study endeavored to fulfill this mandate and ultimately determined that CoCo allows firms to recapitalize automatically and dependably in times of distress.[47] The study set a single trigger at a market measure of solvency, kept the conversion terms as a contract parameter to be chosen, and operated on the assumption that interest payments on CoCo would be tax deductible in its unconverted state.[48]

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[45] *Id.*

[46] *Id.* at 13.

[47] *See* Boris Abdul, Dwight M. Jaffee, and Alexei Tchistyi, *Contingent Convertible Bonds and Capital Structure Decisions* 47, Paper presented at the Federal Reserve Bank of Atlanta 2010 Financial Markets Conference, "Up from the Ashes: The Financial System after the Crisis," Atlanta, May 11–12, 2010.

[48] *Id.* at 3.

The study found firms will always gain from keeping CoCo in the capital structure due to its tax advantages. As a corollary to this determination, it is presumed CoCo substitutes for straight debt and not equity, to gain from the regulatory safety. Equity holders are likely to disfavor the swap of CoCo for debt, as the gain will primarily accrue to owners of the existing debt rather than shareholders.[49] Bondholders at TBTF institutions may rightly believe their bonds are risk-free, as insolvency would be neglected in favor of bailouts. Introducing CoCo to the capital structure reduces this government subsidy by minimizing the cost of bailouts, a benefit to taxpayers.

Confirming prognosticators' suspicions, the study found CoCo creates an incentive for market manipulation. However, this manipulation is only fruitful if the ratio of equity conversion value to CoCo value is sufficiently high to make the exchange profitable. Conversely, existing equity holders have inverse manipulation goals and will seek to trigger the covenants only if the ratio of equity conversion value to CoCo value is low enough to enable the shareholders to profit.

To maximize regulatory benefits, CoCo must substitute for straight debt in the capital structure. The absence of this allowance would see any gains lost, as the burden of debt would remain the same. The higher the conversion trigger threshold, the greater the subsequent gains; this will move firms into more solvent positioning early enough to potentially beat back systemic distress. But to achieve these results, there must be sufficient incentives for firms that will face resistance from equity holders who may ultimately be diluted while losing the gains from their expected government bailout subsidy. Finally, the benefits may be heightened if CoCo bonds could convert in a sequence of triggers and ultimately be replaced in the capital structure. Both of these assumptions are in line with Flannery's initial theorem.

A second study led by Giuseppe De Martino also sought to understand whether CoCo can provide a measurable benefit.[50] The study focused on the top fifteen banks in total assets within eight countries[51] from 1994 to 2009. The sets of triggers used as the variables included the micro-level Tier 1 ratio, total capital ratio, leverage ratio, abnormal returns, return on equity, the macro-level banking index returns over different terms and the normalized real interbank rate. Controlling for years where triggers may be set-off doubly,[52] the study found the double trigger based on total capital ratios would be hit too often to be effective, especially in European countries.[53] Thus, the Tier 1 ratio acted as the more reliable indicator, with a 5% threshold serving the purpose of the

[49] Abdul et al. acknowledge that this is the classic debt overhang problem.

[50] *See* Giuseppe De Martino, Massimo Libertucci, Mario Marangoni and Mario Quagliariello, *Countercyclical Contingent Capital (CCC): Possible Use and Ideal Design*, Bank of Italy Occasional Paper No. 71, Sept. 30, 2010.

[51] Canada, France, Germany, Italy, Spain, Japan, the United Kingdom and the United States.

[52] This would be unlikely due to the initial recapitalization upon triggering.

[53] De Martino et al., *supra* note 50, at 18.

instrument. For United States, United Kingdom and Canadian banks, the study determined that, due to historically high capital ratios, different eligibility standards would be required, such as market-based triggers. Ultimately, the assessment established that market-based triggers worked more accurately than prudential indicators.

As discussed, the benefits of market-based triggers diminish when accounting for the tradeoff between greater volatility and risks of manipulation.[54] Ultimately,it is likely that individual countries can best specify ideal triggers and conversion mechanisms for their particular needs. This avoids accounting for diverse regulatory regimes and non-correlated market soundness.

B. Lloyds Banking Group and Rabobank Case Studies

In November 2009 the Lloyds Banking Group sought to exit the United Kingdom Government Asset Protection Scheme (GAPS) by exchanging existing securities for instruments labeled Enhanced Capital Notes (ECNs). In all, the proposal encompassed a £13.5 billion rights issue, with a £7.5 billion exchange offer.[55] The insurance provided by the instrument was conversion into core Tier 1 capital in times of severe stress. The instrument raised the Core Tier 1 ratio to 8.6% and offered a leading market position by converting to equity if the published Core Tier 1 ratio falls below 5%.[56] The ECNs would be exchanged on a par for par basis with an enhanced coupon rate. The new ECNs were treated as Tier 2 at issue, and the conversion price was set at the higher of a five day value weighted average price or 90% of the closing price as of November 17, 2009. However, the instrument was given Tier 1 quality for stress test capital calculations.

As many of Lloyds existing securities were subject to deferred or suspended coupon payments, the issuance was unsurprisingly successful. The coupon rate was set at a figure between 1.5% and 2.5% higher than the exchanged note. The design of the exchange eased exit from participation in GAPS, and investor interest was overwhelming enough to require expansion of the offering.

Rabobank issued its own Senior Contingent Note (SCN) in March 2010, priced at a premium over subordinated debt, with the issuance valued at a higher-than-expected €1.25 billion to meet demand.[57] Both Rabobank's and Lloyds' instruments maintained ten year coupons and premium pricing. However, the structure of conversion was altogether different. Until conversion, Rabobank's notes were treated as senior

[54] De Martino et al., *supra* note 50, at 24.

[55] *See* Lloyds Banking Group, *Rights Issue and Capital Enhancement Proposals*, Nov. 3, 2010.

[56] This raised concerns about the accounting measure used by the notes. *See* Darrell Duffie, *A Contractual Approach to Restructuring Financial Institutions* in ENDING GOVERNMENT BAILOUTS AS WE KNOW THEM 109-124 (George Schulz, Kenneth Scott, & John Taylor eds., 2010).

[57] Press Release, Rabobank, Rabobank Successfully Issues Senior Contingent Notes (Dec. 3, 2010), http://www.rabobank.com/content/news/news_archive/005-RabobanksuccesfullyissuesSeniorContingentNotes.jsp (last visited Mar. 12, 2010).

unsecured bank debt; however, at a trigger of accounting bank equity/RWA (risk-weighted assets) ratio of 7%, the instruments are written down to 25% of their face value. Holders of the notes receive 25% of the face value plus accrued interest. The senior notes are not recognized for regulatory purposes (in contrast to the Tier 1 stress test treatment of ECNs).

In many ways the SCN diverges from the earlier proposed forms of CoCo; there are neither share issuances nor dilution of shareholder value, thus removing any upside from the note holders. Yet the purpose remains the same. Both forms of note remove debt obligations from bank ledgers, allowing continued operation in times of stress.

V. THE NEED FOR CONTINGENT CONVERTIBLE CAPITAL

The recent failing of venerable financial institutions opened the world's eyes to various types of reform. Titans of the industry are now in the throes of bankruptcy proceedings, the pockets of taxpayers or the stages of recovery. Innumerable propositions for reform have circulated, and there is no clear, tidy solution. Amongst the pockets of proposals and resolutions, contingent convertible capital has emerged as a feasible component to efficient recapitalization in times of distress.

The Federal Reserve, the Basel Committee of Bank Supervisors and leading bankers have all spoken in favor of adopting some form of CoCo.[58] Switzerland became a primary nation to fully endorse the idea, proposing that the country's biggest banks be mandated to hold capital equivalent to 19% of their risk-weighted assets, of which 9% can be in the form of CoCo.[59] Though Switzerland's increased capital reserves is a noble idea, it is also an expensive one for banks. In the United States, the need for higher reserves should be tempered through contingent convertible capital.

CoCo provides benefits both in expansions and contractions of the economy. Implementing contingent convertible capital is an affordable solution in boon times. The excess premiums should be tax deductible, and the debt will serve investors and shareholders by diminishing the overall cost of capital in comparison to a pure Tier 1 equity standard. In strained times, well-structured triggers can allow for near seamless recapitalization. If companies hold ample reserves of CoCo, they can convert these reserves into Tier 1 equity to offset the losses and distresses on the system.

Having reviewed many of the various formulations of CoCo, the instrument should rely on purely objective measures. There is no need for a uniform standard across banks or nations; the necessity is to

[58] *See generally* Damien Paletta, *Idea to Prevent Next Banking Bust*, WALL ST. J., Sept. 27, 2010, at A2.

[59] *See* Simon Nixon, *Switzerland Goes Cuckoo for CoCo Bonds*, WALL ST. J., Oct. 5, 2010, at C10.

minimize manipulations by outside actors and interested rent-seeking agents. This should not involve reliance on declarations of systemic crises, as the Squam Lake Group's macro-proposal advocated. There is no need to risk the failure of systemically important institutions when recapitalization can slow liquidation or impede runs. The reason to raise contingent stockpiles is not to hold them until maturity in dire times. Doing so may cause the crash of important institutions, and the crash of any one institution can bring down the financial system through spreading contagion.

A single trigger should sufficiently meet the needs of the instrument. Actors with the most knowledge of their institutions should determine the selection of this trigger. Whether the device is overall equity levels, market prices, Tier 1 capital ratios or some other measure, it is clear that accounting values will suffer too much lag to properly repel recession. Uninformed observers should not gauge the ideal amount of CoCo needed, but a level near the Tier 1 ratio would allow for ready recapitalization.

Manipulation can be limited by weighing the price level for conversion over a series of days. While this creates the possibility of undue delay, a severe one day drop or flash crash should not beget errors of unnecessary conversion.[60] Such weighing should increase the costs of manipulation, preventing value hunters from driving up (or down) price levels to pinpoint ideal conversion moments.

To further abate manipulation, the troubled institution's selection of which CoCo bonds to convert must limit the zeal of CoCo holders seeking to force conversion at favorable rates. Bonds nearest to maturity should not be the first converted. Frequent retranching may be a solution, as could tiering CoCo issues by proximity to selection. Offering higher coupon rates to the first to convert may limit their yield through conversion. There is no need to overly police the amount of CoCo on reserve, as more kept in store will only increase the buffer for hard times. CoCo should not generate death spirals through runs on the institutions to a higher degree than present runs. Even if manipulation is successful and the covenants are triggered, existing shareholders would lose by selling before the shares return to their proper pre-manipulation valuations.

The COERC note would require refinement before implementation, but its appeal to shareholder action is a noble concern that should place management's feet closer to the flame. Fixed quantities of shares upon conversion also may dampen the enthusiasm of CoCo investors, who would likely want to limit their loss to feasible levels in case of conversion at miniscule share prices. For these reasons, pricing the conversion at face value of the debt instrument appears most feasible. To

[60] Although these errors could be remedied through repurchase of the new equity issue, subject to existing or modified regulation.

combat manipulation, tools such as McDonald's conversion premium could be effective without causing severe diminution of CoCo par value.

Excess stockpiles of CoCo will no doubt upset equity holders. They will be aware of the potential for share values to be diluted and will seek to prevent conversion in all but the most perilous times. Relying on the market may somewhat appease this scenario, but at some level shareholders will impact the process. From the view of outside taxpayers, it is prudent to punish the shareholders in bad times for their failure to monitor and oversee the managers of firms. Dilution thins share values but protects the nation at large by reducing or eliminating its bailout burden. Avoiding the need for rescue is the goal of any new regulation, and to have it come at the expense of shareholders is no cruel circumstance when compared to the moral hazard intrinsic in an influx of outside aid.

Secured bondholders and depositors are unlikely to realize any new gains or losses from contingent arrangements. Their interests are protected in times of bankruptcy and will likewise be safe before and after conversion, with new equity available to meet regular interest obligations.

Managers may be jeopardized by the potential for CoCo conversion, as new stockholders may voice their displeasure by replacing ineffective agents. If the triggering spurs dilution, a set of diverse interests can detract from the operations of an institution. The establishment of new stockholders will not immediately coincide with a swift replacement of incumbent management, who may begin to prepare their parachutes. To avoid efficiency losses, the new stockholders may best be served by giving current management the opportunity to remedy their precarious position. These interests will differ from firm to firm and scenario to scenario but cannot be eased with ex ante recommendations.

It must be reemphasized that properly structured CoCo would, like many debt instruments, simply be held to maturity. Triggers will not be set at levels that prompt frequent and tumultuous conversions. The salvage mechanism behind the hybrid instruments is one saved for infrequent and notorious economic troubles. The device affords institutions time to remedy losses without resorting to the hesitant outside market and can eventually rectify mismanagement if new shareholders positively exert their influence. In standard non-recessionary times, CoCo can also act as a barometer of the riskiness of TBTF firms, as their accompanying premiums will rise or fall in conjunction with the institutional hazards as assessed by the market.

VI. CONCLUSION

There is no better time than the present to continue the emergence of CoCo in the market. The securities will not save every firm, as no amount of equity can shield certain crippling losses. Yet the risk of contagion can be decreased by recapitalizing viable institutions.

Regulators or banks may continue to find ways to limit manipulation. Attacking short selling by interested CoCo holders and preventing TBTF firms from holding their contemporaries' CoCo could become effective policies in time. But as the Dodd-Frank Act proceeds towards new capital standards and the imposition of living wills, contingent convertible capital should be a functional engine to propel progress in the financial sector.