

COCOS CAN DRIVE MARKETS CUCKOO

by
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Bank-issued contingent-convertible capital instruments (known colloquially as “cocos”) are assumed to be a less costly substitute for common equity that will improve the stability of banks in a crisis situation. However, cocos are new and untested instruments. In a future financial crisis they are likely to incentivize behaviors and trading strategies (notably panic selling, short selling, and the use of credit default swaps) that have the potential to harm confidence in banks. Without confidence, banks will have difficulty funding themselves and the likely consequences of bank difficulties (credit crunches and possible bailouts) will be felt by society at large. This should make regulators exceedingly wary of endorsing the use of cocos. Indeed, many of the supposed benefits of using cocos instead of ordinary common equity for regulatory capital purposes appear to be illusory: to best preserve systemic stability, regulatory capital requirements should therefore be satisfied with common equity rather than cocos.

I.	INTRODUCTION	126
II.	REGULATORY CAPITAL	129
III.	THE RISE OF COCOS	133
	A. <i>Regulatory Capital and Convertibility</i>	133
	B. <i>Uncertainty About Cocos</i>	134
	C. <i>National Implementation of Contingent Capital Standards</i>	136
	D. <i>Market Sentiment Toward Cocos</i>	139
IV.	CONFIDENCE IS ALL-IMPORTANT	140
	A. <i>Why Confidence Is So Vital</i>	141
	B. <i>Runs on Deposits</i>	143
	C. <i>Runs on Other Sources of Funding</i>	145
	D. <i>The Run on Bear Stearns</i>	147
V.	THE DESTRUCTION OF CONFIDENCE	149
	A. <i>Panic Selling</i>	150
	B. <i>Short Selling</i>	150
	C. <i>Credit Default Swaps</i>	153
	D. <i>The Destruction of Confidence</i>	155
VI.	COCOS CAN DRIVE MARKETS CUCKOO	156
VII.	EQUITY OVER COCOS.....	163
VIII.	CONCLUSION AND RECOMMENDATIONS.....	167

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I. INTRODUCTION

In late 2008, in the depths of the Financial Crisis,¹ blogs and hair salons were buzzing with talk of complex and esoteric financial instruments that no one had heard of only a few months earlier.² Few had anticipated that things like “credit default swaps” even existed, let alone had the potential to have such a significant impact on people who had no connection to the banking industry.³ Now, in the wake of the Financial Crisis, new types of financial instruments are evolving that could have equally important ramifications for the lives of everyday people. One such type of instrument is the bank-issued contingent-convertible capital instrument (known colloquially as a “coco”), which has started to gain popularity in the last few years.⁴ Cocos have not been tested in any financial crisis and in a future crisis they are likely to interact with other financial instruments and incentivize trading strategies in a myriad of complex ways that can destroy confidence in banks. If these cocos cause significant damage to confidence in banks, the likely consequences of that damage (credit crunches and possible bailouts) will be felt by society at large. This should make regulators exceedingly wary of endorsing the use of cocos.

Simply put, a “coco” is a debt instrument (like a bond) issued by a bank.⁵ A coco will remain a debt obligation of the bank, unless a contractually pre-defined (and reasonably unlikely) “trigger event” occurs.⁶ In that case, the coco will automatically convert into equity shares in the issuing bank.⁷ Banks have become increasingly interested in cocos because of new international standards, formulated in the wake of the Financial Crisis, that require banks to hold larger amounts of what is

¹ In this Article, the financial crisis of 2007–08 will be referred to as the “Financial Crisis.”

² See, e.g., *The Truth About the US Economic Crisis and Credit Default Swaps—Derivatives—Processes and Insanity*, CRICKETDIANE’S WEBLOG (Sept. 24, 2008, 9:36 AM), <http://cricketdiane.wordpress.com>; *Next Crisis: Credit Default Swaps*, NORMXXX RUMINATES (June 8, 2008, 2:38 PM), <http://normxxx.blogspot.com>; *Credit Default Swaps—The Financial Weapons of Mass Destruction*, MEDIA GUERRILLA (June 17, 2008, 4:28 PM), <http://xkorpion.wordpress.com>.

³ See Thomas A. Fisher, *Lehman CDS Auction Should Reveal Winners and Losers*, FFS BLOG (Oct. 10, 2008), <http://ffscambridge.com/blog>; Steve Sailer, *Credit Default Swaps and Moral Hazard*, VDARE (Jan. 2, 2009), <http://www.vdare.com/posts>.

⁴ See Ceyla Pazarbasioglu et al., *Contingent Capital: Economic Rationale and Design Features* 4 (Int’l Monetary Fund, Staff Discussion Note No. SDN/11/01, Jan. 25, 2011).

⁵ *Id.*

⁶ See *id.* This is the definition of “cocos” used by the International Monetary Fund (IMF). It should be noted that this definition is not universally accepted. For example, as discussed in Part III.C below, the Swiss regulators use the term “coco” to describe instruments that include a write-down feature (these would not be included in the definition of “cocos” used in this Article). Some other commentators are imprecise and do not make it clear whether or not they consider instruments with a write-down feature to be cocos.

⁷ *Id.*

known as “regulatory capital”: cushions of equity and equity-like instruments that are intended to make banks stronger and better able to absorb losses and withstand future crises.⁸ But banks do not like to keep large amounts of equity on their books—they would generally prefer to fund themselves with debt, which banks view as a cheaper option.⁹ Some international and national authorities have taken the view that cocos, which are hybrid debt-equity instruments, are the best of both worlds: cocos are thought to be cheaper than equity, but more loss-absorbent than debt.¹⁰ As such, these international and national authorities support the use of cocos by banks to satisfy some of their regulatory capital requirements.¹¹

However, proponents of cocos have not given sufficiently detailed consideration to how cocos are likely to interact with other parts of the financial system in a crisis situation. The novel and distinguishing feature of cocos is that they contain a contractual mechanism which provides for automatic and irreversible conversion from debt to equity upon the occurrence of a trigger event.¹² Although the occurrence of a trigger event is unlikely, if it does occur, the nature of the coco will change fundamentally (from debt to equity): there is no room for moderation in the conversion.¹³ Markets will therefore look on a potential conversion with great trepidation—if signs are pointing toward conversion, then market confidence in the bank that issued the coco is likely to be damaged. If confidence is damaged, then this will prompt panic selling, short selling, and the use of credit default swaps (CDSs). These activities

⁸ *Base Camp Basel: Regulators Are Trying to Make Banks Better Equipped Against Catastrophe*, ECONOMIST (Jan. 21, 2010), <http://www.economist.com/node/15328883> [hereinafter *Base Camp Basel*].

⁹ Anat Admati et al., *Fallacies, Irrelevant Facts, and Myths in the Discussion of Capital Regulation: Why Bank Equity Is Not Expensive*, at 39 (Rock Ctr. for Corp. Governance at Stan. U. Working Paper Series No. 86, Stan. GSB Res. Paper No. 2063, Mar. 23, 2011).

¹⁰ Thomas A. Humphreys & Anna T. Pinedo, *Is It a Bird? A Plane? Exploring Contingent Capital*, BUTTERWORTHS J. INT’L BANKING & FIN. L., Feb. 2010, at 67.

¹¹ See LOUISE PITT ET AL., GOLDMAN SACHS GLOBAL MKTS. INST., *CONTINGENT CAPITAL: POSSIBILITIES, PROBLEMS AND OPPORTUNITIES* 7 (2011); Gregg Rozansky, *The Loss Absorbency Requirement and “Contingent Capital” Under Basel III*, HARV. L. SCH. FORUM ON CORP. GOVERNANCE & FIN. REG. (April 24, 2011, 7:45 AM), <http://blogs.law.harvard.edu/corpgov/2011/04/24/the-loss-absorbency-requirement-and-%E2%80%9Ccontingent-capital%E2%80%9D-under-basel-iii/#5>; SWISS FIN. MKT. SUPERVISORY AUTH. FINMA, *ANNUAL REPORT 2010*, at 12 (2010); Jane Merriman, *SNAP ANALYSIS—Swiss Give Fresh Momentum to Contingent Bonds*, REUTERS FIN. REG. FORUM (Oct. 4, 2010 10:57 PM), <http://blogs.reuters.com/financial-regulatory-forum/2010/10/04/snap-analysis-swiss-give-fresh-momentum-to-contingent-bonds/>.

¹² Elizabeth Fournier, *CoCo Bonds Could Be One-Off*, INT’L FIN. L. REV., Dec./Jan. 2010, at 24, 24; *Base Camp Basel*, *supra* note 8; Note, *Distress-Contingent Convertible Bonds: A Proposed Solution to the Excess Debt Problem*, 104 HARV. L. REV. 1857, 1870 (1991); Jennifer Hughes, *‘CoCo’ Trigger Plan Draws Wary Response*, FT.COM (April 4, 2011 6:12PM), <http://www.ft.com/cms/s/0/1936ad78-5edb-11e0-a2d7-00144feab49a.html#axzz1aRcAlwAq>.

¹³ Fournier, *supra* note 12, at 24; Note, *supra* note 12, at 1870; Hughes, *supra* note 12.

will further damage confidence in the bank in a pernicious feedback loop. In short, cocos have the potential to drive the markets cuckoo.

Imagine a hypothetical large bank—Sonny Bank—that decides it wants to issue cocos. Sonny Bank does this because new regulations have just been made that require it to hold more regulatory capital, and those regulations stipulate that some of that regulatory capital can be comprised of cocos rather than common equity shares. The management of Sonny Bank believes that selling cocos to the debt markets will be cheaper than raising new equity. Participants in the debt markets want to buy Sonny Bank's cocos because they will receive more interest on cocos than they would on an ordinary bond issued by Sonny Bank (the higher interest rate is meant to reflect the risk to the coco-holder that the coco will convert to equity, but the coco-holders think it is highly unlikely that conversion will ever actually occur).

Now imagine that a banking crisis hits. The people who bought Sonny Bank's cocos, and who thought they were just getting a bond with a higher yield, suddenly are forced to confront the fact that their cocos may actually convert into equity. They might try to sell off the cocos prior to conversion, if they can find buyers for them, but a large-scale selling of cocos is likely to make the value of those cocos plummet. Alternatively, they might try to hedge their risk by shorting Sonny Bank's stock, or by buying a CDS that references Sonny Bank. If this occurs on a large scale, Sonny Bank's stock price is likely to fall and the cost of buying CDSs on Sonny Bank will increase. The rest of the financial markets, already unnerved that a seemingly unlikely conversion event suddenly seems possible, will watch with interest as the market prices of Sonny Bank's cocos and stock decline and the yield on its CDSs increases. These indicators are likely to confirm the markets' suspicions that Sonny Bank is in trouble, further damaging confidence in Sonny Bank.

The experience of the last Financial Crisis suggests that once confidence in Sonny Bank has been significantly damaged by panic selling, short selling, and the use of CDSs, counterparties that would ordinarily provide funding to Sonny Bank will restrict the availability of that funding. Like most banks, Sonny Bank will be unable to function for very long without its customary short-term funding and it may fail (or, if it is large and interconnected enough, the government may bail it out). Even if Sonny Bank is recapitalized with new equity (following the occurrence of a trigger event), it is quite possible that the shock of the actual conversion will be so damaging to market confidence in Sonny Bank that it will be unable to re-establish its normal short-term funding sources, notwithstanding its new capital. The irony of cocos is, thus, that they can precipitate the failure of the very financial institutions they were intended to help.

In a broad banking crisis, this hypothetical scenario is likely to play out in a similar way for multiple coco-issuing banks. If sufficient banks are affected, then the supply of credit to the rest of the economy will be restricted and economic growth may be stunted. Regulators need to

engage in some creative thinking, attempting to envisage all the possible permutations and combinations of the consequences of widespread use of cocos, before endorsing the use of these instruments. This Article contributes to that endeavor with a detailed examination of how cocos are likely to interact with some other financial instruments and trading strategies in a crisis situation.

This Article starts with a discussion of regulatory capital in the wake of the Financial Crisis. This sets the backdrop for a discussion of whether banks and other financial institutions in the United States should be encouraged to issue cocos. These instruments are being promoted by some academics and regulators as a less costly substitute for common equity that will nonetheless improve the stability of financial institutions in crisis situations.¹⁴ However, after surveying the importance of confidence in financial institutions (concluding that confidence is both vitally important to the functioning of the financial system and very fickle), this Article explores in detail how cocos are likely to affect confidence in our hypothetical Sonny Bank. This exercise indicates that the issuance of cocos is likely to incentivize behaviors and trading strategies that have the potential to harm confidence and financial-institution stability in a crisis situation. This harm may outweigh the benefits of any recapitalization that a coco can provide. This Article finishes by considering a recent challenge to the assumption that common equity is expensive and concludes that it would be better for systemic stability to require banks to hold more common equity, rather than cocos.

II. REGULATORY CAPITAL

Regulatory capital is the amount of equity (or other qualifying instruments) that a bank is required by law to hold to enable it to absorb losses.¹⁵ The basic premise of regulatory capital requirements is that a bank with a regulatory capital cushion will be better able to internalize any losses that it suffers, and therefore be less likely to fail or require public support.¹⁶ Regulatory capital requirements are *ex ante* requirements (i.e. banks are required to build up capital cushions long before any sign of trouble), because a bank will find it difficult to raise new capital if it waits until it starts to suffer significant losses on its assets.¹⁷ Regulatory capital serves two purposes: where regulatory capital

¹⁴ See Fournier, *supra* note 12, at 24; Arthur E. Wilmarth, Jr., *The Dodd-Frank Act: A Flawed and Inadequate Response to the Too-Big-to-Fail Problem*, 89 OR. L. REV. 951, 1008 (2011); Note, *supra* note 12, at 1869–70; Hughes, *supra* note 12.

¹⁵ Samuel G. Hanson et al., *A Macroprudential Approach to Financial Regulation*, 25 J. ECON. PERSP. 3, 4 (2011).

¹⁶ *Id.*

¹⁷ The reason for this difficulty is often referred to as the “debt overhang” problem: a bank will find it difficult to raise new capital because of the likelihood that any new capital raised will be immediately applied to existing obligations to senior

acts as a cushion that enables a bank to bear losses on its assets as it continues to operate, it is known as “going-concern capital.”¹⁸ A bank that has large amounts of going-concern capital is more likely to absorb losses and less likely to fail in difficult times.¹⁹ Where capital is intended to be applied to reduce losses to creditors of the bank in the event that that bank does fail, it is known as “gone-concern capital.”²⁰

Regulatory capital requirements are reasonably consistent throughout the world, because they are generally based on international standards. The Basel Committee on Banking Supervision (BCBS) is an international body comprising representatives from bank supervisors from 27 different countries, including the United States.²¹ The BCBS has promulgated international standards²² that set out complicated formulae

debtholders, and thus the providers of the new capital will immediately see their investment wiped out. *See id.* at 6. There is also a concern that bank balance sheets are often lagging indicators of problems and that without *ex ante* capital requirements a bank may not realize that it needs to raise capital until it is too late. *See* Mark J. Flannery, *No Pain, No Gain? Effecting Market Discipline via “Reverse Convertible Debentures,”* in CAPITAL ADEQUACY BEYOND BASEL: BANKING, SECURITIES, AND INSURANCE 171, 172–73 (Hal S. Scott ed., 2005).

¹⁸ *See* Pazarbasioglu et al., *supra* note 4, at 10; PITT ET AL., *supra* note 11, at 3–4.

¹⁹ *See* Hal S. Scott, *The Reduction of Systemic Risk in the United States Financial System*, 33 HARV. J. L. & PUB. POL’Y 671, 679 (2010).

²⁰ *See* Pazarbasioglu et al., *supra* note 4, at 10; PITT ET AL., *supra* note 11, at 4.

²¹ *About the Basel Committee*, BANK FOR INT’L SETTLEMENTS, <http://www.bis.org/bcbs/index.htm>. Standards promulgated by the BCBS apply not only to the 27 member countries, but to many other countries as well. The IMF and the World Bank often require countries to comply with the BCBS’s standards as a condition of receiving assistance. Still more countries have chosen to comply with the BCBS’s standards as best practices or to provide comfort to foreign investors. *See* KERN ALEXANDER ET AL., GLOBAL GOVERNANCE OF FINANCIAL SYSTEMS: THE INTERNATIONAL REGULATION OF SYSTEMIC RISK 39 (2006).

²² The standards that have been issued by the BCBS are colloquially known as Basel I, Basel II, and Basel III. Formally speaking, Basel I is a document titled “International Convergence of Capital Measurement and Capital Standards,” that was published by the BCBS in July of 1988. Basel I (like the subsequent Basel II and III standards) was not binding on individual nations, but each of the then G-10 nations committed to implement Basel I into national law by the end of 1992. *See* Basel Comm. on Banking Supervision, *International Convergence of Capital Measurement and Capital Standards*, BANK FOR INT’L SETTLEMENTS (July 1988), <http://www.bis.org/publ/bcbs04a.pdf>. As Basel I became outmoded, the BCBS issued a document titled “International Convergence of Capital Measurements and Capital Standards: A Revised Framework” in June of 2004. This is colloquially known as Basel II and was intended to be phased in from 2006 through 2009. However, even before the implementation was complete, the Financial Crisis showed the regulatory capital requirements of Basel II to be inadequate. The BCBS responded with a compilation of documents that have come to be known as Basel III. The key document setting out regulatory capital requirements under Basel III was released on December 16, 2010. Basel Comm. on Banking Supervision, *Basel III: A Global Regulatory Framework for More Resilient Banks and Banking Systems*, BANK FOR INT’L SETTLEMENTS (Dec. 2010, rev. June 2011), <http://www.bis.org/publ/bcbs189.pdf> [hereinafter *Basel III*]. Basel III was endorsed in principle by the leaders of all the

for the amount of regulatory capital that each bank must hold.²³ The standards make it clear that not all types of regulatory capital are created equal: the best, most loss-absorbent type of capital is common equity,²⁴ and under the standards known as “Basel III,”²⁵ all banks must satisfy a certain amount of their capital requirements with common equity (often referred to as “Tier 1” common equity).²⁶ The remainder of regulatory capital can be partly held in “Additional Tier 1” instruments (Additional Tier 1 instruments must be going-concern capital, such as perpetual non-cumulative preference shares) and partly held in “Tier 2” instruments (Tier 2 instruments can be gone-concern capital, including some types of subordinated debt).²⁷ Basel III also requires banks to phase out reliance on many types of hybrid debt-equity instruments that had previously counted toward regulatory capital requirements.²⁸ In addition, the BCBS has proposed additional capital requirements for global systemically important banks.²⁹ While the details of these requirements have not yet been settled,³⁰ the BCBS has indicated that these requirements will need to be met with common equity.³¹

G20 Nations at the G20 Summit held in Seoul on November 11–12, 2010. *See* The G20 Seoul Summit Leaders’ Declaration (Nov. 11–12, 2010).

²³ The amount of capital that a bank is required to hold is equal to a specified percentage of that bank’s “risk-weighted assets.” *Basel III, supra* note 22. Determining a bank’s risk-weighted assets is a complicated calculation that reflects the perceived riskiness of assets held by the bank and the perceived likelihood that a bank’s contingent obligations will crystallize into actual obligations. *Id.* Basel III effectively requires banks to maintain a ratio of regulatory capital to risk-weighted assets of at least 10.5% (the minimum required ratio is in fact 8%, but any bank that holds less than 10.5% will face restrictions on its ability to pay dividends and bonuses, or engage in share buy-backs). *Id.*

²⁴ *Id.*; *see also* Hanson et al., *supra* note 15, at 9.

²⁵ The BCBS has indicated that the phased implementation of Basel III should commence by January 1, 2013. *Basel III, supra* note 22, annex 4.

²⁶ *Id.*

²⁷ *Id.*

²⁸ During the Financial Crisis, hybrid debt–equity instruments did not perform as expected: they did not absorb the losses that they had been intended to absorb. For this reason, the BCBS has stated that “[i]nnovative hybrid capital instruments with an incentive to redeem through features such as step-up clauses, currently limited to 15% of the Tier 1 capital base, will be phased out.” *Id.* at 2.

²⁹ In July 2011, the BCBS issued a consultative document regarding a proposal to require global systemically important banks to hold even more capital—this extra capital requirement is likely to range between 1% and 2.5% of the risk-weighted assets of the bank, depending on its systemic importance. Basel Comm. on Banking Supervision, *Global Systemically Important Banks: Assessment Methodology and the Additional Loss Absorbency Requirement*, BANK FOR INT’L SETTLEMENTS (July 2011), <http://www.bis.org/publ/bcbs201.pdf> [hereinafter *Global Systemically Important Banks*].

³⁰ As of August 2011.

³¹ *Measures of Global Systemically Important Banks Agreed by the Group of Governors and Heads of Supervision*, BANK FOR INT’L SETTLEMENTS (June 25, 2011), <http://www.bis.org/press/p110625.htm>; *Global Systemically Important Banks, supra* note 29.

Requiring a bank to hold going-concern and gone-concern capital reduces the risk that such bank will need a government bailout, and thus potentially lessens moral hazard with respect to that bank.³² From the perspective of society at large, it is therefore beneficial to require banks to hold sufficient capital. Most capital regulations are premised on the notion that, absent regulation, banks have little incentive to hold large amounts of equity as regulatory capital: there is a general consensus that capital in the form of equity is a more expensive form of funding than debt, and so banks would prefer to fund themselves with debt.³³ Also, for banks that are so big or interconnected that they expect a government bailout in the event of failure, it makes little sense to hold increased amounts of equity: increased amounts of equity would mean that the bank's shareholders would bear losses in a crisis, while an absence of equity would mean that those losses could be distributed to taxpayers in a bailout.³⁴ Regulatory capital requirements make it more likely that existing shareholders, rather than taxpayers, will bear the consequences of problems at a bank.³⁵

The standards promulgated by the BCBS only apply to banks and not to other types of financial institutions.³⁶ However, some economists argue

³² Moral hazard is an economic concept that originated in the context of insurance: Essentially, moral hazard is the tendency of insurance or a guarantee (or something else that insulates a person from loss) to lessen a person's incentives to act prudently. See Tom Baker, *On the Genealogy of Moral Hazard*, 75 TEX. L. REV. 237, 270 (1996). When incentives are affected by moral hazard, the rewards for acting imprudently are increased because the likelihood of bearing the costs of acting imprudently is reduced. Karl S. Okamoto, *After the Bailout: Regulating Systemic Moral Hazard*, 57 UCLA L. REV. 183, 185 (2009). When dealing with financial institutions, there is a moral hazard if the financial institution, its shareholders and its debtholders anticipate that the institution will be bailed out by the government in a time of crisis. In such circumstances, the managers of the institution will have fewer incentives to act prudently, and its shareholders and debtholders will have fewer incentives to exert pressure on management to do so. See Pazarbasioglu et al., *supra* note 4, at 7.

³³ Interest on debt obligations is often tax deductible, which is part of the reason why debt is usually viewed as cheaper than equity. PITT ET AL., *supra* note 11, at 12. Hanson, Kashyap, and Stein consider other reasons why debt might be cheaper than equity, including risk and utility as a transactional medium. Hanson et al., *supra* note 15, at 17–18. However, some have challenged the notion that equity is more expensive for society than debt. See generally Admati et al., *supra* note 9. This issue is discussed in more detail in Part VII, *infra*.

³⁴ KENNETH R. FRENCH ET AL., THE SQUAM LAKE REPORT: FIXING THE FINANCIAL SYSTEM 70, 94 (2010).

³⁵ Pazarbasioglu et al., *supra* note 4, at 14–15. It should be noted that proponents of cocos do not consider them a “silver bullet” solution to financial sector instability. Instead, cocos are supported as part of an arsenal of macroprudential tools intended to improve the stability of financial institutions. Other tools include increased supervision, stricter prudential standards for systemically important financial institutions, liquidity requirements, and improved resolution regimes. See generally FRENCH ET AL., *supra* note 34.

³⁶ *Basel III*, *supra* note 22, at 12.

that regulatory capital standards should be applied to financial institutions beyond banks.³⁷ This view has found favor in the United States, where the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank)³⁸ directs the Board of Governors of the Financial Reserve System (FRB) to set risk-based capital requirements for systemically important non-bank financial institutions.³⁹

III. THE RISE OF COCOS

A. *Regulatory Capital and Convertibility*

In the aftermath of the Financial Crisis, there has been much discussion of whether automatically convertible debt should qualify as regulatory capital.⁴⁰ Convertible debt is presumed to be cheaper for banks to issue than equity, but it can automatically convert into equity, enabling banks to raise equity in times of crisis when raising new capital would otherwise be impossible.⁴¹ The benefits of such automatic conversion were summarized as follows in The Squam Lake Report, a prominent report on financial regulatory reform promulgated by a group of leading economists in 2010:

Conversion would automatically recapitalize banks quickly with minimal disruptions to operations. Freed of an excessive debt burden, banks would be able to raise more private capital to fund operations. They would not need capital infusions from the government, and the government would not have to acquire the assets of troubled banks. Finally, the prospect of a conversion of

³⁷ For instance, Hanson, Kashyap, and Stein note that “there is a strong presumption” that macroprudential regulation, including regulatory capital requirements, should apply to financial institutions beyond insured deposit-taking banks. Hanson et al., *supra* note 15, at 7.

³⁸ Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376 (2010).

³⁹ *See id.* at § 165(b). The FRB must set such requirements unless, in consultation with the Financial Stability Oversight Council (FSOC), it concludes that “such requirements are not appropriate for a company subject to more stringent prudential standards because of the activities of such company (such as investment company activities or assets under management) or structure, in which case, the Board of Governors shall apply other standards that result in similarly stringent risk controls.” *Id.*

⁴⁰ Although increased attention has been paid to convertible capital in the wake of the Financial Crisis, the concept of automatic conversion is not new. For example, Mark J. Flannery authored a chapter in a book published in 2005 that discussed a type of “reverse convertible debentures” that were similar in detail to cocos. In his book chapter, Flannery also surveyed even earlier proposals for convertible debt instruments. Flannery, *supra* note 17, at 190–91.

⁴¹ Pazarbasioglu et al., *supra* note 4, at 7. Automatic convertibility distinguishes cocos from ordinary convertible bonds, which convert into equity at the option of the bondholder.

long-term debt to equity is likely to make short-term creditors and other counterparties more confident about a bank's future.⁴²

The prospect of conversion is also intended to reduce moral hazard.⁴³ By shifting the costs of financial institution failure from taxpayers generally to an institution's convertible debt holders, those debt holders are thought to be incentivized to keep a closer eye on the institution's management and ensure that it is acting prudently.⁴⁴ Existing equity holders, who do not want to see their shares diluted in a conversion scenario, are also incentivized to monitor management and to vote with their feet by selling their shares if they consider that management is acting imprudently.

The BCBS is a proponent of convertibility with respect to Additional Tier 1 "going-concern" instruments and Tier 2 "gone-concern" instruments,⁴⁵ and has indicated that they should all be convertible into equity (or written down) upon the earlier of:

- (1) a decision that a write-off, without which the firm would become non-viable, is necessary, as determined by the [issuing bank's regulator]; and (2) the decision to make a public sector injection of capital, or equivalent support, without which the firm would have become non-viable, as determined by the [issuing bank's regulator].⁴⁶

This requirement for convertibility in regulatory capital instruments has helped spark interest in cocos.⁴⁷ The BCBS has recently noted that it "will continue to review contingent capital, and support the use of contingent capital to meet higher national loss absorbency requirements than the global minimum, as high-trigger contingent capital could help absorb losses on a going concern basis."⁴⁸

B. *Uncertainty About Cocos*

The BCBS's support for contingent capital is not unqualified, though. It disappointed many market participants when it stated that common equity (rather than cocos) should be used to satisfy the additional capital requirements for global systemically important banks.⁴⁹

⁴² FRENCH ET AL., *supra* note 34, at 90.

⁴³ See PITT ET AL., *supra* note 11, at 5.

⁴⁴ Pazarbasioglu et al., *supra* note 4, at 7.

⁴⁵ *Final Elements of the Reforms to Raise the Quality of Regulatory Capital Issued by the Basel Committee*, BANK FOR INT'L SETTLEMENTS (Jan. 13, 2011), <http://www.bis.org/press/p110113.htm> [hereinafter *Final Elements of the Reforms*].

⁴⁶ *Id.*

⁴⁷ *Id.*

⁴⁸ *Measures for Global Systemically Important Banks Agreed by the Group of Governors and Heads of Supervision*, *supra* note 31.

⁴⁹ For example, Daniel Bell of Bank of America Merrill Lynch made the following comment on the BCBS's position: "Given [that] investor demand for the product is on the up, it is unfortunate that contingent capital will play a smaller role

The BCBS's reservations stem largely from uncertainty about the nature and form of contingent capital.⁵⁰ Even the terminology is unsettled: the terms "coco" and "contingent capital" are sometimes used interchangeably, but the general consensus is that contingent capital, as a category of instruments, is broader than just cocos.⁵¹ Contingent capital instruments are any instruments that can be used to recapitalize a financial institution upon the occurrence of a trigger event.⁵² This category includes cocos, as well as instruments that can be written down (rather than converting into equity) upon the occurrence of a trigger event.

More importantly, there is not yet any concrete consensus as to what should constitute a "trigger event." The BCBS has taken the view that the trigger should be determined by the discretion of the issuer's regulator.⁵³ However, within this school of thought, there are questions as to whether the regulator should call a trigger only if there is a system-wide crisis, or at any time when there are questions about an individual institution's viability.⁵⁴ Conversely, in its report on contingent capital, Goldman Sachs took the view that cocos that count toward "going-concern" capital requirements need to have more objective triggers.⁵⁵ A more objective trigger could be market-based (for example, if the stock price of the issuer drops below a certain specified amount, or the CDS spread on the issuer increases beyond a certain specified amount).⁵⁶ Alternatively, the trigger could be capital-based (for example if the ratio of the issuer's capital to risk-weighted assets falls below a statutory or contractually set minimum).⁵⁷ Some have advocated a dual trigger, requiring a failure to maintain a specified capital ratio as well as a declaration of systemic crisis by the issuer's regulator.⁵⁸ There is one common theme in all of these disparate types of proposed trigger events: in each case, conversion

than expected." Matthew Attwood, *Basel Pops CoCo Market Hope*, REUTERS (June 27, 2011, 12:39 PM), <http://www.reuters.com/article/2011/06/27/us-coco-credit-ifr-idUSTRE75Q2BX20110627>.

⁵⁰ *Global Systemically Important Banks*, *supra* note 29, at 26 ("An analysis of the pros and cons of contingent capital is made difficult by the fact that it is a largely untested instrument that could come in many different forms.")

⁵¹ See PITT ET AL., *supra* note 11, at 3.

⁵² *Id.*

⁵³ *Final Elements of the Reforms*, *supra* note 45.

⁵⁴ See Charles A.E. Goodhart, *Are CoCos from Cloud Cuckoo-Land?*, VOX (June 10, 2010), <http://voxeu.org/index.php?q=node/5159>.

⁵⁵ See PITT ET AL., *supra* note 11, at 3–4.

⁵⁶ See *id.* at 7.

⁵⁷ For further discussion and detail on the possible triggers for cocos see *id.* at 6 and Pazarbasioglu et al., *supra* note 4, at 9.

⁵⁸ FRENCH ET AL., *supra* note 34, at 91.

should only be triggered upon the occurrence of a low-probability, high-impact event (sometimes referred to as a “fat tail” event).⁵⁹

Another unsettled aspect is the optimum conversion mechanism for cocos: debt will convert to equity upon the occurrence of a trigger event, but at what rate? The simplest option is to have the coco convert to a fixed *number* of equity shares upon the occurrence of the trigger event. Alternatively, the cocos could convert to a fixed *value* of equity shares, which would require a conversion formula to be included in the coco instrument at the time of issuance.⁶⁰ There are infinite ways of structuring conversion formulae,⁶¹ but the IMF has identified four subsets of such formulae: (i) conversion at the par value of the stock at the time of conversion; (ii) conversion below the par value of the stock at the time of conversion; (iii) conversion related to the trading price of the coco at the time of conversion; and (iv) conversion at a rate that reflects both the value of the stock at the time of conversion and the capital needs of the coco issuer.⁶² Where the coco includes any type of conversion formula, the true conversion rate would not be known until a trigger event actually occurs.

Determining the optimum combination of coco trigger and conversion mechanism is beyond the scope of this Article: such a determination would require careful consideration of whether the coco is intended to be used as going-concern or gone-concern capital, what structure can be marketed to investors, and the impact of conversion on the broader financial system. What this Article can do, however, is look at the different types of trigger events and conversion formulae that have been proposed for going-concern cocos, and examine their potential to affect, and be affected by, confidence in the financial institutions that have issued the cocos. This is discussed in detail in Part VI.

C. National Implementation of Contingent Capital Standards

Although most nations base their regulatory capital standards on the recommendations of the BCBS, these recommendations are not implemented uniformly throughout the world.⁶³ At this stage, it is not clear whether U.S. regulators see utility in contingent capital requirements, and if they do, what form they would prefer such contingent capital to take. Several provisions of Dodd-Frank suggest that there is political will to pursue contingent capital reform in the United States: Dodd-Frank directs the Financial Stability Oversight Council

⁵⁹ For a discussion of “fat tail” events, see Peter Conti-Brown, *A Proposed Fat-Tail Risk Metric: Disclosures, Derivatives, and the Measurement of Financial Risk*, 87 WASH. U. L. REV. 1461, 1462–65 (2010).

⁶⁰ These two options are discussed in more detail in FRENCH ET AL., *supra* note 34, at 92–93.

⁶¹ See Pazarbasioglu et al., *supra* note 4, at 11.

⁶² *Id.* at app. II, app. tbl.2.

⁶³ See ALEXANDER ET AL., *supra* note 21, at 37–38.

(FSOC)⁶⁴ to “conduct a study of the feasibility, benefits, costs, and structure of a contingent capital requirement” for systemically important financial institutions.⁶⁵ Upon completing the study, the FSOC can direct the FRB to make rules requiring systemically important financial institutions “to maintain a minimum amount of contingent capital that is convertible to equity in times of financial stress.”⁶⁶ Although not conclusive on the subject, this wording of the statute suggests a preference by Congress for contingent capital to take the form of cocos that convert to equity (rather than contingent capital that can be written down), as well as a preference for a regulatory, rather than market-based, trigger.

Support for cocos among U.S. regulators is not assured, though. Treasury Secretary Timothy Geithner, who is the current Chairperson of the FSOC, has publicly stated that he does not think that contingent capital instruments are needed in the United States.⁶⁷ Geithner maintains that there are other macroprudential protections available in the United States, most notably resolution authority for financial institutions, that make contingent capital unnecessary.⁶⁸ However, very few people accept that the resolution authority for systemically important financial firms that was introduced in Dodd-Frank will be effective in practice, especially for large financial firms that have significant trans-border operations.⁶⁹ Geithner’s reason for withholding support for contingent capital is therefore flawed, and it may not be persuasive for other members of the

⁶⁴ This is a new inter-agency regulatory body formed pursuant to Title I of Dodd-Frank. The members of the FSOC include, *inter alia*, the Secretary of the Treasury (who acts as Chairperson of the FSOC) and the heads of the FRB, the Securities and Exchange Commission (SEC), the Commodity Futures Trading Commission, the Office of the Comptroller of the Currency, and the Federal Deposit Insurance Corporation. *See* Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 111, 124 Stat. 1376, 1392–94 (2010).

⁶⁵ *Id.* § 115(c)(1).

⁶⁶ The FSOC’s authority to give this direction is in § 115 of Dodd-Frank. The FRB’s authority to make such regulations derives from section 165 of Dodd-Frank. *Id.* §§ 115(c)(3)(A), 165.

⁶⁷ *See* Remarks by Treasury Secretary Tim Geithner to the International Monetary Conference, at 3 (June 6, 2011).

⁶⁸ *Id.*

⁶⁹ In a blog post, prominent economist Simon Johnson states, “I’ve talked repeatedly with senior officials in the United States and other countries about the resolution authority, and I’ve also discussed the issue directly with some of the top legal minds on Wall Street, people who work closely with big banks. Mr. Geithner’s interpretation is simply wrong. . . . There is no cross-border resolution mechanism or other framework that will handle the failure of a bank like Citigroup, JPMorgan Chase or Goldman Sachs in an orderly manner. The only techniques available are those used by Mr. Geithner and his colleagues in September 2008—a mad scramble to find buyers for assets, backed by Federal Reserve and other government guarantees for creditors.” Simon Johnson, *The Banking Emperor Has No Clothes*, N.Y. TIMES (June 9, 2011), <http://economix.blogs.nytimes.com/2011/06/09/the-banking-emperor-has-no-clothes>.

FSOC. Furthermore, many large financial institutions may lobby to use cocos to satisfy regulatory capital requirements in place of the common equity that they consider more expensive. These lobbying efforts may prove convincing for regulators.

If the United States does proceed with contingent capital requirements, it is likely to look to Switzerland's example. Switzerland currently leads the world in the national implementation of a contingent capital regime. The Swiss government has proposed legislation, which is expected to be enacted in 2012, requiring Credit Suisse and UBS (the two largest Swiss banks) to hold regulatory capital in an amount equal to at least 19% of their risk-weighted assets, even more regulatory capital than Basel III requires.⁷⁰ The Swiss regulator (the Financial Market Supervisory Authority, or FINMA) justifies the higher capital requirements on the basis that each of Credit Suisse and UBS is "indispensable to the economy owing to its size, market position and interconnectedness with a large number of other market participants, as well as the impossibility of substituting the services it provides within a reasonable period of time."⁷¹ FINMA has encouraged the use of cocos by agreeing that Credit Suisse and UBS can satisfy their regulatory capital obligations with contingent capital instruments in an amount equal to approximately 9% of their risk-weighted assets.⁷² The Swiss have also encouraged the issuance of cocos by clarifying that interest payments on cocos are tax deductible (essentially, that cocos will receive debt tax treatment).⁷³

FINMA defines cocos as "capital instruments that are automatically converted into equity when a bank's equity ratio drops below a predefined level (trigger) or are written off,"⁷⁴ and Switzerland's Council

⁷⁰ Rozansky, *supra* note 11.

⁷¹ SWISS FIN. MKT. SUPERVISORY AUTH. FINMA, *supra* note 11, at 11.

⁷² Starting in 2012, the Swiss will require that Credit Suisse and UBS hold common equity in an amount equal to at least 10% of their risk-weighted assets. Up to 35% of the required common equity (referred to by FINMA as the buffer requirement) can be comprised of contingent capital instruments. In addition to the buffer requirement, Credit Suisse and UBS are required to hold other capital in an amount approximately equal to 6% of their risk-weighted assets (referred to by FINMA as the progressive requirement). This means that, in total, Credit Suisse and UBS can hold approximately 9% of their risk-weighted assets in contingent capital instruments, and so satisfy the Swiss regulatory capital requirements. Of this 9%, approximately one-third (i.e., the contingent capital which is counted toward the banks' common equity or "buffer" requirements) must convert to common equity if the banks' common equity to risk-weighted assets ratios drop below 7%. The remaining two-thirds (i.e., the contingent capital that is used to satisfy the requirement that the banks hold 6% of their risk-weighted assets in other capital (the "progressive" requirement)) must convert if the ratio drops below 5%. *Id.* at 12.

⁷³ Elena Logutenkova & Klaus Wille, *UBS, Credit Suisse May Need to Boost Capital to 19%*, BLOOMBERG (Oct. 4, 2010), <http://www.bloomberg.com/news/2010-10-04/ubs-credit-suisse-must-boost-capital-to-meet-swiss-regulator-requirements.html>.

⁷⁴ SWISS FIN. MKT. SUPERVISORY AUTH. FINMA, *supra* note 11, at 12.

of Experts defines them as “[d]ebt capital which may be converted into corporate capital or written off once a contractually defined threshold (trigger) is reached or state assistance is provided” (the Council of Experts also notes that they have only considered cocos with a regulatory capital ratio trigger).⁷⁵ It appears from these statements that the Swiss favor certainty with regard to a predefined trigger, perhaps indicating less support for the ability of a regulator to subjectively determine the occurrence of a trigger event. Also, the Swiss consider all contingent capital instruments to be cocos, including instruments that could be written down upon the occurrence of a trigger event (these latter instruments would not be classified as “cocos” under the definition established in the introduction to this Article).⁷⁶

D. Market Sentiment Toward Cocos

To date,⁷⁷ there have been very few issuances of coco-like instruments. There have been no issuances in the United States, although Credit Suisse has filed a registration statement with the SEC for a coco issuance.⁷⁸ Outside of the United States, Lloyds issued “enhanced capital notes” in 2009, which included a provision that the notes would convert into a fixed number of common equity shares⁷⁹ if the ratio of Lloyd’s core Tier 1 capital to risk-weighted assets were to fall below 5%. These instruments fit our definition of “coco,” but they were only issued to existing debtholders as part of a debt exchange.⁸⁰ As the notes were not offered to new investors, the issuance was not a real test of whether there is a market for contingent capital.

More recently, an issuance by Credit Suisse in February 2011 was partly a debt exchange but also included a new public issuance of two billion francs worth of cocos.⁸¹ This public issuance was very successful,⁸² which suggests that investors may indeed want to buy contingent capital. The instruments offered by Credit Suisse have a dual trigger: the instruments will convert to equity on the earlier of (i) a determination by Credit Suisse’s regulator that Credit Suisse “requires public sector

⁷⁵ FINAL REPORT OF THE COMMISSION OF EXPERTS FOR LIMITING THE ECONOMIC RISKS POSED BY LARGE COMPANIES 25 (2010) [hereinafter FINAL REPORT OF THE COMMISSION OF EXPERTS].

⁷⁶ See generally *id.*

⁷⁷ Current as of August 2011.

⁷⁸ Danielle Robinson, *IFR—Credit Suisse Gears up for US CoCos*, REUTERS (June 4, 2011), <http://www.reuters.com/article/2011/06/03/markets-credit-idUSN0315800020110603>.

⁷⁹ The conversion rate was fixed, based on the share price at the time the notes were issued. See ASS’N FOR FIN. MKTS. IN EUROPE (AFME), PREVENTION AND CURE: SECURING FINANCIAL STABILITY AFTER THE CRISIS, at annex 2a (2010).

⁸⁰ PITT ET AL., *supra* note 11, at app. B; Humphreys & Pinedo, *supra* note 10, at 70.

⁸¹ Matthew Attwood & Jane Merriman, *Credit Suisse Steps Up CoCo Pace with \$2 Billion Bond*, REUTERS (Feb. 17, 2011), <http://www.reuters.com/article/2011/02/17/us-creditsuisse-cocos-idUSTRE71G5W220110217>.

⁸² See *id.*

support to prevent it from becoming insolvent, bankrupt or unable to pay a material amount of its debts, or other similar circumstances,” and (ii) the fall of Credit Suisse’s ratio of common equity to risk-weighted assets below 7%.⁸³ The formula for conversion was established at the time of issuance.⁸⁴

There are many issues that the markets will need to resolve if cocos are to become a sizeable asset class.⁸⁵ It is very difficult to accurately price the risk of conversion.⁸⁶ Especially if cocos have subjective trigger events that are determined by the discretion of national regulators, the uncertainty surrounding conversion may be such that such instruments will have to be priced so high as to be prohibitively expensive for issuers.⁸⁷ Uncertainties about the risk of conversion and how cocos will operate also make it hard for credit rating agencies to rate cocos; institutional investors in particular rely heavily on credit ratings, and they may have little interest in cocos if they are unrated.⁸⁸ With so few issuances to date, it is difficult to tell if there will be a real market for these instruments, but if a robust market for cocos does indeed grow, regulators need to be concerned about the impact that large numbers of cocos can have on the financial markets.

IV. CONFIDENCE IS ALL-IMPORTANT

Regulatory capital requirements have found favor because they are relatively simple and powerful regulatory tools.⁸⁹ However, as discussed below, a financial institution that starts with sufficient capital may nonetheless be brought down by a loss of confidence, and that loss of confidence may be rational or irrational. Financial regulators must therefore be wary of incentivizing behavior that unnecessarily jeopardizes

⁸³ PITT ET AL., *supra* note 11, at app. B.

⁸⁴ *Id.*

⁸⁵ An instrument that can be both debt and equity also raises a host of accounting and taxation issues that are beyond the scope of this Article, except to note that if cocos are not treated as debt instruments for taxation purposes, they may be viewed by issuing banks as equally expensive as equity. With regard to the importance of cocos being seen as cheaper than equity, see Hanson et al., *supra* note 15, at 12.

⁸⁶ Humphreys & Pinedo, *supra* note 10, at 71.

⁸⁷ ASS’N FOR FIN. MKTS. IN EUROPE, *supra* note 79, at 48–49; PITT ET AL., *supra* note 11, at 13.

⁸⁸ ASS’N FOR FIN. MKTS. IN EUROPE, *supra* note 79, at 49. Ed Devlin, a fund manager at PIMCO, was quoted by Reuters as saying “Ratings are beneficial not because we rely on them, but often in guidelines our clients give us . . . We have to have ratings. It’s the same for most institutional and retail money managers.” Merriman, *supra* note 11. See also Jane Merriman, *Analysis—Ratings Uncertainty Stunts Contingent Capital Growth*, REUTERS (Aug. 6, 2010, 12:26 PM), <http://uk.reuters.com/article/2010/08/06/uk-contingent-idUKTRE67522220100806>.

⁸⁹ “Regulators should use many tools to make firms internalize systemic dangers and reduce the chance of a crisis, but capital requirements are among the most powerful.” FRENCH ET AL., *supra* note 34, at 137.

confidence in financial institutions. Unfortunately, confidence is a complicated, irrational, and amorphous thing, and it is often difficult to tell how regulatory actions will affect it.

A. *Why Confidence Is So Vital*

There is considerable literature on the importance of confidence in the functioning of financial markets.⁹⁰ This literature often seems to consider the concepts of confidence and trust together,⁹¹ but these concepts merit separate treatment. Confidence has several facets, and affirmative answers to both of the following statements are prerequisites for investor confidence:

- (i) If it is within a counterparty's power to do so, will that counterparty honor its promises?
- (ii) Even if a counterparty wishes to honor its promises, will it be able to?

The first concept equates more to traditional notions of trust.⁹² This Article does not consider this aspect of confidence in detail—instead, it presumes that financial institutions and other actors are trustworthy in the sense that they would honor their obligations if they could,⁹³ and concentrates on the second type of confidence as it applies to banks—public sentiment about the ability of those banks to honor their obligations.

It has long been recognized that banks cannot serve their socially utile functions without this second type of confidence. As E. Gerald Corrigan states in his summary of his classic 1982 essay “Are Banks Special?”:

[B]anks perform three essential functions: (1) they issue transaction accounts (i.e., they hold liabilities that are payable on demand at par and that are readily transferable to third parties); (2) they are the backup source of liquidity to all other institutions, financial and nonfinancial; and (3) they are the transmission belt for monetary policy.

⁹⁰ See generally Raymond H. Brescia, *Trust in the Shadows: Law, Behavior and Financial Re-Regulation*, 57 *BUFF. L. REV.* 1361 (2009); Ronald J. Colombo, *The Role of Trust in Financial Regulation*, 55 *VILL. L. REV.* 577 (2010).

⁹¹ See, e.g., Brescia, *supra* note 90, at 1362.

⁹² This type of trust/confidence is very important to the proper functioning of the financial system: “Trust acts as a lubricant and reduces the transaction costs associated with economic conduct; its presence makes economic activity more efficient and permits actors to focus on wealth generation rather than wealth preservation.” *Id.* at 1363.

⁹³ This is a big presumption of course, and one that is not likely to be always borne out in reality. However, for analytical purposes, it is easier to examine the issue of the market's perception of financial institutions in isolation from issues of misrepresentation and fraud.

On close inspection, it becomes evident that these essential functions are highly interdependent and that banks' ability to perform such functions dictates the need for a high degree of public confidence in the overall financial condition of banks⁹⁴

Confidence is especially important (and vulnerable) when there is insufficient information available to counterparties to enable them to make an informed decision about whether to deal with an institution. This is often the case when dealing with complex financial institutions, whose operations tend to be opaque and whose risk profiles can change very quickly.⁹⁵ Even with perfect information, it would be almost impossible to properly evaluate all the permutations and combinations of risk associated with a complex financial institution,⁹⁶ and it follows that a certain degree of confidence must fill this diligence gap.⁹⁷

Confidence in financial institutions is a complex sentiment. The economists George A. Akerlof and Robert J. Shiller describe confidence (and the lack thereof) as a product of collective narratives about a person or an event:

Confidence is not just the emotional state of an individual. It is a view of other people's confidence, and of other people's perceptions of other people's confidence. It is also a view of the world—a popular model of current events, a public understanding of the mechanism of economic change as informed by the news media and by popular discussions.⁹⁸

They go on to describe loss of confidence (as well as the build-up of overconfidence) as contagious, drawing parallels from the spread of disease epidemics.⁹⁹ Viewed in this way, a loss of confidence in a financial

⁹⁴ E. Gerald Corrigan, *Summary of Are Banks Special?*, Fed. RES. BANK OF MINNEAPOLIS (Jan. 1, 1983), http://www.minneapolisfed.org/publications_papers/pub_display.cfm?id=684. In a more facetious vein, Raymond Moley (a former advisor to Franklin Roosevelt) noted, "We knew how much of banking depended upon make-believe or, stated more conservatively, the vital part that public confidence had in assuring solvency." RAYMOND MOLEY, *THE FIRST NEW DEAL* 171 (1966).

⁹⁵ Certain bank assets (such as loans to small businesses) are "particularly opaque and difficult to assess from the outside." Admati et al., *supra* note 9, at 28. The Goldman Sachs Global Markets Institute comments on the "poor quality of available accounting data for banks." PITT ET AL., *supra* note 11, at 8.

⁹⁶ In fact, during the Financial Crisis, many financial institutions did not even have a clear and complete picture of their own operations and risk profiles. The Financial Crisis Inquiry Commission concluded in its report that "the exposures of financial institutions to risky mortgage assets and other potential losses were unknown to market participants, and indeed many firms did not know their own exposures." FINANCIAL CRISIS INQUIRY COMM'N, *THE FINANCIAL CRISIS INQUIRY REPORT* 386 (2011) (emphasis added).

⁹⁷ See GEORGE A. AKERLOF & ROBERT J. SHILLER, *ANIMAL SPIRITS: HOW HUMAN PSYCHOLOGY DRIVES THE ECONOMY, AND WHY IT MATTERS FOR GLOBAL CAPITALISM* 14–15, 51, 81, (2009).

⁹⁸ *Id.* at 55.

⁹⁹ *Id.* at 56.

institution is very much about a negative change in the narrative and public perception about the financial institution. Changes in public perception can be attributable to rumors and conjecture, which may or may not reflect any real change in the fundamentals of that financial institution. Such rumors and conjecture could be an attempt to manipulate the market, sensationalism, or merely gossip. In the context of a negatively trending narrative, panic selling or shorting of the stock of a financial institution, or increased demand for CDSs, can lead to decreases in stock prices and increases in CDS spreads,¹⁰⁰ which seem to validate the narrative that the financial institution is in trouble. A failure of confidence can manifest itself in a “run” on a financial institution.¹⁰¹ The remainder of this Part explores the theory behind, and consequences of, runs on financial institutions.

B. *Runs on Deposits*

In a prototypical deposit-taking bank, loans make up the bulk of the bank’s assets.¹⁰² These loans are generally long-term, and of fixed duration.¹⁰³ In contrast, many of the bank’s liabilities take the form of customer deposits, which the customer can withdraw at will.¹⁰⁴ There is therefore a “maturity mismatch” between the bank’s long-term investments and its short-term funding sources. Banks only keep a fraction of the cash deposited with them on hand at any one time, and are unable to liquidate their assets quickly (i.e., call in fixed-term loans).¹⁰⁵ This means that a bank would become insolvent if all depositors were to seek to get their deposits back at once. Such a circumstance is referred to as a “run on the bank.”¹⁰⁶

Bank runs are generally explained with reference to prisoner’s dilemma theory.¹⁰⁷ In a time of panic, if all the depositors in a healthy bank refrain from making any unusual withdrawals, the bank will be able to continue to service ordinary course withdrawals as it has done in the

¹⁰⁰ See *id.* at 54–56; Gaiyan Zhang, *Informational Efficiency of Credit Default Swap and Stock Markets: The Impact of Adverse Credit Events*, 1 INT’L REV. ACCT. BANKING & FIN. 1, 1–2 (2009).

¹⁰¹ Albert J. Boro, Jr., Comment, *Banking Disclosure Regimes for Regulating Speculative Behavior*, 74 CALIF. L. REV. 431, 434–35 (1986).

¹⁰² Okamoto, *supra* note 32, at 192–93.

¹⁰³ Hilary J. Allen, *Money Market Fund Reform Viewed Through a Systemic Risk Lens*, 11 J. BUS. & SEC. L. 87, 88 (2010).

¹⁰⁴ Okamoto, *supra* note 32, at 192.

¹⁰⁵ Allen, *supra* note 103, at 88; Steven L. Schwarcz, *Systemic Risk*, 97 GEO. L.J. 193, 199 (2008).

¹⁰⁶ Okamoto, *supra* note 32, at 193.

¹⁰⁷ “In a prisoner’s dilemma, individuals rationally refuse to cooperate, even though cooperation would maximize everyone’s benefit, because they cannot trust others to cooperate and they will suffer the worst result if they cooperate and others do not.” Patricia A. McCoy, *The Moral Hazard Implications of Deposit Insurance: Theory and Evidence*, in 5 CURRENT DEVELOPMENTS IN FINANCIAL AND MONETARY LAW 417, 435 n.15 (2008).

past, and no depositor will be harmed. However, if some depositors lose confidence as a result of the panic and seek to withdraw all of their funds from the bank, then the bank will need to service those withdrawals with the cash it keeps on hand, and may run out of cash to service the ordinary withdrawals for the depositors who have not pulled all their money out of the bank. No depositor can be certain that other depositors will not panic and withdraw all of their funds, and a depositor who tries to withdraw after other depositors have taken all of the bank's cash will be in the worst possible position. Thus the first depositor is incentivized to withdraw his or her funds as early as possible. In a broad financial crisis, the first depositor's incentives to withdraw are even stronger, because a run on the bank will be exacerbated by declines in the market values of the bank's assets, and limitations on the ability of the bank to source liquidity elsewhere.¹⁰⁸

In the late nineteenth and early twentieth centuries, the U.S. banking system was subjected to frequent bank runs.¹⁰⁹ The populace became fed up with this cycle of banking crises, and in the wake of the Great Depression, popular pressure led to the introduction of legislation that insured deposits with commercial banks up to a fixed dollar amount.¹¹⁰ The introduction of deposit insurance has given depositors confidence that they will always be able to withdraw their deposits (up to the specified cap) from commercial banks, and deposit insurance has largely been effective in preventing runs by depositors on commercial banks.¹¹¹ However, as financial activities have become more complex, commercial banks have come to rely on many sources of short-term funding, not just deposits, and those other sources of funding are still vulnerable to runs.¹¹² Furthermore, financial institutions (such as investment banks) that do not have access to deposit funding have

¹⁰⁸ See Okamoto, *supra* note 32, at 193.

¹⁰⁹ There were significant bank panics in the United States in 1837, 1857, 1873, 1907, and, of course, during the Great Depression. Gary Gorton & Andrew Metrick, *Regulating the Shadow Banking System*, BROOKINGS PAPERS ON ECON. ACTIVITY, Fall 2010, at 281–83 [hereinafter Gorton & Metrick, *Regulating the Shadow Banking System*].

¹¹⁰ For a more detailed discussion of the introduction of deposit insurance, see *id.* at 281–83. See generally FED. DEPOSIT INS. CORP., A BRIEF HISTORY OF DEPOSIT INSURANCE IN THE UNITED STATES (1998). Deposit insurance is provided by the Federal Deposit Insurance Corporation, which was created by the Banking Act of 1933, Pub. L. No. 73-66, § 12B(a), 48 Stat. 162, 168 (1933). There is a cap on the amount of insured deposits per account holder per institution: when deposit insurance became effective on January 1, 1934, the cap was \$2,500, and this has increased over time. Banking Act of 1933 §12B(y). The most recent increase was effected during the Financial Crisis in 2008, when the cap was increased from \$100,000 to \$250,000. Press Release, Fed. Dep. Ins. Corp., FDIC Insurance Coverage Permanently Increased to \$250,000 per Depositor (July 21, 2010), available at <http://www.fdic.gov/news/news/press/2010/pr10161.html>.

¹¹¹ Hanson et al., *supra* note 15, at 4. See generally Douglas W. Diamond & Philip H. Dybvig, *Bank Runs, Deposit Insurance, and Liquidity*, 91 J. POL. ECON. 401 (1983).

¹¹² See generally Julie L. Stackhouse & Mark D. Vaughan, *Navigating the Brave New World of Bank Liquidity*, REGIONAL ECONOMIST, July 2003, at 12.

increasingly become susceptible to runs on their short-term funding sources.¹¹³

C. Runs on Other Sources of Funding

One popular source of non-deposit-based short-term funding is the “repurchase” market: investment banks were particularly reliant on this source of funding prior to the Financial Crisis.¹¹⁴ Even after the Financial Crisis, there continues to be heavy reliance by financial institutions on repurchase agreements.¹¹⁵

Repurchase agreements (known colloquially as “repos”) are agreements to sell securities with a promise to buy back those securities at the end of a fixed period.¹¹⁶ Practically speaking, repo transactions operate as secured loans by repo counterparties (i.e., the buyers of securities)¹¹⁷ to the institutions that sell, and then repurchase, the securities.¹¹⁸ Repo transactions are usually of short duration, often rolling over every day,¹¹⁹ and financial institutions often rely on this short-term

¹¹³ FRENCH ET AL., *supra* note 34, at 54; *see also* ALEXANDER ET AL., *supra* note 21, at 55–56 (discussing securities firms and systemic risk).

¹¹⁴ There is little conclusive data available about the size of the total repurchase market (which comprises both bilateral and tri-party repurchase agreements), but the Federal Reserve Bank of New York collects data on the tri-party repurchase market. The Federal Reserve Bank of New York estimates that at its peak in 2008, over \$2.8 trillion of financing was provided through the tri-party repurchase market. ADAM COPELAND ET AL., FED. RES. BANK OF N.Y., STAFF REPORT NO. 477, THE TRI-PARTY REPO MARKET BEFORE THE 2010 REFORMS 17 (Nov. 2010). In its report, the Task Force on Tri-Party Repo Infrastructure notes that “[a]t several points during the financial crisis of 2007–2009, the tri-party repo market took on particular importance in relation to the failures and near-failures of Countrywide Securities, Bear Stearns, and Lehman Brothers.” PAYMENTS RISK COMM., TASK FORCE ON TRI-PARTY REPO INFRASTRUCTURE REPORT 4 (2010). That said, it is very difficult to get a sense of exactly how reliant individual institutions were on repo in the lead-up to the Financial Crisis. Gary B. Gorton & Andrew Metrick, *Securitized Banking and the Run on Repo* 12–13 (Yale ICF Working Paper No. 09-14, Nov. 9, 2010) [hereinafter Gorton & Metrick, *Securitized Banking and the Run on Repo*]. Gorton and Metrick note that commercial banks like Citigroup, J.P. Morgan, and Bank of America supplement their traditional banking activities with some investment banking activities that are reliant on funding from the repo market, but that commercial banks are not as heavily reliant on repo as broker-dealers. *Id.* at 1, 13.

¹¹⁵ During the period between July 2009 and January 2010, the Federal Reserve Bank of New York estimated the average size of the tri-party repurchase market as more than \$1.5 trillion. COPELAND ET AL., *supra* note 114, at 17. Financial institutions are also reliant on other short-term funding sources that are susceptible to runs, such as commercial paper. For a discussion of runs on the commercial paper market during the Financial Crisis, *see generally* Allen, *supra* note 103.

¹¹⁶ For a more detailed discussion of the repurchase market, *see* Gorton & Metrick, *Securitized Banking and the Run on Repo*, *supra* note 114, at 10–14.

¹¹⁷ FINANCIAL CRISIS INQUIRY COMM’N, *supra* note 96, at 31. Repo counterparties are often other banks, or money market mutual funds.

¹¹⁸ *Id.*

¹¹⁹ *Id.*

repo funding to finance longer-term investments and trades that cannot be easily unwound. If a repo counterparty that ordinarily engages in repo transactions with a financial institution refuses to purchase securities from that institution, then that is similar to a depositor withdrawing his or her funds from a bank.¹²⁰ In each case, the party providing the funding (either the repo counterparty or the depositor) is not obliged to continue to provide funding, but the financial institution has an expectation that it can rely on such funding and accordingly makes longer-term commitments that are dependent on the continued availability of the short-term funding.¹²¹

A key difference between runs by depositors and runs by repo counterparties is in the way funding is withdrawn. A depositor that loses confidence in a bank simply seeks to withdraw his or her cash from the bank. In contrast, repo counterparties often stop short of an outright refusal to engage in repo transactions (although in extreme circumstances, they may do just that), and instead ask for more and/or better collateral than they would ordinarily request for the repo transaction.¹²² Returning to prisoner's dilemma theory, the repo counterparty may seek more/better collateral from the financial institution if the market starts to lose confidence in that institution, even if the repo counterparty privately has confidence that the institution is able to satisfy its obligations under the repo transaction. This is because if other counterparties seek to protect themselves with more/better collateral and the first counterparty does not, then the first counterparty will be in the worst possible position if the financial institution deploys all of its best assets collateralizing deals with other counterparties and gives low-quality collateral to the first counterparty, or worse, finds itself short of funds to repurchase the securities that form the basis of the repo trade with the first counterparty. Because of such a funding run, the financial institution may suffer a liquidity crisis that causes it distress, notwithstanding that it remains solvent from an accounting perspective.¹²³

The potential harmful effect of prisoner's dilemma calculus is even greater in a system-wide financial crisis. As discussed in Part IV.B above, in such a crisis asset values will be declining generally, which will make it harder for the financial institution to post sufficient collateral. Other funding sources will also be harder for the financial institution to access. If sufficient numbers of repo counterparties act in their rational self-interest and restrict funding to financial institutions, that collective activity may threaten a broad range of financial institutions, which may lead to taxpayer-fuelled bailouts. In addition, a financial institution that fails can no longer provide credit and liquidity to the broader

¹²⁰ Gorton & Metrick, *Securitized Banking and the Run on Repo*, *supra* note 114, at 1.

¹²¹ *See id.*

¹²² *See* Gorton & Metrick, *Regulating the Shadow Banking System*, *supra* note 109, at 279.

¹²³ Admati et al., *supra* note 9, at 52.

economy¹²⁴: if multiple institutions (or just one very large institution) fail, the resulting credit crunch may have serious implications for economic growth. Even those institutions that have not failed may be loath to provide credit to anyone when they are uncertain of their exposure to failing institutions.¹²⁵ Any resulting credit crunches will adversely affect society as a whole, not just the stakeholders in the failing financial institutions.

D. *The Run on Bear Stearns*

The dramatic fall of Bear Stearns in 2008 provides an excellent example of a short-term funding run on a financial institution. Like many of the investment banks operating in the United States in 2008, Bear Stearns was highly leveraged and highly reliant on short-term funding for its investments: in the lead-up to the Financial Crisis, Bear Stearns relied particularly on the overnight repo market for its funding.¹²⁶ On March 6, 2008, rumors began circulating that European banks were refusing to trade with Bear Stearns.¹²⁷ By March 10, 2008, rumors suggested that some of Bear Stearns' U.S. counterparties had refused to trade with it.¹²⁸ The media began to report that counterparties were refusing to deal with Bear Stearns.¹²⁹ These rumors, reinforced by media reporting, created a popular narrative of a financial institution in trouble.¹³⁰ The cost of purchasing CDS protection with respect to

¹²⁴ During the Financial Crisis, the problems on Wall Street began to affect other sectors of the economy when businesses and local governments were no longer able to obtain credit. Markus K. Brunnermeier, *Deciphering the Liquidity and Credit Crunch 2007–2008*, 23 J. ECON. PERSP. 77, 90 (2009).

¹²⁵ In a general environment of uncertainty, financial institutions are also likely to reduce lending in a type of “[p]recautionary hoarding” which occurs when “lenders are afraid that they might suffer from interim shocks and that they will need funds for their own projects and trading strategies.” *Id.* at 95. As mentioned above, banks often act as repo counterparties to other banks, so precautionary hoarding can exacerbate a run on a bank’s short-term repo funding.

¹²⁶ The Financial Crisis Inquiry Commission (FCIC) found that “Bear funded much of its operations borrowing short-term in the repo market; it borrowed between \$50 and \$70 billion overnight.” FINANCIAL CRISIS INQUIRY COMM’N, *supra* note 96, at 281. The FCIC also found that this number increased in late 2007/early 2008: Bear Stearns increased its reliance on repo funding because it was experiencing difficulty raising alternative funding in the commercial paper market. *Id.* at 283.

¹²⁷ Kate Kelly et al., *Fed Races to Rescue Bear Stearns in Bid to Steady Financial System*, WALL ST. J., Mar. 15, 2008, at A1; Roddy Boyd, *The Last Days of Bear Stearns*, FORTUNE (Mar. 31, 2008), http://money.cnn.com/2008/03/28/magazines/fortune/boyd_bear.fortune/.

¹²⁸ Boyd, *supra* note 127.

¹²⁹ On March 13, 2008, the Wall Street Journal ran an article that “reported that firms were growing cautious about their dealings with Bear.” Kelly et al., *supra* note 127.

¹³⁰ Boyd, *supra* note 127.

\$10 million of Bear Stearns' bonds increased to over \$600,000 (it had been less than \$100,000 a year earlier).¹³¹

Over the course of the following week, many of the repo counterparties that ordinarily provided Bear Stearns with short-term funding did indeed stop trading with it on customary terms, requiring cash or treasury securities when they had previously been willing to accept other securities as collateral for repo trades.¹³² Because of the prevailing distrust of Bear Stearns as a counterparty, even those counterparties that believed that Bear Stearns was fundamentally sound were put in a difficult position: "[i]f Bear did fail, they would have to explain to their clients why they ignored the rumors."¹³³ Some repo counterparties refused to trade with Bear Stearns at all, even if Bear Stearns offered to post treasury securities as collateral.¹³⁴ This was effectively a run on Bear Stearns by its repo counterparties,¹³⁵ of the type discussed in Part IV.C above. Bear Stearns went into rapid decline, and within a week an acquisition by JPMorgan Chase was necessary.¹³⁶

In testimony before the U.S. Senate Banking Committee, Bear Stearns President and CEO Alan Schwartz stated:

Due to the stressed condition of the credit market as a whole and the unprecedented speed at which rumors and speculation travel and echo through the modern financial media environment, the rumors and speculation became a self-fulfilling prophecy. . . . I want to emphasize that the impetus for the run on Bear Stearns was in the first instance the result of a lack of confidence, not a lack of capital or liquidity.¹³⁷

While such a statement from Bear Stearns' former CEO can be read as self-serving, it appears to be a reasonably correct description of the events

¹³¹ GILLIAN TETT, FOOL'S GOLD: HOW THE BOLD DREAM OF A SMALL TRIBE AT J.P. MORGAN WAS CORRUPTED BY WALL STREET GREED AND UNLEASHED A CATASTROPHE 218 (2009).

¹³² Kelly et al., *supra* note 127.

¹³³ *Id.*

¹³⁴ FINANCIAL CRISIS INQUIRY COMM'N, *supra* note 96, at 288.

¹³⁵ Kelly et al., *supra* note 127 (quoting Tim Bond, Barclays Capital Strategist); Okamoto, *supra* note 32, at 197. For a more general discussion of runs on repo, see Gorton & Metrick, *Securitized Banking and the Run on Repo*, *supra* note 114.

¹³⁶ The loss of confidence in Bear Stearns by its prime brokerage clients and derivatives counterparties also contributed to Bear Stearns' downfall. Hedge fund and institutional clients that used Bear Stearns as a custodian began withdrawing from their brokerage accounts, depriving Bear Stearns of significant fees and collateral to rehypothecate. See Kelly et al., *supra* note 127; Okamoto, *supra* note 32, at 197. Also, Bear Stearns' derivatives counterparties increasingly became reluctant to deal with it, depriving it of the fees associated with that business. See FINANCIAL CRISIS INQUIRY COMM'N, *supra* note 96, at 287.

¹³⁷ Statement of Alan Schwartz, President and C.E.O. of the Bear Stearns Companies, Inc., Before the S. Banking Comm. 1 (Apr. 3, 2008).

of 2008.¹³⁸ At the beginning of March 2008, Bear Stearns satisfied all of its regulatory capital requirements, and had a liquidity cushion of approximately \$18 billion.¹³⁹ Bear Stearns was still able to post the usual collateral for its repo trades, so its counterparties' refusal to provide the usual secured funding seems best explained by a loss of confidence in the collateral itself, a loss of confidence in Bear Stearns as a counterparty, or a combination of the two.

There was certainly a loss of confidence in the usual collateral for Bear Stearns' repo trades: Bear Stearns held large quantities of subprime mortgages in March 2008, and the general decline of the subprime mortgage market brought into question the quality of those mortgages as collateral.¹⁴⁰ However, this does not explain why some repo counterparties refused to provide any funding to Bear Stearns in March 2008, even when Bear Stearns offered to post ultra-safe treasury securities as collateral.¹⁴¹ In their examination of data from the system-wide run on repo during the Financial Crisis, economists Gary B. Gorton and Andrew Metrick concluded that concerns about collateral value alone would not cause a run on repo.¹⁴² It appears from Gorton and Metrick's research that a failure of confidence in Bear Stearns as a counterparty was a precondition to the run on Bear Stearns' repo funding.¹⁴³

V. THE DESTRUCTION OF CONFIDENCE

The previous Part examined the consequences of a loss of confidence in a financial institution. Drawing on the experience of the Financial Crisis, this Part provides a brief background on panic selling, short selling, and the use of CDSs, and then examines how they exacerbate a loss of confidence. Part VI then goes on to examine how an impending coco conversion is likely to prompt such panic selling, short selling, and the use of CDSs, potentially setting off a funding run.

¹³⁸ More independent voices have come to similar conclusions. For example, Professor Steven Schwarcz notes that "Bear Stearns, for example, did not collapse because of problems with economic fundamentals . . . [its mortgage-backed securities holdings] created fear among its contractual counterparties who then refused to have further dealings." Schwarcz, *supra* note 105, at 248 n.345. Even financial institutions "with enormous positive net worth" can fall into bankruptcy if they lose their ability to attract counterparties on a daily basis. Okamoto, *supra* note 32, at 203.

¹³⁹ FINANCIAL CRISIS INQUIRY COMM'N, *supra* note 96, at 287.

¹⁴⁰ Okamoto, *supra* note 32, at 197.

¹⁴¹ FINANCIAL CRISIS INQUIRY COMM'N, *supra* note 96, at 288.

¹⁴² Gorton & Metrick, *Securitized Banking and the Run on Repo*, *supra* note 114, at 27.

¹⁴³ In a similar vein, Admati et al. note that "[t]he breakdowns of repo refinancing for Bear Stearns and Lehman Brothers were triggered by asset price declines, in particular, in these institutions' share prices." Admati et al., *supra* note 9, at 34. The reduction in share price is both a manifestation and a cause of a loss of confidence in an institution.

A. Panic Selling

In a rational, efficient market, the prices of securities like shares and bonds are meant to be a correct reflection of the intrinsic value of those securities, as deduced from the information available to the market about the securities themselves, and about the issuers of those securities.¹⁴⁴ So the theory goes, if a rational investor were to receive information about a particular security or its issuer that shows that the price of the security is higher than its intrinsic value, then the investor would offer to sell that security.¹⁴⁵ However, in reality, investors sometimes sell for reasons that do not depend entirely on the intrinsic value of a security or the exchange of reliable and verifiable information: an emotional reaction to gossip, the media, and the behavior of other investors can cause investors to panic and lose confidence in a security or its issuer.¹⁴⁶ When an investor is panicked, the price at which he or she is willing to sell a security reflects not so much the fundamental underlying value of the security, but the impetus to get rid of the security.

This too can be explained by reference to prisoner's dilemma theory.¹⁴⁷ The sale of a single security will only depress the price of that security by a small amount, but if a large number of investors seek to sell the same securities at the same time, then that will cause a large negative price swing.¹⁴⁸ The holders of such securities would therefore be best off if they all refrained from selling their securities, but because securities holders cannot trust other holders not to sell, if they sense a panic they will seek to gain an "early-mover advantage" by selling first and getting the best price possible. This will depress the price of the securities for other securities holders and inspire further panic and selling, creating a negative feedback loop. The drop in value for debt instruments (especially those that are new and thinly traded) is likely to be more extreme than for equity securities like shares, because there are fewer potential buyers in the less liquid debt markets.¹⁴⁹

B. Short Selling

In the simplest terms, being "short" on a stock is equivalent to wanting the price of that stock to fall. Short selling occurs when a person sells stock that he or she does not own, or consummates a sale of stock

¹⁴⁴ This is Eugene Fama's famed "efficient market hypothesis." See, e.g., Eugene F. Fama, *The Behavior of Stock-Market Prices*, 38 J. BUS. 34, 90 (1965).

¹⁴⁵ *Id.* at 38.

¹⁴⁶ AKERLOF & SHILLER, *supra* note 97, at 55–56.

¹⁴⁷ Brunnermeier, *supra* note 124, at 96.

¹⁴⁸ *Id.* at 92.

¹⁴⁹ *Id.* at 94. Typically, debt instruments such as cocos are more thinly traded than equity stocks.

with stock that he or she has borrowed.¹⁵⁰ A short seller does this in the hope that by the time the short seller needs to provide the stock to the buyer to close out the sale, the market price of the stock will have fallen (thus the seller can acquire equivalent stock for a price that is less than what the seller sold the stock for).¹⁵¹ A person may sell short in order to speculate,¹⁵² or in order to hedge or offset other exposure that the investor has. If the short seller is a speculator, then his or her profit will be the difference between the sale price and the purchase price.¹⁵³ However, if the price of the stock rises and the speculator needs to liquidate its position, the speculator will need to acquire the stock at that higher price before it can close out the trade, and will make a loss.¹⁵⁴

For decades, there have been debates about whether short selling should be permitted,¹⁵⁵ but discussions about the merits of short selling

¹⁵⁰ This is the definition used in Regulation SHO—Regulation of Short Sales, 17 C.F.R. § 242.200(a) (2011), promulgated by the SEC pursuant to the Securities Exchange Act of 1934, 15 U.S.C. § 78w (2006).

¹⁵¹ In the United States, short selling of stocks is regulated by the SEC pursuant to Regulation SHO. Section 242.203 of Regulation SHO prohibits a broker/dealer from accepting a short sale order unless the broker/dealer has arranged to borrow the security, or has reasonable grounds to believe that the security can be borrowed in time to satisfy delivery obligations (this is known as the “locate” requirement). 17 C.F.R. § 242.203 (2011). Section 242.204 of Regulation SHO imposes a “close-out” requirement (i.e., a requirement to purchase or borrow undelivered shares to close out trades) with respect to certain securities (known as “threshold securities”) for which there have been extended delivery failures at a clearing agency. 17 C.F.R. § 242.204 (2011). Until the close-out requirement has been satisfied, broker-dealers may not effect a short sale order in the equity securities to which the close-out requirement relates without having arranged to borrow said securities. *See* Amendments to Regulation SHO, 74 Fed. Reg. 38266, 38291–93 (July 31, 2009) (to be codified at 17 C.F.R. pt. 242). In the wake of the Financial Crisis, the SEC has amended section 242.201 of Regulation SHO to introduce a short sale-related circuit breaker. 17 C.F.R. § 242.201 (2011). This is intended to prevent short sales of securities that have decreased 10% or more from their closing price at the end of trading on the previous day. The circuit breaker rule has the potential to limit some bear raids on financial institutions, although a recent simulation of the short selling orders placed during September/October 2008 found that Rule 201 would not have been particularly effective had it been in place during that period. Chinmay Jain et al., *Short Selling: The Impact of SEC Rule 201 of 2010*, at 1 (Mar. 2011), available at <http://ssrn.com/abstract=1718137>. Furthermore, section 242.201 will not curb panic selling. *See* Amendments to Regulation SHO, 75 Fed. Reg. 11232, 11232, 11323–24 (Mar. 10, 2010) (to be codified at 17 C.F.R. pt. 242).

¹⁵² *Short Selling*, INVESTORGUIDE, <http://www.investorguide.com/igu-article-827-stock-strategies-short-selling.html>.

¹⁵³ *Id.*

¹⁵⁴ *Id.*

¹⁵⁵ For a history of public distrust of short selling, see ROBERT SLOAN, DON'T BLAME THE SHORTS: WHY SHORT SELLERS ARE ALWAYS BLAMED FOR MARKET CRASHES AND HOW HISTORY IS REPEATING ITSELF (2010). Essentially, the proponents of short selling take the view that it provides necessary liquidity to equity markets and market discipline for equities issuers. *Id.* at xiii–xiv. The detractors take the view that short

took on a new urgency during the Financial Crisis. Financial institutions were blaming short sellers for their failure,¹⁵⁶ and the short sellers countered that the institutions were failing because they were over-leveraged and held bad and improperly valued assets.¹⁵⁷ The SEC sided with the financial institutions, and effective July 21, 2008, it temporarily banned naked short selling in the securities of a short list of large financial institutions.¹⁵⁸ On September 18, 2008, the SEC took the extraordinary step of placing an outright ban on the shorting of stock in a broad range of financial institutions.¹⁵⁹ The SEC explained its September ban as follows:

[W]e were concerned that false rumors spread by short sellers regarding financial institutions of significance in the U.S. could continue to threaten significant market disruption. . . . [F]alse rumors can lead to a loss of confidence in our markets. Such loss of confidence can lead to panic selling, which may be further exacerbated by “naked” short selling. As a result, the prices of securities may artificially and unnecessarily decline well below the price level that would have resulted from the normal price

selling artificially depresses the price of securities and creates incentives for market manipulation. *Id.* at xvi.

¹⁵⁶ Richard Fuld, former CEO of Lehman Brothers, testified that “[t]he naked shorts and rumor mongers succeeded in bringing down Bear Stearns. And I believe that unsubstantiated rumors in the marketplace caused significant harm to Lehman Brothers.” Statement of Richard S. Fuld, Jr. Before the H. Comm. on Oversight and Gov’t Reform 10 (Oct. 6, 2008). Citigroup CEO Vikram Pandit complained that short sellers nearly brought down Citigroup. See Nelson D. Schwartz, *Those Wall Street Gamblers Might Not Be Bad After All*, N.Y. TIMES (Mar. 20, 2010), <http://www.nytimes.com/2010/03/21/weekinreview/21schwartz.html>.

¹⁵⁷ William Fleckenstein of Fleckenstein Capital, a short-only hedge fund, stated, “[f]inancial stocks imploded because of the drunkenness with which executives buying questionable securities levered-up in obscene fashion Short sellers didn’t do this. The banks were reckless and they held bad assets. That’s the story.” Gary Matsumoto, *Naked Short Sales Hint Fraud in Bringing Down Lehman*, BLOOMBERG (Mar. 19, 2009), <http://www.bloomberg.com/apps/news?pid=newsarchive&sid=aB1jIqmFOTCA>. David Einhorn of Greenlight Capital gave multiple speeches and interviews during April and May of 2008 in which he criticized Lehman Brothers’ valuation procedures and announced that Greenlight Capital had a short position in Lehman for that reason. See LAWRENCE G. McDONALD WITH PATRICK ROBINSON, *A COLOSSAL FAILURE OF COMMON SENSE: THE INSIDE STORY OF THE COLLAPSE OF LEHMAN BROTHERS* 286–89 (2009).

¹⁵⁸ Emergency Order Pursuant to Section 12(k)(2) of the Securities Exchange Act of 1934 Taking Temporary Action to Respond to Market Developments, 73 Fed. Reg. 42379 (July 21, 2008).

¹⁵⁹ Emergency Order Pursuant to Section 12(k)(2) of the Securities Exchange Act of 1934 Taking Temporary Action to Respond to Market Developments, 73 Fed. Reg. 55169, 55170–74 (Sept. 18, 2008). No action was taken to suspend the use of CDSs with respect to financial institutions, because the SEC did not have the authority to regulate CDSs at that time (nor did the Commodity Futures Trading Commission, which was the other U.S. regulator with some jurisdiction over derivatives).

discovery process. If significant financial institutions are involved, this chain of events can threaten disruption of our markets.¹⁶⁰

While many have criticized the September ban and questioned its efficacy,¹⁶¹ the SEC's underlying concern was nonetheless valid. Even though bulk short selling and the spreading of rumors are only likely to depress stock prices below their fundamental values for a brief period of time,¹⁶² financial institutions are highly reliant on confidence for the continuation of their short-term funding, and even a brief depression of a financial institution's stock price may be sufficient to set off a funding run.

C. Credit Default Swaps

A CDS is a derivative instrument that allows the purchaser of the instrument to buy protection with respect to an underlying debt instrument (the "reference obligation").¹⁶³ Where the buyer of a CDS has no interest in the reference obligation, the CDS is referred to as a "naked CDS."¹⁶⁴ The buyer of the CDS pays a fixed premium (also known as the "spread") to the seller of the CDS over a fixed period in return for a promise by the seller to pay a fixed amount to the buyer if a "credit event" (such as a failure to pay, a bankruptcy, or a downgrade by a credit rating agency) occurs with respect to the "reference entity" that issued the reference obligation.¹⁶⁵ Upon the occurrence of the credit event, the seller will pay the buyer and the buyer will deliver the reference obligations to the seller.¹⁶⁶ Alternatively, the parties may agree to settle the transaction in cash with the seller making a cash payment to the buyer in the amount of the fixed payout less the then current market value of the reference obligations.¹⁶⁷ As such, a CDS buyer only faces a

¹⁶⁰ "Naked" Short Selling Anti Fraud Rule, 73 Fed. Reg. 61666, 61668–69 (Oct. 17, 2008) (to be codified at 17 C.F.R. pt. 240).

¹⁶¹ Critics cite the resulting deterioration in market quality and price inflation. See, e.g., Don M. Autore et al., *Short Sale Constraints, Dispersion of Opinion, and Market Quality: Evidence from the Short Sale Ban on U.S. Financial Stocks*, U.S. SEC. & EXCH. COMM'N, 27–28 (June 2009), <http://www.sec.gov/comments/s7-08-09/s70809-3779.pdf>. Also, the September ban had the unintended consequence of effectively shutting down the convertible bond market.

¹⁶² For further discussion, see Merrit B. Fox et al., *Short Selling and the News: A Preliminary Report on an Empirical Study*, 54 N.Y.L. SCH. L. REV. 645, 653–54 (2009/10).

¹⁶³ Kristin N. Johnson, *Things Fall Apart: Regulating the Credit Default Swap Commons*, 82 U. COLO. L. REV. 167, 194 (2011).

¹⁶⁴ *Id.* at 197.

¹⁶⁵ *Id.* at 194; Matthew A. Kluchenek & Nicole M. Kuchera, *A Credit Default Swaps Primer: Uses, Mechanics, Benefits, Risks, Regulation, and Developments*, 27 J. TAX'N INVS. 3, 5–6 (2009).

¹⁶⁶ Kluchenek & Kuchera, *supra* note 165, at 6.

¹⁶⁷ For further detail, see *id.* at 6; Janis Sarra, *Financial Market Destabilization and the Role of Credit Default Swaps: An International Perspective on the SEC's Role Going Forward*, 78 U. CIN. L. REV. 629, 631 (2009); Johnson, *supra* note 163, at 194.

limited risk, being the amount of the spread.¹⁶⁸ The amount of the spread is determined by market demand for the CDS (the more demand, the higher the spread), and the spread is in turn viewed by the market as a reflection of information about the reference entity.¹⁶⁹ A higher spread is seen as an indication that the market thinks a reference entity is more likely to default.¹⁷⁰

CDSs were first developed in the early 1990s.¹⁷¹ CDSs have been largely unregulated for most of their history,¹⁷² which means that to date there has been little check on the amount of CDS protection that sellers in the United States can issue. Multiple CDSs could therefore be issued with respect to a single reference obligation, exponentially magnifying the impact of the failure of that reference obligation.¹⁷³ When Title VII of Dodd-Frank becomes fully effective, it may curb the amount of CDSs that are written in the United States.¹⁷⁴ However, CDSs are highly mobile and CDS issuers need not have a territorial nexus with the reference entity.¹⁷⁵ Dodd-Frank cannot regulate the issuance of CDSs by foreign institutions,

¹⁶⁸ GEORGE SOROS, *THE CRASH OF 2008 AND WHAT IT MEANS* 166 (2008).

¹⁶⁹ Kluchenek & Kuchera, *supra* note 165, at 6; Gary Gorton, *Are Naked Credit Default Swaps Too Revealing?*, *INV. DEALERS' DIGEST*, June 4, 2010, available at http://faculty.som.yale.edu/garygorton/published_papers.html.

¹⁷⁰ For further discussion of this point, see Gorton, *supra* note 169.

¹⁷¹ SOROS, *supra* note 168, at xviii.

¹⁷² This was part of a conscious decision on the part of financial regulators in the United States to leave credit derivatives, and other over-the-counter swaps, unregulated. In his 1998 testimony before the House Committee on Banking and Financial Services, Alan Greenspan summarized the pre-Financial Crisis laissez-faire attitude toward over-the-counter swaps: "Aside from safety and soundness regulation of derivatives dealers under the banking and securities laws, regulation of derivatives transactions that are privately negotiated by professionals is unnecessary." *FINANCIAL CRISIS INQUIRY COMM'N*, *supra* note 96, at 47–49.

¹⁷³ See JOHN GEANAKOPOLOS, *SOLVING THE PRESENT CRISIS AND MANAGING THE LEVERAGE CYCLE* 16 (2009), available at http://fcic-static.law.stanford.edu/cdn_media/fcic-testimony/2010-0226-Geanakoplos.pdf.

¹⁷⁴ A detailed discussion of the impact of Title VII is beyond the scope of this Article, but it is possible that when the central clearing, exchange trading, and margin requirements of Title VII become fully effective, they will limit the amount of CDSs that are written in the United States. Kristin Johnson argues that the clearing requirements of Title VII of Dodd-Frank improve information exchange and transparency, such that "if market participants had been required to clear credit default swap transactions during the years before the crisis, it is unlikely that AIG would have entered into such a significant volume of credit default swap agreements acting as a protection seller without triggering at least an investigation into its collateral accounting policies and its ability to satisfy obligations under the agreements." Johnson, *supra* note 163, at 238. However, there are exemptions from Dodd-Frank's clearing requirements for CDSs that are highly customized or thinly traded, or if one of the counterparties is not a "financial entity" and is using the CDS to "hedge or mitigate commercial risk." Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 723, 124 Stat. 1376, 1679 (2010). It remains to be seen if these exemptions will be broadly construed—if so, Dodd-Frank will do little to limit the amounts of CDSs that are written in the United States.

¹⁷⁵ Sarra, *supra* note 167, at 650–51.

even if those CDSs relate to obligations of United States financial institutions.¹⁷⁶ Therefore, notwithstanding the reforms of Dodd-Frank, CDSs will continue to be able to be used to multiply the number of possible bets on the failure of a bank's reference obligations, potentially damaging confidence in that bank.

D. The Destruction of Confidence

As the discussion above shows, large volumes of panic selling and short selling depress the price of the securities being sold, and large volumes of purchases of CDSs that reference a particular bank increase the spread on those CDSs. Because the market has limited information and ability to judge the financial condition of banks,¹⁷⁷ CDS spreads and share prices are some of the most important sources of information available about a bank. Negative changes in these indicators are likely to be interpreted by the market as symptomatic of problems with the bank, whether or not the fundamentals of the bank have in fact deteriorated.¹⁷⁸ In a world of perfect information and rationality, CDS spreads would only increase and securities prices would only fall for good reason, and affected banks would respond to this market discipline by taking steps to remedy the market's concerns, thus restoring share prices and CDS spreads to previous levels. However, market discipline on financial institutions is rarely measured and often takes the form of panic and runs: Admati et al. refer to this as an "inefficient destruction of asset values."¹⁷⁹

If the market perceives that a bank is in trouble, then counterparties will be wary of providing it with short-term funding without requiring more and better collateral.¹⁸⁰ As the bank finds it more difficult to obtain funding, it will be more likely that it will be rendered insolvent.¹⁸¹ A change to the narrative about confidence in a financial institution can thus become a self-fulfilling prophecy, as summarized by George Soros:

[T]he mispricing of financial instruments can affect the fundamentals that market prices are supposed to reflect. Nowhere

¹⁷⁶ See generally Dodd-Frank Wall Street Reform and Consumer Protection Act.

¹⁷⁷ HEIDI MANDANIS SCHOONER & MICHAEL W. TAYLOR, GLOBAL BANK REGULATION: PRINCIPLES AND POLICIES, at xiv (2010).

¹⁷⁸ Falling stock prices and increasing CDS spreads may also cause credit rating agencies like Standard & Poor's and Moody's to downgrade a financial institution's rating. The markets often view a rating downgrade as confirmation of problems with the rated institution, which will increase funding costs for that institution, and may potentially trigger contractual obligations on it to collateralize existing debt.

¹⁷⁹ Admati et al., *supra* note 9, at 35.

¹⁸⁰ Runs on the repo market, an important source of short-term funding for banks, are discussed in more detail in Part IV.C.

¹⁸¹ The Squam Lake Report refers to such an eventuality as a "death spiral." FRENCH ET AL., *supra* note 34, at 92-93. The IMF notes that "[m]arkets can be distorted, especially during times of stress, and therefore fail to provide the right signals." Pazarbasioglu et al., *supra* note 4, at 24.

is this phenomenon more pronounced than in the case of financial institutions whose ability to do business is so dependent on confidence and trust. A decline in their share and bond prices can increase their financing costs. That means that bear raids on financial institutions can be self-validating¹⁸²

If financial institutions are forced to close, this creates costs for the broader economy in the form of restricted credit. These costs are likely to be much greater than the costs of allowing an insolvent financial institution to continue to operate for a brief period of time,¹⁸³ so financial regulation should err on the side of protecting confidence and avoiding runs.¹⁸⁴

VI. COCOS CAN DRIVE MARKETS CUCKOO

Cocos are currently being promoted by many policymakers, regulators, and academics as a cheaper, more appealing alternative to common equity.¹⁸⁵ However, many of those promoting coco have disregarded or underestimated the harm that an impending coco trigger event is likely to do to market confidence in the coco issuer.¹⁸⁶ Because trigger events are low-probability and conversion into equity is such a fundamental and irreversible change to the coco, the perception that a trigger event is likely to occur will be enough to cause concern about the coco issuer. Even if there is no rational basis for this perception, it will incentivize stakeholders in the coco issuer, as well as speculators, to engage in panic selling and shorting activity. As discussed in the previous Part, these types of activities can be further deleterious of confidence in financial institutions, and that further loss of confidence is likely to manifest itself in the form of funding shortages for the coco issuer that will impact its ability to operate as a going concern.

¹⁸² SOROS, *supra* note 168, at 167.

¹⁸³ Flannery, *supra* note 17, at 185.

¹⁸⁴ Ronald J. Colombo notes that the restoration of trust and confidence in the financial markets is a “perennial justification, and a perennial objective” of financial regulation. Colombo, *supra* note 90, at 577. While Colombo validly questions the extent to which regulation can in fact increase confidence in the financial system, this Article is interested in the inverse of this issue—avoiding regulations that endorse an instrument that is likely to *decrease* confidence in the financial system.

¹⁸⁵ See, e.g., FINAL REPORT OF THE COMMISSION OF EXPERTS, *supra* note 75, at 6, 25; FRENCH ET AL., *supra* note 34, at 86, 138; Pazarbasioglu et al., *supra* note 4, at 4; PITT ET AL., *supra* note 11, at 1.

¹⁸⁶ For example, the Squam Lake Report takes the position that “the prospect of a conversion of long-term debt to equity is likely to make short-term creditors and other counterparties more confident about a bank’s future,” but neglects to consider that the conversion could be part of, and reinforce, a general loss of confidence in the bank. FRENCH ET AL., *supra* note 34, at 90. The IMF advocates the use of cocos, even as it concedes that “market perception of a bank’s financial condition could be adversely impacted as bank capital approaches the conversion trigger” and that such a market perception has the potential to affect the availability of funding for, and ultimate stability of, such a bank. Pazarbasioglu et al., *supra* note 4, at 5.

Cocos start as debt instruments, and convert to equity only upon the occurrence of a trigger event. While there is little consensus about what should constitute a trigger event,¹⁸⁷ all of the proposals discussed in Part III.B above are similar in that conversion will only be triggered if a low-probability, high-consequence tail event occurs.¹⁸⁸ The probability is, then, that cocos will *not* be converted during their lifetime. Given this characterization of cocos, it would not be surprising if many buyers of cocos almost entirely discount the possibility of conversion and expect only to hold a debt instrument.¹⁸⁹ Investors are notoriously likely to discount the occurrence of tail events.¹⁹⁰ Coco investors will buy cocos not because they want to hold equity in the coco issuer, but because they want to buy debt instruments with a significantly higher yield.¹⁹¹ While this higher yield should ideally reflect the cost of the risk that cocos will be converted to equity, such a risk is very difficult to price,¹⁹² and as such the yield is unlikely to be an accurate estimate of the true cost of conversion to the coco holder. All of this raises the question of how a coco holder will react in the unlikely event that a conversion trigger event suddenly appears likely.

Consider a hypothetical investor, Mills Fund, in our hypothetical Sonny Bank. For illustrative purposes, assume that Sonny Bank has issued four types of cocos, and Mills Fund has bought significant amounts of each type:

- Type 1 will convert to equity if the cost of buying a CDS that references Sonny Bank increases above \$X;
- Type 2 will convert to equity if Sonny Bank's stock price drops below \$Y per share;
- Type 3 will convert to equity if Sonny Bank's regulators determine in their discretion that the cocos should convert (either because of a system-wide crisis, or because of isolated problems with Sonny Bank); and

¹⁸⁷ See *supra* notes 53–59 and accompanying text.

¹⁸⁸ *Id.*

¹⁸⁹ Investors in hybrid debt-equity securities generally think of them and treat them as bonds. Humphreys & Pinedo, *supra* note 10, at 68–69.

¹⁹⁰ This is a basic tenet of behavioral economics: “[u]nrealistic optimism is a pervasive feature of human life; it characterizes most people in most social categories. When they overestimate their personal immunity from harm, people may fail to take sensible preventative steps.” RICHARD H. THALER & CASS R. SUNSTEIN, *NUDGE: IMPROVING DECISIONS ABOUT HEALTH, WEALTH, AND HAPPINESS* 33 (2008).

¹⁹¹ Logutenkova & Wille, *supra* note 73 (citing comments of UBS's Chief Financial Officer John Cryan).

¹⁹² To some extent, the difficulty in pricing stems from the fact that the markets are not quite sure what to do with cocos yet, given that they are fairly new instruments and there have been very few issuances to date. There is a more fundamental issue with coco pricing, though, and that is that trigger events will only occur in low-probability circumstances, and investors tend to find it difficult to accurately estimate the risk associated with these kinds of tail events. For a discussion of the difficulty in estimating tail event risk, see Schwarcz, *supra* note 105, at 233.

- Type 4 will convert to equity if the ratio of Sonny Bank's capital to risk-weighted assets falls below Z:1.

Mills Fund has bought cocos because it wants the certainty of receiving regularly scheduled repayments of principal and interest from Sonny Bank. It is not interested in holding Sonny Bank's equity,¹⁹³ which does not guarantee any regular payment to Mills Fund. While Mills Fund was attracted by Sonny Bank's cocos because they pay more interest than Sonny Bank's regular bonds (because of the risk of conversion), at the time of purchase, Mills Fund largely discounted the possibility of conversion.

Unfortunately, Sonny Bank runs into difficulties, and the markets start to believe that the conversion of Sonny Bank's cocos is suddenly a lot more probable. Mills Fund hears these rumors, and is concerned because it does not want to hold equity in Sonny Bank—it therefore tries to sell the cocos before they convert. To the extent that Mills Fund is able to sell Sonny Bank cocos when markets lack confidence in Sonny Bank, it is likely to be panic selling at a discounted price, and the resulting reduction in the market value of Sonny Bank's cocos could be seen by the markets as a self-validating indicator of problems with Sonny Bank.

Debt markets are not always particularly liquid, however, and Mills Fund may have difficulty locating any buyers for the cocos. In the absence of a liquid market for the cocos, Mills Fund may wish to hedge its exposure to Sonny Bank. It could do this by shorting the stock of Sonny Bank¹⁹⁴ or by entering into a CDS to hedge the risk of conversion.¹⁹⁵ (This would not be a typical CDS, because the occurrence of a trigger event is not a default under the coco, but it is nonetheless conceivable that a CDS could be structured such that the occurrence of a trigger event is considered a "credit event" that requires payment to Mills Fund under the CDS. Alternatively, a new swap instrument could evolve—a "credit conversion swap," or "CCS" if you will—which would behave very much like a CDS except that the obligation of the CCS issuer to pay Mills Fund would apply upon the conversion of Sonny Bank's cocos, rather than upon the occurrence of a default.)

¹⁹³ Some institutional investors may even be constrained by investment mandates that do not allow them to hold equity. PITT ET AL., *supra* note 11, at 10. It may be that, because of these mandates, institutional investors do not invest in cocos at all. Alternatively, the institutional investors may consider the chances of conversion to equity sufficiently remote that they feel comfortable investing in cocos, and plan to sell off the equity immediately upon the unlikely event of a conversion. The latter scenario would likely lead to panic selling of financial institution stock at fire sale prices, damaging confidence in the financial institution and reducing the value of the bank's capital.

¹⁹⁴ See Goodhart, *supra* note 54.

¹⁹⁵ Indeed, the lack of liquidity in the debt markets was the inspiration for the creation of credit derivatives such as CDSs. Before CDSs were widely used, it was very difficult to trade credit. Gorton, *supra* note 169; see also Johnson, *supra* note 163, at 204.

Mills Fund, while a large holder of Sonny Bank's cocos, is by no means the only holder of those cocos. If other holders of Sonny Bank's cocos also do not want to hold Sonny Bank's equity, then they will have similar incentives, and are thus likely to act in a similar way to Mills Fund. The more investors that sell Sonny Bank's cocos in a panic, the lower the market price of a Sonny Bank coco is likely to be driven. When the markets see that the price of Sonny Bank's cocos is falling, that will damage market confidence in Sonny Bank. Similarly, the more that investors short Sonny Bank's stock, the more depressed the stock price will be, and that will damage confidence in Sonny Bank. If many investors seek CDS/CCS protection with respect to Sonny Bank's cocos, the price of CDSs/CCSs will be driven higher. Such an increase in spread will be interpreted by the markets as an indicator of increased likelihood of the conversion of Sonny Bank's cocos, and is likely to damage confidence in Sonny Bank.¹⁹⁶

Cocos also create incentives for individuals who do not have any interest in those cocos: if the conversion of Sonny Bank's cocos into equity seems likely, existing holders of the common equity in Sonny Bank will fear dilution of their stock holdings. These stockholders are thus incentivized to engage in quick sales of their holdings, even if the sales are at a discount, and further depress the market value of Sonny Bank's stock. Speculators are also likely to become interested in Sonny Bank when they witness these types of adverse developments and volatility.¹⁹⁷ Speculators may be incentivized to short Sonny Bank's stock, as a bet that Sonny Bank's share price will fall yet further.¹⁹⁸ Speculators may also become interested in using naked CDSs/CCSs to place a bet as to whether it is likely that Sonny Bank's cocos will be converted into equity, or as a proxy for a bet on the health of Sonny Bank.¹⁹⁹ If numerous

¹⁹⁶ A CDS spread is viewed by the market as a reflection of information about the reference entity. A higher spread is seen as an indication that the market thinks a reference entity is more likely to default. For further discussion of this point, see Gorton, *supra* note 169.

¹⁹⁷ "Some counterparties participate in the CDS market to capitalize on the volatility in credit spreads during times of economic uncertainty." Sarra, *supra* note 167, at 632. George Soros takes the view that "[p]eople buy [CDSs] not because they expect an eventual default but because they expect the CDS to appreciate in the case of adverse developments." SOROS, *supra* note 168, at 166.

¹⁹⁸ Similar shorting activity could also occur if a "gone-concern" coco were to approach its conversion trigger. If the coco issuer's stock price were to fall because of such activity, then the value of the coco issuer's equity would be reduced, leaving less equity to be applied to the resolution of the coco issuer once it reached the point of non-viability.

¹⁹⁹ These are likely to present an attractive proposition for speculators, as the most speculators can lose is the amount of the fixed premia they have agreed to pay, but their potential gain is unlimited (although speculators are subject to the counterparty risk that the CDS/CCS seller may not honor its obligation to make payment under the instrument). See SOROS, *supra* note 168, at 166. If there is sufficient demand, many CDSs/CCSs can be issued with respect to a single coco, effectively multiplying the number of people with incentives to express negative views

speculators purchase multiple CDSs/CCSs with respect to a single coco, then that can significantly drive up the spread on those CDSs/CCSs and effectively multiply the damage that each coco can cause to confidence in Sonny Bank.

In a slightly different hypothetical scenario, assume that Mills Fund (or another holder of Sonny Bank's cocos) has resigned itself to acquiring equity in Sonny Bank upon conversion. In that case, it will be faced with a different set of incentives. Particularly if Sonny Bank's cocos are set to convert to a fixed dollar value's worth of Sonny Bank's shares (as determined by a contractually set formula), then Mills Fund is incentivized to short Sonny Bank so as to drive Sonny Bank's share price downwards: the lower the share price, the more shares Mills Fund will receive upon conversion.²⁰⁰ For the same reason, Mills Fund is incentivized to spread rumors in an attempt to lower Sonny Bank's share price. Speculators who have purchased a CDS/CCS or shorted the stock of Sonny Bank (and thus stand to gain if Sonny Bank becomes weaker) have similar perverse incentives to spread damaging rumors. It is difficult to obtain data about how much rumor-mongering goes on in the markets, but many prominent financial regulators are of the view that rumors caused much damage to financial institutions during the Financial Crisis.²⁰¹ While the anti-fraud provisions of the United States federal securities laws already operate as a ban on market manipulation through the spreading of rumors,²⁰² these are unlikely to be effective in practice as it is very difficult to identify and prove such cases.²⁰³

about the coco issuer. Each purchase of a CDS/CCS that references a coco signals to the market a lack of confidence in the financial institution that issued that coco, and the more CDSs/CCSs that are issued with respect to a particular coco, the greater the negative signaling effect. See GEANAKOPOLOS, *supra* note 173, at 16.

²⁰⁰ FRENCH ET AL., *supra* note 34, at 56.

²⁰¹ The SEC cited the damaging nature of rumors about Bear Stearns as the impetus for its July 2008 ban on naked short selling of stock of financial institutions. Emergency Order Pursuant to Section 12(k)(2) of the Securities Exchange Act of 1934 Taking Temporary Action to Respond to Market Developments, 73 Fed. Reg. 42379, 42379 (July 21, 2008). Former Treasury Secretary Paulson testified before the FCIC that he believed that rumors caused significant damage to financial institutions during the Financial Crisis. Testimony by Henry M. Paulson, Jr. Before the Financial Crisis Inquiry Commission (May 6, 2010) (author's recollection).

²⁰² This power derives from § 17 of the Securities Act of 1933 (15 U.S.C. § 77q (2006)), and from Rule 10b-5 made pursuant to the Securities Exchange Act of 1934 (17 C.F.R. § 240.10b-5 (2011)).

²⁰³ "Market-manipulation cases are difficult to prove. . . . The problem is tracking down the original source of a rumor and proving that traders knew the information was false when they told others." Kara Scannell et al., *Pressed to Act, SEC to Probe False Rumors About Market*, WALL ST. J., July 14, 2008, at C1. In a rare case where the SEC was able to trace a false rumor back to a short seller, the promulgation of the rumor caused an entity's share price to drop by 17% in half an hour. Complaint at 1-2, SEC v. Berliner, No. 08-CV-3859 JES (S.D.N.Y. Apr. 24, 2008).

Sonny Bank's Type 1 and Type 2 cocos have market-based triggers and are particularly susceptible to manipulative behaviors.²⁰⁴ This is because short sellers and holders of CDSs/CCSs stand to gain if conversion occurs, and are in a position to bring about conversion by engaging in abusive shorting activity and spreading rumors that depress Sonny Bank's share price below the trigger level (in the case of Type 2 cocos) or raise its CDS/CCS spread above the trigger level (in the case of Type 1 cocos).²⁰⁵

Cocos with non-market-based triggers have the potential to damage confidence in slightly different ways. For example, if the cocos are Type 3 with a discretionary trigger, it is less certain whether and when a trigger event will be called.²⁰⁶ While this means that there is less scope for market manipulators to force a conversion,²⁰⁷ the uncertainty about how the regulator will act also provides fodder for panic, rumors, and speculation. With a Type 4 coco, there are again fewer incentives for market manipulation,²⁰⁸ but a capital-based trigger is subject to accounting manipulation by the coco issuer.²⁰⁹ For example, Sonny Bank could move assets off its balance sheet at the end of the quarter so that it does not have to report them, only to buy back those assets at the very beginning of the next quarter: in this way, Sonny Bank can make its capital ratio look much more attractive. The capital ratio is also a lagging indicator of Sonny Bank's capital position, because capital ratios are only calculated and disclosed at fixed intervals rather than on an ongoing basis.²¹⁰ Because of the paucity of accurate, real-time information available regarding Sonny Bank's capital position, holders of Type 4 cocos are likely to pay particular attention to changes in the popular narrative about the coco issuer. Falling stock prices and rising CDS spreads will

²⁰⁴ The IMF notes that a disadvantage of using market-based triggers is that “[p]rice manipulation (via short-selling) and the self-fulfilling threat of equity dilution could inflict a confidence-induced downward spiral that eventually triggers conversion.” Pazarbasioglu et al., *supra* note 4, at 24. The IMF also notes that with market-based triggers, there is a higher chance of “premature conversions, which lead [to] higher funding cost.” *Id.*; see also, PITT ET AL., *supra* note 11, at 6; FRENCH ET AL., *supra* note 34, at 91.

²⁰⁵ As discussed in Part V.B., the SEC's new circuit-breaker rule may make a precipitous fall in share price less likely, but the circuit-breaker rule cannot stop a panic sale by existing stockholders, nor would it affect the purchase of CDSs/CCSs.

²⁰⁶ Pazarbasioglu et al., *supra* note 4, at 25.

²⁰⁷ *Id.*

²⁰⁸ PITT ET AL., *supra* note 11, at 6.

²⁰⁹ It became clear after the Financial Crisis that several investment banks had been using accounting techniques to manage their balance sheets. For example, Lehman Brothers used a technique known as “Repo 105” to temporarily move assets off its balance sheet immediately prior to the end of each reporting period. Similarly, Bear Stearns would sell assets at the end of each quarter and repurchase them at the beginning of the next quarter, in order to improve its quarter-end leverage ratio. FINANCIAL CRISIS INQUIRY COMM'N, *supra* note 96, at 177, 281.

²¹⁰ Pazarbasioglu et al., *supra* note 4, at 24.

seem like some of the only reliable information available to holders of Type 3 and 4 cocos.

Like most banks, Sonny Bank is likely to be highly reliant on short-term funding sources for financing its day-to-day operations and longer-term investments. As discussed in Part IV, a significant loss of confidence in Sonny Bank is likely to manifest itself in the form of runs on Sonny Bank's short-term funding (it matters little whether the market perception of Sonny Bank's condition is correct or not). For example, if repo market participants cease to see Sonny Bank as a confidence-worthy counterparty, then they will start to require more and better collateral for short-term funding, or may cease to provide that funding entirely. If Sonny Bank cannot obtain funding for an extended period of time because of a lack of market confidence, any illusory difficulties that Sonny Bank was facing suddenly will become concrete: Sonny Bank will be unable to operate and may fail (or require a bailout). Prior to any such failure, it is likely that Sonny Bank's share price will drop further and CDS spread will rise. This makes conversion of Sonny Bank's Type 1 and 2 cocos more likely. With Type 3 cocos, the loss of liquidity caused by the funding run may force the regulator to declare a trigger event for Sonny Bank, notwithstanding that the institution otherwise appears solvent. The markets' concerns about the occurrence of a trigger event may thus become a self-fulfilling prophecy.

If the trigger event does occur, the psychological impact of that event may be so damaging to confidence in Sonny Bank that even the recapitalization provided by the cocos is insufficient to restore that confidence.²¹¹ While the Squam Lake Report takes the view that the prospect of conversion and recapitalization is likely to make short-term creditors more confident about a bank's future,²¹² if such recapitalization occurs in an environment of falling stock prices and increasing CDS spreads, the confidence boost provided by recapitalization is likely to be negated.²¹³ If the funding run continues after recapitalization, the amount of capital that Sonny Bank has received from the recapitalization will not enable it to continue to operate for very long. In short, the specter of the trigger event will have damaged confidence in Sonny Bank, and the capital inflow following the trigger event will have failed to restore that confidence, essentially rendering the cocos ineffective as going-concern regulatory capital.

This Part has so far focused on the ability of cocos to damage confidence in an individual financial institution, Sonny Bank. However, a

²¹¹ *Contingent Capital: CoCo Nuts*, ECONOMIST (Nov. 5, 2009), <http://www.economist.com/node/14816673>.

²¹² FRENCH ET AL., *supra* note 34, at 90.

²¹³ The Swiss Commission of Experts has noted that "confidence is key" in enabling a bank to continue to operate as a going concern, even if the bank has been recapitalized by the conversion of cocos. FINAL REPORT OF THE COMMISSION OF EXPERTS, *supra* note 75, at 25.

loss of confidence in one bank that has issued cocos can have implications for other banks. Economist Charles Goodhart has noted two potential spillovers that are likely to occur: first, if other financial institutions have invested in Sonny Bank's cocos, their investments will lose value and their exposure to Sonny Bank will increase upon the conversion of those cocos.²¹⁴ In this way, the interconnectedness of financial institutions is enhanced, increasing the likelihood of transmission of risk through the financial system. Second, if Sonny Bank's cocos convert, then that is likely to make the markets generally nervous about the conversion of cocos issued by other banks (even if there is no evidence that those banks are in trouble), potentially encouraging market-wide shorting of coco issuers as well as panicked sell-offs of cocos that would destroy their value.²¹⁵ National governments may be tempted to avoid such a transmission of risk through the system by bailing out coco issuers and/or holders prior to a conversion.²¹⁶ Cocos may therefore increase the likelihood of bailouts, even though avoiding the need for bailouts is one of the key reasons for having going-concern regulatory capital requirements in the first place. If cocos cause difficulties for significant and/or multiple financial institutions, then the availability of credit to individuals, businesses, and local governments is also likely to be reduced.²¹⁷ As the Financial Crisis has shown, failure of significant financial institutions and credit crunches can lead to general economic tightening, and such tightening can result in broader costs to society at large in the form of poverty and unemployment.²¹⁸

VII. EQUITY OVER COCOS

Much of Part VI is conjecture, albeit conjecture informed by the experience of the Financial Crisis, about what might happen when a coco trigger event occurs, or appears to be near. However, in estimating worst-case scenarios (which are the very scenarios that cocos are intended to address), conjecture is sometimes the best tool available to regulators. Given the uncertainties regarding the operation of cocos, and the likelihood that they will incentivize behaviors that have the potential to damage both confidence in and the viability of the very financial institutions that the cocos were intended to bolster, the use of cocos to satisfy going-concern regulatory capital requirements is not a very attractive proposition. Cocos are primarily being promoted as an alternative to common equity because they are assumed to be less costly

²¹⁴ Goodhart, *supra* note 54.

²¹⁵ *Id.*

²¹⁶ Admati et al., *supra* note 9, at 55.

²¹⁷ See Brunnermeier, *supra* note 124, at 90.

²¹⁸ Schwarcz, *supra* note 105, at 207.

for the banks that issue them, as well as for society at large.²¹⁹ This assumption is often taken as an article of faith, but an important new Stanford University working paper (the Working Paper) challenges this assumption.²²⁰

The most commonly cited reason for why equity is more expensive than debt is that many national taxation systems effectively subsidize debt.²²¹ However, as the Working Paper notes, tax incentives for debt are not an inevitability, but a conscious policy choice.²²² Rather than opening society up to the potentially negative consequences of cocos, it is open to national governments to institute tax subsidies for common equity used as regulatory capital so that it costs the same as debt. Equity is also thought to be more expensive than debt because equity holders are subject to more risk than debt holders, and thus it is presumed that they will demand a consistently higher return.²²³ However, the Working Paper points out that the risk to equity holders is not a constant—to the extent that a bank reduces its risk profile by holding more common equity, the return on equity required by investors will be lower.²²⁴ The gap between the premium on equity and the premium on debt could therefore be narrowed by deleveraging the financial institution. In any event, because cocos are subject to the risk of conversion and are therefore more expensive than ordinary debt, the gap between the premium on equity and the premium on cocos will be narrower than the gap between the premium on equity and the premium on ordinary debt. The discrepancy between equity and coco costs is therefore less pronounced.

When considering the statement “equity is expensive,” it is important to ask the question, “for whom is equity expensive?” Are we concerned that higher common equity requirements are going to be costly for the shareholders and managers of banks, or for society at large? If we are concerned with shareholders and managers of banks, then it is most likely correct to say that equity is more expensive than debt, at least for large and systemically important banks.²²⁵ This is in large part due to the

²¹⁹ Financial institutions are thought to be particularly sensitive to discrepancies between the cost of funding sources because the “most important competitive edge that banks bring to bear for many types of transactions is the ability to fund themselves cheaply.” Hanson et al., *supra* note 15, at 20.

²²⁰ Admati et al., *supra* note 9, *passim*.

²²¹ *Id.*, at 20–21. As noted in Part III.C above, the Swiss have agreed to allow cocos to be taxed like debt. It remains to be seen whether other jurisdictions will afford cocos the same treatment.

²²² *Id.*

²²³ *Id.* at 17.

²²⁴ *Id.* Federal Reserve Board Governor Dennis K. Tarullo recently made a similar point. See Dennis K. Tarullo, Governor, Fed. Res. Sys., Regulating Systemically Important Financial Firms, Speech at the Peter G. Peterson Institute for International Economics (June 3, 2011), available at <http://www.federalreserve.gov/newsevents/speech/tarullo20110603a.htm>.

²²⁵ Admati et al., *supra* note 9, at 21.

implicit guarantee of government assistance for large banks in times of crisis—governments are unlikely to let such institutions fail, so their creditors are less worried about a default and this translates into low interest rates for bank debt.²²⁶ Effectively, the implicit government guarantee subsidizes the cost of bank debt and leads banks to believe that they will not need to internalize all of their losses. Bank managers therefore are incentivized to use leverage to multiply their profit in good times, notwithstanding that the loss to a leveraged bank in bad times will also be multiplied.²²⁷ From a social policy perspective, such incentives for leverage are undesirable.²²⁸ Forcing banks to reduce leverage and fund themselves with more equity is therefore desirable, unless doing so is likely to impose other costs on society at large.

Some argue that replacing bank debt financing with equity financing is socially undesirable because holders of bank debt (including coco holders) are thought to impose more market discipline on banks than bank equity holders impose.²²⁹ An increase in equity funding at the expense of debt is therefore thought to reduce the amount of market policing of bank management, and increase the chance of that bank acting imprudently and potentially threatening the stability of the financial system.²³⁰ However, uniformity of interest for debtholders cannot be assumed—to the extent that some debtholders have purchased CDS protection or shorted the stock of the issuing bank, they will no longer be incentivized to exert pressure on management to act prudently.²³¹ In fact, they may prefer to see the bank fail.²³² Further, there is little evidence of debt holders actually exerting any market discipline in the run up to the Financial Crisis.²³³ As discussed in Part IV.D above, when “market discipline” was finally applied to Bear Stearns, it was not measured and resulted in panicked funding runs that did not so much discipline as destroy the institution. It therefore seems that if regulators insist on equity over cocos, any resulting reduction in market discipline is unlikely to be overly costly to society.

The most powerful and pervasive argument against increased equity capital requirements seems to be that if banks are required to fund themselves with more expensive equity vis-à-vis cheaper cocos or other debt, then the banks will be forced to reduce their lending, thus harming the broader economy.²³⁴ However, the Working Paper notes that

²²⁶ *Id.* at 22.

²²⁷ *Id.*

²²⁸ *Id.*

²²⁹ *Id.* at 27.

²³⁰ For further discussion of this issue, see *id.* at 27–36.

²³¹ Sarra, *supra* note 167, at 637.

²³² Henry T.C. Hu & Bernard Black, *Equity and Debt Decoupling and Empty Voting II: Importance and Extensions*, 156 U. PA. L. REV. 625, 731 (2008).

²³³ Admati et al., *supra* note 9, at 30.

²³⁴ *Id.* at 43; see also PITT ET AL., *supra* note 11, at 12.

requiring banks to hold more equity in proportion to their risk-weighted assets does not automatically lead to a reduction in lending—financial regulators and institutions have choices about how equity capital ratios are managed, and instead of reducing the denominator of the ratio by reducing assets such as loans, financial institutions could comply with heightened equity capital ratios by increasing the numerator of the ratio by issuing new equity.²³⁵ However, notwithstanding that an increase in equity capital requirements will not force banks to restrict lending, absent a regulatory directive to issue new equity, banks may *choose* to satisfy such increased requirements by restricting lending. The Working Paper suggests that, to the extent that increased equity capital requirements do reduce lending, they may curtail overly risky loans by banks: not all lending is socially desirable,²³⁶ and increased capital requirements may shift bank preferences toward making more prudent loans.²³⁷

The Working Paper concludes that while banks have incentives to favor debt financing over equity (in the form of taxation subsidies and implicit government guarantees), leverage has socially undesirable consequences for systemic stability, and increased equity capital requirements would not be overly costly for society at large²³⁸:

Because the social benefits of significantly reducing bank leverage are significant, and because there are no significant social costs of increasing equity requirements for banks, politicians and regulators should not be overly concerned with threats that credit markets will be adversely affected by increasing equity requirements. High equity requirements need not interfere with any of the valuable intermediation activities undertaken by banks. Regulators should therefore take steps to impose significantly higher equity requirements as quickly as possible.²³⁹

In sum, while the Working Paper goes against the conventional wisdom, it is very persuasive in its assertion that debt is not inherently cheaper for society than equity. Given the uncertainties surrounding the operation of cocos and the potential damage that they can cause, it makes more sense to abandon cocos as a form of going-concern regulatory capital, and instead require financial institutions to simply hold more common equity: “[w]ith equity there is no need to go through the process of mandatory conversion, and the potentially problematic process and uncertainties leading up to the actual conversion are avoided.”²⁴⁰

²³⁵ Admati et al., *supra* note 9, at 43.

²³⁶ Tarullo, *supra* note 224.

²³⁷ Admati et al., *supra* note 9, at 47.

²³⁸ *Id.* at 56–57.

²³⁹ *Id.* at 57.

²⁴⁰ *Id.* at 54–55.

VIII. CONCLUSION AND RECOMMENDATIONS

There is a clear consensus that regulatory capital requirements are important for financial stability, and that common equity is the best and most loss-absorbent form of capital.²⁴¹ Support for cocos as going-concern capital is a product of the belief that common equity is more expensive than debt, as well as the belief that allowing financial institutions to use cocos to satisfy regulatory capital requirements will improve their ability to lend to the broader economy. However, these beliefs have recently been challenged, and if the notion that “equity is expensive for society” cannot withstand scrutiny, then the touted benefits of cocos as an alternative to equity are illusory.

Even if equity is more expensive for society than debt, the use of cocos should give us pause: in a crisis situation, cocos have the potential to incentivize trading strategies that destabilize confidence in the very financial institutions that cocos are intended to help. At the very least, regulators should not encourage the use of financial instruments that are likely to damage confidence in financial institutions. Capital requirements should therefore be satisfied with larger common equity capital cushions, rather than cocos: larger equity cushions are much more likely to bolster certainty and confidence in the financial institutions that hold them. To the extent that increased equity capital requirements do actually impact socially beneficial lending, regulators may wish to change the tax treatment of common equity regulatory capital in order to realign its cost with debt.

²⁴¹ See *supra* notes 15–39 and accompanying text (regulatory capital requirements are important); and *supra* notes 219–40 and accompanying text (equity is the best form of capital).