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Speed Bankruptcy: A Firewall to Future Crises

by Garrett Jones, George Mason University*

“[T]he alternative...I’ve been thinking of is to...convert Citibank’s long-term debt into equity.”

—Robert Hall¹

“The debt holders are told, ‘Congratulations, you are the new equity holders.’”

—Greg Mankiw²

In the wake of the 2008 financial crisis, the Federal government argued that the best way to save the nation’s largest financial institutions was to use taxpayer funds to buy shares in these firms. In the words of former Treasury Secretary Henry Paulson, the most “effective step to improve credit market conditions...” was “to strengthen bank balance sheets quickly through direct purchases of equity in banks.”³

Paulson rejected what may well have been a more effective solution—one that could have been easily written into law during the two weeks that it took to write the Troubled Asset Relief Program (TARP) legislation: mass conversion of bank debt into bank equity. I denote this alternative “speed bankruptcy.” Speed bankruptcy has gone by many names: “debt-to-equity conversion,” “rapid recapitalizations,” and the recently popular “prepack bankruptcy.”⁴ Nobel Laureate and Clinton Administration economist Joseph Stiglitz calls the same process “Super Chapter 11;” he began recommending Super Chapter 11 as a response to financial crises in the wake of the 1997 Asian Financial Crisis and recently renewed this call as a way to improve the health of the U.S. banking sector. In *The Nation*, he said:⁵

Bankruptcy scares many people, but it shouldn’t. All that happens is that the financial claims on the firm get restructured. When the firm is in very bad trouble, the shareholders get wiped out, and the bondholders become the new shareholders. When things are less serious, some of the debt is converted into equity. In any case, without the burden of monthly debt payments, the firm can return to profitability.⁶

As I will show below, making this kind of “speed bankruptcy” work would require only minor changes to current bankruptcy law, with only modest changes to the expectations of investors. Former IMF chief economist Simon Johnson sums up the benefits of speed bankruptcy nicely:

[I]f the banks are undercapitalized, and private money is not available, then the government could force creditors to swap claims into equity, thus instantly recapitalizing the banks while avoiding use of taxpayer funds.⁷

The nation’s biggest banks had over \$1 trillion dollars in long-term bonds on their balance sheets, bonds that would have been likely targets for debt-to-equity conversions under

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1. Robert Clement, “Interview with Robert Hall,” *The Region*, June 2010. Available online at http://www.minneapolisfed.org/publications_papers/pub_display.cfm?id=4452

2. Greg Mankiw, “Nationalization, or Pre-privatization?” *Greg Mankiw’s Blog: Random Observations for Students of Economics*, February 16, 2009. <http://gregmankiw.blogspot.com/2009/02/nationalization-or-pre-privatization.html>

3. Henry M. Paulson, *Remarks by Secretary Henry M. Paulson, Jr. on Financial Rescue Package and Economic Update* HP-1265, Press Room: U.S. Department of the Treasury, (November 12, 2008), <http://www.treas.gov/press/releases/hp1265.htm>

4. Economists have created a variety of such debt-to-equity proposals over the years. In recent months, one has been mathematically formalized: Boris Albul, Dwight M. Jaf-

fee, Alexei Tchistyi, “Contingent Convertible Bonds and Capital Structure Decisions,” working paper, http://www.frbatlanta.org/documents/news/conferences/10fmc_tchistyi.pdf. For a rapid debtor haircut proposal, see Luigi Zingales and Oliver Hart, “A new capital regulation for large financial institutions,” *Fondazione Eni Enrico Mattei Working Papers*, <http://www.bepress.com/cgi/viewcontent.cgi?article=1400&context=feem>

5. Joseph E. Stiglitz, “Reforming the Global Economic Architecture: Lessons from Recent Crises,” *Journal of Finance*, Vol. 54, No. 4, (Aug., 1999), pp. 1508-1521.

6. Joseph E. Stiglitz, “A Bank Bailout that Works,” *The Nation*, March 23, 2009. Note that in the article Stiglitz actually proposes a “Good Bank/Bad Bank” as a solution to the financial crisis, but this setup still involves cutting back on debt claims, thereby raising equity claims.

7. Guest Contributor, “The Real Geithner Plan, a ‘Nuclear Option,’” *The Wall Street Journal*, (March 31, 2009), <http://blogs.wsj.com/economics/2009/03/31/guest-contribution-the-real-geithner-plan-a-nuclear-option/>

a speed bankruptcy regime.⁸ That means that without touching the first dollar of bank deposits and without spending any taxpayer money, it may have been possible to save most, and perhaps even all, of the major banks in the fall of 2008. Instead, the U.S. has implicitly turned the pre-existing debt of major banks into federally guaranteed debt, much like the debt of Fannie Mae and Freddie Mac, with obvious implications for moral hazard and misallocated resources.

Speed bankruptcy need not be the only tool used to save insolvent banks—and political and policy pressures may demand that policymakers use some combination of speed bankruptcy, Chapter 11, and government bailouts on a case-by-case basis. My goal is simply to show that, at the very least, overnight debt-to-equity conversions could have been used to provide hundreds of billions of dollars of extra equity to weak firms in 2008, and could still be used the next time a firm that is ostensibly “too big to fail” comes close to failing. Taxpayers may ultimately be required to pay for some of the mistakes of financial firms, but bondholders should be required to sacrifice as well. Since a number of leading economists have made formal and informal proposals similar to speed bankruptcy, it is worthwhile to spell out how such a process might work as a matter of economics, law, and politics.

The conversion process could be quite simple. Debt would be converted into equity until the equity ratio was high enough to make the firm sound going forward. The most senior converted debt would be granted the largest share in the post-bankruptcy firm, with smaller shares (if any) for subordinated debt and former shareholders; some simple numerical examples are provided below.

This approach balances respect for the priority of claims with the need to have some incentive for shareholders to treat the firm well when a financial crisis threatens. And by restoring a thick equity layer during a financial crisis, it preserves the firm’s value as a going concern, so it is fully consistent with—and perhaps even obligatory under—the requirement to “maximize net asset distributions” which is a “cornerstone” of U.S. bankruptcy law.⁹

This approach serves as both complement to and substitute for two important proposals included in the Dodd-Frank financial reform legislation: contingent convertibles and funeral planning. The first is effectively an explicitly pre-planned speed bankruptcy which would allow the U.S. government to require large financial institutions to issue bonds that would automatically convert into shares during a government-declared financial crisis if other conditions (discussed later) were also met. But if, as seems likely, such

convertibles do not become a mandatory part of financial reform, plain-vanilla debt could still be converted to equity in a crisis, thereby reducing interest payments and lowering the debt-to-equity ratio. The funeral planning provision requires large financial institutions to show how they could be dismantled in a practical way in the event of a crisis. Given the complicated liability structure of many such firms at present—a structure that leads to claims that such firms are too big to fail—it would be reasonable to include debt-to-equity conversions as part of such plans.

The goal of this essay is fourfold: First, I will provide a non-technical argument from economic theory about the merits of debt-to-equity conversion over taxpayer bailouts. Second, I will address concerns about whether this kind of conversion would violate the rule of law and the expectations of investors, and will present some simple examples of how it would work in practice. Third, I will suggest that real-world politicians, though driven by the same decision-making “anomalies” documented by behavioral economists, could be convinced to go along with speed bankruptcy. And fourth, I will show that debt-to-equity conversions are unlikely to set off contagion or create other negative side effects. Thus, I intend to show that speed bankruptcy is simultaneously politically feasible and economically and legally desirable.

Balance Sheets in Theory: Leverage, Trust, and Productivity

It is a truism that companies need healthy balance sheets to succeed, but why? If an institution’s liabilities, such as its bonds, payables and mortgages, are less than its assets, which include its land, loan repayments and “goodwill,” how can that alone create trouble? After all, as long as assets are positive, there is still value in the firm. Surely the current shareholders can just continue to run the firm, or can they? This simple question drives the optimal capital structure literature in corporate finance.

Corporate finance theory shows why investors should care about healthy balance sheets. A repeated theme in the literature is that if a firm’s assets (what they own) are less than its liabilities (what they owe), shareholders are likely to deploy the firm’s assets imprudently.¹⁰ “Asset stripping” is a classic example of such mismanagement, where shareholders in a negative-net-worth bank can vote to distribute the majority of incoming loan repayments as dividends. Other value-destroying options include borrowing money from new bondholders or even selling bank offices to pay special high

8. The fall 2008 10-Q statements of the biggest TARP recipients (Citigroup, JP Morgan Chase, Bank of America, Wells Fargo, and US Bancorp), included a total of over \$1 trillion in long-term bonds on their books. These bonds might not all be targets for debt-to-equity conversion, since some may rank high in seniority, but this gives a sense of the magnitude of tradable, transparent, liquid, non-depository liabilities in these firms. Note that \$1 trillion is substantially larger than the \$700 billion Congress appropriated for TARP itself.

9. Thomas H. Jackson and Robert E. Scott, *On the Nature of Bankruptcy: An Essay on Bankruptcy Sharing and the Creditors’ Bargain*, Virginia Law Review: Volume 75, No.2, (March 1999), p. 155, <http://www.jstor.org/stable/pdfplus/1073167.pdf>

10. *inter alia*, Jean Tirole, *The Theory of Corporate Finance*, Princeton University Press, 2006, c.3 *passim*.

dividends or to make stock repurchases. Since equityholders in negative-net-worth (also known as “upside-down”) firms might well be spending debtholders’ money, bankruptcy law rightfully allows for debtholders to petition the court to put a firm into involuntary bankruptcy.

The threat of insolvency could also leave weakened shareholders essentially “gambling for resurrection” by taking big risks with scarce resources. After all, when a firm is near bankruptcy, shareholders have a strong incentive to take massive investment risks, since if the gamble works out the shareholders reap all the benefits, while if the gamble fails then shareholders can let the bondholders deal with the losses. Nearly insolvent firms also run the risk of virtual takeover by opportunistic managers who, expecting bankruptcy to occur soon, may run the firm like a personal fiefdom, creating golden parachutes and the like. Further, firms may find that under conditions of near-insolvency no one is willing to lend to them, making it impossible for them to make sound investments. This is often known as “debt overhang.”¹¹

Since the time that a firm spends upside-down is time that a firm will probably lose value, there are sound reasons for the legal system to act aggressively and put bondholders and other debtholders in charge of insolvent firms or at least to create incentives so that managers will behave in debtholders’ best interests.

Textbook Bankruptcy

The economist’s simple model of bankruptcy serves as a useful template for thinking about the value of high net worth and the perils of negative net worth. This template is expanded upon in several ways throughout this paper. In the textbook world,¹²

$$\text{Value of Assets} = \text{Debt} + \text{Equity}$$

or

$$V = D + E$$

As long as equity is large as a percentage of the firm (E/V is large), the equityholders’ incentives are roughly aligned with the debtholders’. In other words, so long as the equityholders are making decisions that increase V , they will increase the chances that the firm has enough value to make all future debt payments. However, if, through some misfortune, the firm’s value plummets such that V , the post-shock value, is less than D , then shareholders are essentially upside-down in their own firms, which forces debtholders to head to the

bankruptcy judge. After reviewing the firm’s balance sheet, the likely market values of assets, and the size of its debt promises, the judge will decide that the firm is insolvent.

In the “textbook case,” the judge would then proceed by converting all of the firm’s debtholders into new shareholders. If V' is the post-crisis value of the assets, then $V' = E'$.¹³ Once again, there will be a group of equityholders who have a strong incentive to maximize the firm’s value. This simple story ignores questions of debt priorities, partial default, or the “consolation prize” shares that might be awarded to the old shareholders. Actually, much of these real-world complexities are left out of this paper wherever possible to focus in on the underlying principle at work here: that a firm’s shareholders will tend to maximize the value of a firm’s scarce resources whenever E/V is large.

The Mortgage Parallel

Consider an analogy with the housing industry. A homeowner is much like a stockholder, and a mortgage lender is much like a bondholder. A homeowner treats her home well partially because she hopes to resell it at a higher price at some future date. When a homeowner is massively upside-down in her mortgage, however, she knows that the chances of reselling her home for enough to cover the mortgage are much less and the alternative of “leaving the keys in the mailbox” starts looking better and better. So, mortgage lenders get nervous when homeowners are upside-down in their mortgages because they know that upside-down homeowners tend to behave against their best interests. Resale value, for a house or for a firm, is therefore how a market system encourages owners to think about the future.

Extensive research by the Federal Reserve Bank of Boston shows that negative home equity, not high mortgage payments, has driven the majority of increased foreclosure rates in the wake of the financial crisis.¹⁴ So when a homeowner with positive home equity loses her job, she almost always finds a way to keep paying her mortgage, but if she has negative home equity, a job loss looks like a good time to let the bank take the house. In this case the bank will not get everything owed to it, but getting something is better than losing everything.

Note that with homes, as with companies, the owner’s limited liability is key. In both cases, it is difficult or even impossible for lenders to go after the homeowner (shareholder) if there is a foreclosure (bankruptcy). In both cases,

11. Owen Lamont, *Corporate-Debt Overhang and Macroeconomic Expectations*, *The American Economic Review*, Vol. 85, No. 5 (Dec. 1995), pp. 1106-1117.

12. Jan R. Williams, Susan F. Haka, Mark S. Bettner and Joseph V. Carcello, *Financial & Managerial Accounting: The Basis for Business Decisions, 14th Edition*: McGraw-Hill: Irwin, (September 2006), 40.

13. Oliver Hart’s important bankruptcy reform proposal presented in *Firms, Contracts, and Financial Structure* (1995: Oxford University Press) begins with this all-equity firm and then derives conditions under which shareholders can “buy the firm back” from debtholders at efficient prices if the firm has been mistakenly bankrupted.

14. See Christopher L. Foote, Kristopher Gerardi, and Paul S. Willen, *Negative Equity and Foreclosure: Theory and Evidence*, Federal Reserve Bank of Boston, Public Policy Discussion Papers: No. 08-3, (June 5, 2008), <http://www.bos.frb.org/economic/ppdp/2008/ppdp0803.pdf>. They show that negative equity is a near-prerequisite for default, with a much larger effect than large increases in the local unemployment rate or a fall in average local income. Similar results hold in Tim S. Campbell and J. Kimball Dietrich, “The Determinants of Default on Insured Conventional Residential Mortgage Loans,” *Journal of Finance*, Vol. 38, No. 5 (1983), pp. 1569-1581; they find that a one-standard-deviation rise in loan to value predicts a bigger rise in default than a one-standard-deviation rise in the house payment/local income ratio.

lenders become the new implicit or explicit owners, and with their takeover, the asset, whether a home or a firm, is now in the hands of someone who once again has good incentive to maximize the value of the asset.

Why Government Equity Purchases May Not Work As Well As Bankruptcy

With a simple theory of the benefits of bankruptcy at hand, let us analyze the real-world story of the 2008 financial crisis. As the crisis unfolded, the financial market concluded that many of the nation's largest banks were holding junk assets; in other words, V was much less than previously thought for most of these struggling financial institutions. While share prices plummeted for the nation's largest money center banks, policymakers began casting about for solutions.

In response, in October 2008 President Bush signed legislation creating the Troubled Asset Relief Program, or TARP, which ultimately gave Treasury \$700 billion either to buy bad mortgage assets from distressed banks or to pay cash in exchange for shares in these banks.¹⁵ Unfortunately for those who predicted that enactment of the TARP would strengthen financial markets, bank share prices plummeted in the days following the legislation's passage. Prices continued to fall, only pausing for a few days when Secretary Paulson announced on October 10 that Treasury would buy shares in the nation's biggest banks.

The plan was for government to purchase shares in these weak financial institutions, raise E/V , and thereby making bank balance sheets healthier. However, the standard model for bankruptcy outlined above does not account for governments purchasing shares in banks. After all, government-owned shares are clearly not the same as privately owned shares. To its credit, the Paulson Treasury did recognize the potential for political pressures to affect these financial institutions and explicitly instituted non-voting shares early on to limit the possibility of some well-understood public choice-related problems with government ownership of banks.¹⁶

Beyond the public choice concerns over government equity stakes in banks, there is a simple mathematical critique. Consider a bank on the edge of insolvency, so that $V = D$. Two options for the struggling institution are as follows:

1. A government buys new shares equivalent to 10% of the firm's value,

$$\text{so } V' = 1.1V = D + E'$$

2. A government judge converts the most junior 10% of the firm's debt into new shares, so $D' = 0.9D = 0.9V$.

What does the firm's E'/V' look like in these two cases?

1. $E' = 0.1V$, so $E'/(1.1V) = 0.1/1.1 = 9.1\%$

2. Again, $E' = 0.1V$, but now $V' = V$, since there were no new cash injections.

$$\text{So } E'/V' = 0.1/1 = 10\%$$

So when the government purchases new equity, it increases the equity ratio while simultaneously increasing the firm's asset base: this weakens the equity-thickening effect of the share purchases. Debt-to-equity conversions, by contrast, increase the numerator while leaving the denominator untouched. In this case, we get a 10% larger effect when we pursue debt-to-equity conversions. So any economic concerns about cascading defaults after bankruptcy should be weighed against the arithmetic certainty that debt-to-equity conversions do more than government equity purchases to increase the weak firm's equity ratio.¹⁷

Speed Bankruptcy: Both Possible and Desirable in the Real World

The canonical bankruptcy model described thus far is just that, a model. Modern firms, especially large financial firms with fully owned corporate subsidiaries, have enormously complex structures of formally secured or unsecured liabilities: a mix of debt, equity, leases, payables, and the like. Real world application therefore begs the question of whether or not the elementary bankruptcy story sketched out thus far can actually be applied in reality.

The complexity of actual firms often explains why corporate bankruptcies usually take years to resolve. For instance, United, the number two airline in the U.S. at the time, spent over three years in Chapter 11 bankruptcy—and US Airways, Delta, and American also spent long periods in Chapter 11. An article at the time noted, "With those four major airlines and some smaller ones already in bankruptcy, nearly half of the industry's capacity is on carriers operating under bankruptcy court oversight."¹⁸

Obviously, the downside to these Chapter 11 filings is that

15. Congressional Budget Office, *CBO, A CBO Report: The Troubled Asset Relief Program: Report on Transactions Through December 31, 2008*, (January 2009), <http://www.cbo.gov/doc.cfm?index=9961>

16. Erin Nohwehr, *Emergency Economic Stabilization Act of 2008*, The University of Iowa Center for International Finance and Development, (December 2008), <http://www.uiowa.edu/ifebook/issues/bailouts/eesa.shtml>. This fear of politicized lending is well founded. In India, for instance, government-owned banks increase their lending by 11% in election years compared to privately-owned banks (I. Serdar Dinc, Politicians and banks: Political influences on government-owned banks in emerging markets, *Journal of Financial Economics*, v. 77, No. 2 (August 2005), pp. 453-479). The effects of politicization appear to show up in cross-countries studies as well: In a widely cited study, La Porta, de Silanes, and Shleifer analyze large banks in 92 countries (Rafael La Porta, Florencio Lopez de Silanes, Andrei Shleifer, "Government Ownership of Banks," *Journal*

of Finance, Vol. 52, No. 1, 2002). Controlling for the level of economic development and other factors, La Porta et al. find that government ownership of banks is associated with slower subsequent financial development and lower subsequent growth of per capita income.

17. Note that this is a balance sheet effect, not an income statement effect. To the extent that a financial crisis is a liquidity crisis, debt-to-equity conversion offers no first-round benefits. However, a solvent, post-conversion firm will find it easier to borrow from third parties, thus creating liquidity indirectly: A sound balance sheet makes third parties much more comfortable offering short-term loans. I discuss this further below.

18. Chris Isidore, "Delta Airlines Files for Bankruptcy," *CNN/Money*, (September 15, 2005), <http://money.cnn.com/2005/09/14/news/fortune500/delta/index.htm>

the process is lengthy.¹⁹ Can “speed bankruptcy” be a real alternative for financial firms? It can be, for a few key reasons:

1. Multi-year bankruptcy procedures are negative-sum legal battles between former shareholders and various classes of debtholders. From an ex-ante efficiency point of view, a process that quickly reduced debt and put new shareholders in charge right away would be better. In other words, if various classes of investors made decisions behind a “veil of ignorance,” to use John Rawls’s well-known concept,²⁰ and they had no knowledge of which class of investor they would become, they would likely choose speed bankruptcy, a solution that would maximize the efficient use of the firm’s scarce resources. Another way of putting this: If our goal is economic efficiency, speed bankruptcy is preferable. This is especially true for financial institutions, for which any substantial period of uncertainty can mean disaster.

2. FDIC resolution mechanisms, one form of speed bankruptcy, can actually take place in merely a weekend: clear evidence that speed is possible. “Every time this procedure has been invoked,” in the words of Hart and Zingales, “the [insured] depositors were paid in full and had access to their money at all times. The system works well.”²¹ Although the FDIC may sign a loss-sharing agreement with the purchasing bank, thus creating some long-term government funding commitment, the new banking entity is able to proceed in a clear legal environment. And while the mechanics of the FDIC mechanism are different from a simple debt-for-equity conversion, the result is the same: less debt, more equity, a stronger balance sheet, and a firm run by private equityholders.

3. The rapid emergence of Chrysler and CIT from their recent “prepack” bankruptcies confirms that speed is possible. When Chrysler was forced to file for Chapter 11 bankruptcy on April 30, 2009, President Obama promised its reorganization would be “efficient” and “controlled.” Sure enough, with “the touch of pen to paper and a simple wire transfer,” Chrysler completed its alliance with Italian automaker Fiat in 42 days, “largely ending its quick trip through bankruptcy” court.²² Lastly, on November 1, 2009, CIT entered a “voluntary pre-packaged bankruptcy restructuring” process²³ that turned into the fifth largest bankruptcy by assets in U.S. history, from which they emerged rather quickly on December 10, 2009.²⁴

4. A lingering concern may be that certain debtholders

have inviolable rights: that, for instance, secured debtholders must be paid off penny for penny before equityholders receive anything. In practice this “absolute priority of claims” rule is more honored in breach than in the observance. For instance, research by Lawrence Weiss finds that “priority of claims” were violated in 29 out of 37 bankruptcies filed by New York and American Stock Exchange firms between November 1979 and December 1986. This breakdown primarily occurred “among the unsecured creditors and between the unsecured creditors and equityholders,” while “[s]ecured creditors’ contracts are generally upheld.”²⁵ This distinction will be upheld in the proposal below.

The fourth point is especially relevant for two reasons:

First, since modest violations of the absolute priority rule are so common, debtholders typically take this into account when making their investment in a firm. These investors are not like bank depositors, who reasonably place great faith in their absolutely senior priority. Instead, they typically know that in the event of financial crises, some negotiation will take place between the various classes of liability holders, with ex-ante contracts serving as just one focal point of negotiations. Thus, violations of absolute priority are not a rule-of-law violation.²⁶

Indeed, in his widely-cited paper describing the 1978 Bankruptcy Reform Act, Eric A. Posner finds that “large creditors argu[ed] the new law should follow Chapter XI.... and have informal, flexible procedures even for bankruptcies of large, public corporations.”²⁷ He then documents how this flexibility, which created a bargain among shareholders, creditors, and managers, became part of the institution of corporate bankruptcy. The American form of bankruptcy is an institution where creditors—including bondholders—take it as given that post-bankruptcy outcomes are driven by pragmatism, not by rote formula. “The final bill...” Posner notes, contained a “watered-down absolute priority rule.”²⁸

Second, violations of the absolute priority rule are often driven by the quest to preserve enterprise value. In the legal literature, this is known as the “maximization norm.”²⁹ For instance, the decision to give some post-bankruptcy value to pre-bankruptcy shareholders might be driven by a desire to deter pre-bankruptcy asset stripping. If shareholders in a weak firm know that they will probably get at least some stake in

19. One of the most widely discussed reasons for Chapter 11’s delays is the routine extension of debtor exclusivity, whereby the debtor-in-possession of the firm can legally ignore outside tender offers for well over the conventional limit of 120 days. However, since 120 days is far longer than the window for action during a financial crisis, even a complete end to extensions of debtor exclusivity would be unlikely to change matters for financial firms. For a defense of exclusivity, along with multiple citations of exclusivity opponents, see Karen Gross and Patricia Redmond (1995), “In Defense of Debtor Exclusivity: Assessing Four of the 1994 Amendments to the Bankruptcy Code,” *American Bankruptcy Law Journal*.

20. John Rawls, *A Theory of Justice*, Cambridge: Harvard University Press, (1971), 26.

21. Oliver Hart and Luigi Zingales, “Economists Have Abandoned Principle,” *The Wall Street Journal*, (December 3, 2008), <http://online.wsj.com/article/SB122826736608874577.html#articleTabs%3Darticle>

22. Michael J. de la Merced and Micheline Maynard, “Fiat Deal with Chrysler Seals

Swift 42-Day Overhaul,” *The New York Times*, (June 10, 2009), <http://www.nytimes.com/2009/06/11/business/global/11chrysler.html>

23. Alistair Barr, “CIT Files for Bankruptcy Protection After Rescues Fail,” *MarketWatch*, (November 1, 2009), <http://www.marketwatch.com/story/cit-to-file-for-bankruptcy-after-rescues-fail-2009-11-01>

24. Mark M. Meiner, David Ellis, Colin Barr, “CIT Files for 5th Largest U.S. Bankruptcy,” *CNNMoney*, (November 1, 2009), http://money.cnn.com/2009/11/01/news/companies/cit_group/index.htm

25. Lawrence A. Weiss, “Bankruptcy Resolution: Direct Costs and Violation of Priority of Claims,” *Journal of Financial Economics*, 27, (October 1990), 285-314.

26. Joseph Ogden, Frank Jen, and Philip O’Connor, “*Advanced Corporate Finance*,” Prentice-Hall, 2003, p. 639ff.

27. *Ibid.*, 111.

28. *Ibid.*, 118.

29. Jackson and Scott, *op. cit.*, n. 9.

the post-bankruptcy firm, then this by itself will deter asset-stripping, and give the shareholders at least a modest incentive to continue focusing on the firm's long-run health.

So if some form of "speed bankruptcy" can be shown to be value enhancing to the firm, then claims that it would be a violation of the rule of law can be largely ignored. The overall point is worth reiterating: Our bankruptcy and FDIC receivership rules already sacrifice absolute priority to value creation in some circumstances. And in a financial crisis, when delayed action could destroy a bank's value, overnight debt-to-equity conversion would give the bank the healthy balance sheet that would be crucial to preserving enterprise value. In this sense, debt-to-equity conversion is consistent with the maximization norm.

The Simplest Speed Bankruptcy: Debt-to-Equity Conversion

Now we have enough background to spell out a simple but practical speed bankruptcy story focused on the unique problems of large financial conglomerates. This proposal is quite simple, and similar to one offered by Luigi Zingales:³⁰ the transformation of existing debt into equity. For this debt-to-equity conversion, I propose that bonds with maturities longer than roughly five years be converted to voting common shares.

One possible limitation of this procedure is that it can realistically be used only when the value of the firm's assets is substantially greater than the sum of the firms' deposits, short-term liabilities, and (just perhaps) its legally uncontested secured credit contracts. Since the biggest U.S. banks have issued long-term tradable debt of over \$1 trillion,³¹ an amount larger than the original TARP fund itself, there is quite likely to be a substantial amount of debt—perhaps more than the \$1 trillion—that is legally and practically available for debt-to-equity conversion. Note that by converting only longer-term liabilities (and by making that prospect clear in advance), the threat of runs will be dramatically reduced, since runs are a short-run liability phenomenon.

As the Stiglitz quote from the introduction notes, previous shareholders would retain their now-diluted shares, thus giving shareholders some *ex ante* incentive to behave well when the company is enduring its crisis. Enough debt should be converted into equity so that the post-speed-bankruptcy firm will, with near certainty, be able to avoid returning to bankruptcy for the next few years; this will boost the firm's liquidity by giving

future lenders the confidence to lend at non-penalty rates to the post-bankruptcy firm. Since multiple trips through Chapter 11 are common for corporations, this is a genuine concern.³² Finally, the ratio at which bonds are converted to shares should be generous enough that bondholders will have a genuine possibility of recovering the full value of their bonds in the event that a sound firm was mistakenly bankrupted.

Some questions immediately arise: Why convert only tradable bonds? Might not other financial commitments be even more junior? Isn't this a major violation of the priority of claims?

These questions are best answered by returning to the "maximization norm." A common complaint about why bankruptcy or even FDIC-style resolution is impossible for financial conglomerates is that the firm has to be kept up and running or else asset value will be destroyed. If true, then the only value-maximizing option left is federal bailouts, government ownership, and all of the public choice problems that bailouts entail.

But the essence of speed bankruptcy is the power to keep the firm up and running. Friday's bondholders become Monday's new shareholders, and the banking conglomerate can continue borrowing and lending much as before, with little possibility of a short-run crisis. This creates a third way, entirely different from either multi-year Chapter 11 or Treasury purchases of new equity; and this third way solves the speed problem that is allegedly so crucial.³³

Since the "maximization norm" is so strong in bankruptcy law (stronger than the priority of claims) and since speed bankruptcy can be a tool for value maximization (since it resolves uncertainty quickly), this means that the priority of claims can be sacrificed in order to keep the firm up and running with lower ex-post leverage. Indeed, the key reason speed bankruptcy can occur quickly is because corporate bonds are publicly traded; their liquidity and transparency provide the source of the speed.

There is one key legal barrier to speed bankruptcy, and it is spelled out in Zingales:³⁴ the netting-out provision for derivatives at the moment of bankruptcy. We will avoid discussing this issue here, but worthwhile references exist.³⁵ For our purposes, the important point is that in the two weeks that the U.S. Congress spent passing the \$700 billion TARP legislation in 2008, it could easily have implemented this small reform to derivatives law.

Further, as Congress refines the new "resolution author-

30. Luigi Zingales *Plan B*, Economists' Voice. The Berkeley Electronic Press. October, 2008. http://faculty.chicagobooth.edu/luigi.zingales/research/papers/plan_b.pdf

31. Garrett Jones, Ben Kwesi Klutsey, and Katelyn Christ, "Speed Bankruptcy as the TARP alternative," *Mercatus on Policy*, January 2010.

32. Ogden, Jen, O'Connor, op cit., p. 648. They note that between 1979 and 1988, 1/3 of publicly traded firms that entered bankruptcy re-entered bankruptcy within three years.

33. During the financial crisis of 2008, the Paulson Treasury department instead gave speed bankruptcy a curt dismissal. Philip Swagel, a Treasury economist at the time, later noted, "The simple truth is that it was not feasible to force a debt for equity swap or to rapidly enact the laws necessary to make this feasible. To academics who made this

suggestion to me directly, my response was to gently suggest that they spend more time in Washington, DC." Philip Swagel *The Financial Crisis: An Inside View*, Brookings Papers on Economic Activity. Conference Draft. Spring 2009. http://www.brookings.edu/economics/bpea/~j/media/Files/Programs/ES/BPEA/2009_spring_bpea_papers/2009_spring_bpea_swagel.pdf Thus, the Paulson Treasury apparently saw the real barriers to speed bankruptcy as not economic or even legal, but political.

34. Zingales, pg. 4.

35. *inter alia*, Richard Herring, *International Financial Conglomerates: Implications for Bank Insolvency*, University of Pennsylvania – Wharton School, [draft] May 2003. <http://fic.wharton.upenn.edu/fic/papers/05/0519.pdf>

ity” for large financial conglomerates in future years, it should seriously consider the benefits of having explicit debt-to-equity conversion provisions in any new resolution authority. The stronger the non-contestability provisions included in the legislation, the more likely the government will be to use such a conversion. Further, explicit plans for speed bankruptcy should be a mandatory part of the “living wills” or “funeral plans” required under the new financial reform legislation. Creating a credible threat of debt-to-equity conversion will have an added benefit: just as criminal prosecutors appreciate having the threat of the death penalty in order to secure life-without-parole convictions, so too can speed bankruptcy be used as a threat—perhaps an unstated threat—to bring bondholders to the negotiating table without the need for any form of bankruptcy.

So whether debt-to-equity conversion becomes the first choice or merely another weapon in the resolution authority’s arsenal, it appears that this form of speed bankruptcy would preserve the value of the firm as a going concern with only a modest violation of the priority of claims.

Three Examples

Consider a firm that starts off with a value (V) of 100. This thinly capitalized firm is 5% equity (divided among 5 shares, with a price of 1 each), 15% junior unsecured debt (divided into 15 bonds), 20% senior secured debt, and 60% deposits. Consider two cases: A 10% hit to value, and a 30% hit to value. For this firm, speed bankruptcy would be infeasible for shocks much larger than 30%, since a fall in value of 40% or more would push assets below the value of the deposits.

1. If the firm takes a moderate hit to its value so that V falls to 90, what should a judge or resolution authority do? There’s enough value to cover the senior debt, so it needn’t be touched, at least in this simple example. There are many economically plausible ways to make the D-to-E conversion, and certainly case law and financial regulation would play a role in determining the real-world outcome. But consider two possibilities at the extreme ends of the range:

A. Convert each junior bond into 1 share in the new firm. If converted to exactly 1 share, then 20 shareholders (5 old + 15 new) would now be sharing the equity value of the firm, equal to 10 (90 minus the secured 80), so each share would be worth $\frac{1}{2}$. This implies a recovery rate of 50% for the junior bondholders, and an only 50% fall in the value of the firm’s stock. This would likely be considered too generous to the shareholders, too stingy to junior bondholders.

B. If each bond were converted to 10 shares each, then there would be 155 shares in the new firm, still dividing up the same value of 10. In this case, 97% of the firm now belongs to former junior bondholders, not 75% as in A. Now, each share is worth $10/155=0.064$, and the recovery rate for

junior bondholders is now 64%, quite close to the theoretical maximum recovery of 66.7%. By promising to leave a small ownership stake to old shareholders, this reduces their *ex ante* incentives to destroy the firm.

Note that if the judge or regulator made a mistake, and the firm had actually been worth 100, then bondholders would reap a windfall: Every 10 shares would be worth $10 \times 20/155=1.29$, a 29% gain over the old bonds. This value comes at the expense of the old shareholders, since each share is now worth 0.129. Oliver Hart’s proposed bankruptcy reform³⁷ provides a solution to this potential problem; it would give the previous shareholders the right to buy back the firm from the new shareholders within a fixed window of time. The precise tradeoff between efficiency (via a thick equity layer) and equity (making every effort to ensure shareholders do not lose in a conversion) is beyond the scope of this article, but these issues will certainly be widely discussed in policy circles in the coming years.

2. Things turn more interesting if V falls from 100 to 70. Now there’s not enough value to cover the secured debt, but there is certainly enough value for depositors to be made whole. This may have been the experience of 2008: Assets were likely greater than depository liabilities for all of the ostensibly too-big-to-fail banks in 2008—for example, Citigroup’s \$2 trillion in liabilities consisted of about \$700 billion in worldwide deposits according to their 10-K at the time, and the five largest banks receiving TARP funds had over \$1 trillion in long-term debt on their books, an amount larger than the TARP fund itself.³⁸ The biggest U.S. banks have massive, long-run, non-depository liabilities, thus making them ripe targets for debt-to-equity conversion.

Thus, even in the most severe financial crisis since the 1930s, one may have been able to save most, perhaps all, of the biggest banks by converting only publicly tradable debt. As noted earlier, in cases where big-bank liabilities are not massive, long-run, and non-depository, then speed bankruptcy isn’t a practical alternative. But that’s not the world we faced in 2008, and it likely won’t be the world we face when the next crisis arrives.

Turning to the case at hand: How should the net value of 10 (gross value of 70 minus 60 going to depositors) be divided up? Since the senior bondholders have secured claims, their legal priority is very high. At the same time, preserving good *ex ante* incentives for shareholders may dictate giving shareholders some portion of the *ex post* firm, which would probably create some demand—legal or political—for a minor recovery for junior investors. Thus, dividing up something like 9 units of value among the senior bondholders and the remaining 1 unit among the shareholders and junior bondholders could perhaps pass legal muster (and if it does not at the moment,

36. *op cit.*, note 12.

37. Garrett Jones, Ben Kwesi Klutsey, and Katelyn Christ, *op cit.*

38. George G. Kaufman, *Bank Contagion: A Review of the Theory and Evidence*, *Journal of Financial Services Research* 123–150, Vol. 8, No. 2 (1994). <http://www.springerlink.com/content/u610600184558u26/>

then future legislation could create safe harbors to make it so). For instance, each junior bondholder and shareholder could be given 1 share in the new firm (for 20 shares total), while the senior bondholders would divide a total of 180 shares, giving them a 90% equity stake in the new firm.

In practice, one could endlessly discuss (and litigate) the precise conversion ratios, but the overall point is clear: Once regulators decide on an acceptable leverage ratio, then as long as there is enough long-term debt in the firm, speed bankruptcy is feasible. Regulatory and legislative changes to make this proposal practical should focus on building in legal certainty, so that the economist's chalkboard version of bankruptcy can become a practical reality.

What About Contagion?

One argument in favor of bank bailouts is that banks have interconnected liabilities, with one bank's depositors owing money to another bank, so that if one bank fails to repay its depositors, that will set off cascading bank failures. Another argument is that bank customers are panicky (whether for rational or irrational reasons) and that if one bank is allowed to fail, there will be a value-destroying run on other banks. Thus, governments must bail out failed banks, even beyond the statutory FDIC insurance requirement. This fear of failure has driven our quest for bailouts over the past two years. But is there evidence to back up this position?

Not much. First, it should be noted that for the large money-center banks at the heart of the recent financial crisis, deposits make up half or less of the liabilities. A glance at the 10-K or 10-Q forms of these banks will confirm this fact. Bankruptcy law and practice decree that deposits are the most senior form of financial liability, with little room for this particular violation of the absolute priority rule. That means that in a speed-bankruptcy process that converted much of the non-depository debt into equity, the weak bank's assets would have to be worth less than *half* of the pre-crisis levels before one would need to bring in federal money for a bailout of depositors. So as long as $V_{\text{Crisis}} > \text{Total Deposits}$, then without bailout money one can make every depositor whole, penny for penny. If regulators were able to communicate this to depositors, it could prevent runs; and if regulators were also able to persuade politicians, it could reduce political support for bailouts.

This ability to prevent runs without resort to bailouts might sound counterintuitive, since we often think of "banks" as mostly specializing in taking in deposits and lending money to borrowers. But this is true today of mainly just small banks and regional banks. Money-center banks, those at the heart of

this crisis, took on many other forms of liabilities, liabilities that both through law and custom come in much lower in the priority of bankruptcy claims.

So any speed bankruptcy regime would almost surely leave even *uninsured* deposits untouched for the big money-center banks. But perhaps the holders of Citigroup's \$350 billion in long-term bonds or holders of Bank of America's notes would be plunged into insolvency if these money-center banks defaulted on their debts. And if banks (or their major customers) hold each others' debts as assets, this could be a source of financial contagion. Fortunately, there has been a massive empirical literature searching for evidence of bank contagion, so one need not speculate on the matter.

A review of this literature by George Kaufman in 1994 reached the following conclusion:

[B]ank contagion is largely firm-specific and rational, as it appears to be in other industries, and...the costs are not as great as they are widely perceived to be.³⁸

Even during America's greatest banking crisis, the Great Depression, there is little evidence of contagion.³⁹ The one great argument in favor of bank bailouts—negative spillovers to other, healthy banks—appears to be of little merit. The recent defaults of Dubai World, the investing arm of the government of Dubai, likewise set off no financial contagion.⁴¹

Also worth noting, the bank contagion research provides *a fortiori* evidence that debt-to-equity conversions will cause even less contagion than a bank default. Those studies focused on *depositors* losing value in their most liquid investments, investments often held to fund short-term purchases. But debt-to-equity conversions, which are at the heart of speed bankruptcy, leave deposits untouched. They convert *bonds*, notes, and other medium- and long-term financial obligations into equity. Indeed, speed bankruptcy even gives bondholders an asset with some value so they are not wiped out dollar for dollar.⁴¹ Thus there is little reason to fear major contagion from speed bankruptcy.

If some concern remains, it might best be resolved through some combination of an improved speed bankruptcy procedure plus generous short-term lending from the Federal Reserve. There is little reason to think that converting some debt claims into equity claims will create large short-run problems (though it will certainly create complaints among those not getting bailed out), and it will avoid the productivity-destroying long-run problems associated with overleveraged, government-owned banks.

39. See Charles W. Calomiris and Joseph R. Mason, "Contagion and Bank Failures During the Great Depression: The June 1932 Chicago Banking Panic," *American Economic Review*, December 1997, which concludes that "the panic did not produce significant social costs in the form of failures among solvent banks." http://papers.ssrn.com/sol3/papers.cfm?abstract_id=65117

40. Alan Beattie, "Past is no Clear Guide to Risk of Contagion," *The Financial Times*, December 1, 2009. www.ft.com/cms/s/0/2e239722-dea4-11de-adff-00144feab49a.html?catid=76&SID

41. Indeed, when corporate borrowers default on bank loans, banks themselves take equity in exchange for debt 31% of the time. So banks are genuinely in the business of holding shares—so interconnected debt per se is no barrier to successful speed bankruptcy. Ogden, Jen, O'Connor, p. 636.

Addressing the Behavioral Public Choice Surrounding Bailouts

If there is little argument for bank bailouts, then why do they occur so often? Kaufmann's analysis provides clues. Banking crises may not have true contagion effects, but compared to what happens in other crises, in a banking crisis the bad news tends to erupt quickly, setting off an air of panic. So if policymakers and voters fall prey to the usual decision-making failures documented by behavioral economists—that is, if they exaggerate the importance of present over future consequences (“hyperbolic discounting”), overweight the cost of possible losses in relation to the benefits of possible gains (“loss aversion”), and are convinced of the need to “do something” (“action bias”)—then policymakers may push for bailouts even if they know that, on average, things would turn out better in the medium term without them.

The good news here is that rapid debt-to-equity conversions should help to limit each of these destructive tendencies by forcing policymakers and market participants to (1) experience pain now; (2) do nothing immediately (that is, no bailout), and (3) assign equal weight to benefits and costs. At the same time, speed bankruptcy is unlikely to be as costly to politicians as they might think. It's relatively easy to make the case that speed bankruptcy is likely to be fast (addressing the hyperbolic discounting problem), efficient (especially if it works roughly as well as FDIC resolution, thus addressing the loss-aversion tendency), and provides plenty of action-oriented headlines about the government acting boldly to save the economy (addressing the action bias). And one final benefit: speed bankruptcy fits with social norms of responsibility in that those who voluntarily invested in the firm will now face the consequences of their action. In sum, turning bondholders into stockholders would make not just good economics, but good real-world politics.

How Much Would Bond Rates Rise?

If long-term bank bondholders knew they were much less likely to be bailed out in the future, wouldn't that permanently raise bond yields? Economic theory has a clear prediction: Yes, because return and risk are positively correlated. The end of too-big-to-fail would make bonds a less attractive way to fund banks, and would likely lead to less leverage and smaller banks. The end of too-big-to-fail (TBTF) would reduce the return to bigness.

But *how much* would yields rise? A large data-driven literature in banking and finance has explored this question.⁴² This

literature is a good proxy for the effects of speed bankruptcy because it addresses how bond yields are influenced by the prospect of being either declared null and void, repaid partially, or being converted into equity, albeit after a more routine FDIC or bankruptcy court procedure.⁴³

In the empirical literature, a variety of approaches have been used, but they generally come to the same conclusion: TBTF pushes down yields on debt, but the difference is typically measured in basis points, less often in percentage points. And this holds true even when focusing solely on subordinated debt—the debt most likely to be converted to equity under any speed bankruptcy regime. I discuss some of the evidence in the remainder of this section, and refer to other key papers in the footnotes.

A 2005 study by Federal Reserve economists Donald Morgan and Kevin Stiroh conveys a sense of this literature. In 1984, Congressman Stewart McKinney created a natural experiment. During testimony from the Comptroller of the Currency on the extraordinary support provided to Continental Illinois, McKinney stated that some banks were just too big to fail. A *Wall Street Journal* article the next day listed 11 banks that were TBTF—an acronym used by McKinney himself, apparently tongue in cheek.⁴⁴ That day, stock prices of these 11 banks rose by 1.3%, and bond ratings for subsequent issues by these banks rose an average of one notch. In the finance literature, the date of McKinney's comment is often cited as the day TBTF became semi-official policy in the U.S.

So after McKinney's announcement, stocks rose and rating agencies behaved differently toward the TBTFs, but did bond yields fall for these same banks? Morgan and Stiroh created a simple “difference-in-difference” estimate that looked at the effect of the announcement on TBTF bank yields, and they found no statistically significant difference. The point estimates from two regressions (with t-statistics roughly between 1 and 1.5) indicate a fall of either 26 or 32 basis points in yields for TBTFs after the congressman's statement—effects that are statistically insignificant, and of at most modest economic significance. This simple natural experiment is the cleanest test of the hypothesis that ending TBTF would dramatically raise debt funding costs—and the evidence does not support the hypothesis.

On the other hand, it is difficult to tell how much market participants changed their views based on McKinney's statement and the *Wall Street Journal* article—was it a complete surprise, so that the likelihood of bailouts rose from 0%

42. Leading papers include: Gorton, Gary and Anthony M. Santomero, “Market Discipline and Bank Subordinated Debt: Note.” *Journal of Money, Credit and Banking*, Vol. 22, No. 1, 1990, pp. 119-128; Covitz, Daniel M., Hancock, Diana and Kwast, Myron L., “A Reconsideration of the Risk Sensitivity of U.S. Banking Organization Subordinated Debt Spreads: A Sample Selection Approach.” *Economic Policy Review*, Vol. 10, No. 2, September 2004; Morgan, Donald P. and Stiroh, Kevin J., “Too Big to Fail After All These Years” (September 2005). FRB of NY Staff Report No. 220. (and other papers by Morgan and Stiroh); Andrea Sironi, “Testing for Market Discipline in the European Banking

Industry: Evidence from Subordinated Debt Issues,” *Journal of Money, Credit and Banking*, Vol. 35, No. 3, 2003, pp. 443-472.

43. The literature has noted the upside value from debt-to-equity conversion, with Gorton and Santomero famously noting that when a firm is close to bankruptcy, yields on subordinated bonds could conceivably fall because of the rising probability of debt-to-equity conversion.

44. Morgan and Stiroh, op cit., 1.

all the way to 100%, or was it little surprise, so that the likelihood rose instead from 75% up to 100%? In the latter case, one might expect that a true end of TBTF would push yields up not by about 30 basis points, but by four times that amount—by 120 basis points. Clearly, the difference would matter enormously for how to interpret their results. Further, Morgan and Stiroh's results did not focus on subordinated debt in particular.⁴⁵ In discussions with a hybrid debt trader at a major investment bank, I have been told that adoption of speed bankruptcy would likely raise the yields on new subordinated bank debt issues by about 100 basis points.

Perhaps the best reading of the literature is that the perception of TBTF in developed countries has lowered the cost of subordinated debt for some banks by at least a quarter percent on average, though the effect has been larger—perhaps much larger—in some times and places. One can hope that more precise answers are uncovered in the future as alternatives to bailouts are discussed in the academic literature. Certainly, if the end of TBTF meant yield spreads increasing by 2-4 percent for large banks—the results implied by the high end of the literature—this alone would cause banks to deleverage and raise more of their funds through equity, and would likely cause the largest banks to shrink. Thus, if the proposal presented here were credibly implemented, it could substantially change the market structure of the U.S. financial sector.

Speed Bankruptcy in Advance: Funeral Planning and Crisis Convertibles

The Obama Administration's proposals to mandate "funeral planning" or "living wills" for large financial institutions is a clear example of planning for speed bankruptcy. These have now been incorporated into the financial reform bill. These proposals amount to creating a prepack bankruptcy plan every few months, making it possible for a financial holding company to go through bankruptcy in roughly the same time as Chrysler—that is, about six weeks. This isn't quite the overnight process of debt-to-equity conversion, but nor is it the years of negative-sum legal battles seen in the airline industry.

Federal Reserve Governor Tarullo spoke in support of corporate living wills recently, emphasizing that it would help

market participants as well as regulators to be prepared for the worst.⁴⁶ One benefit is that it would "remove some of the uncertainty around a possible resolution," so that investors wouldn't have their expectations violated. Governor Tarullo closed by stating that

*[I]t is imperative that governments convince markets that they can and will put large financial firms into a resolution process rather than bail out its creditors and shareholders.*⁴⁷

In a world where bank bondholders have likely become convinced that they've invested in firms that are de facto branches of the federal government, it will likely take an enormous institutional change before bondholders again believe that they'll be forced to contribute to resolving a weak financial institution. Funeral planning will help to focus their minds on the possibility of their bank's execution. Further, it will help to train government bureaucrats in the art of dismantling large firms—a fire academy for the financial regulators.

There are other proposals akin to the debt-to-equity swap mechanism, currently being examined in the world of policy research. The Squam Lake Group recently proposed that regulators consider the use of regulatory hybrid securities as an important means to resolve large insolvent financial institutions.⁴⁸ More specifically, the Squam Lake proposal is to encourage banks to create a "long-term debt instrument that converts to equity under specific conditions."⁴⁹ Specifically, banks would issue these bonds prior to the occurrence of a crisis. And under a two-step trigger mechanism, these bonds would automatically convert to equity to recapitalize an under-capitalized or insolvent bank.⁵⁰ One might call them "crisis convertibles," though they are typically called contingent convertibles or reverse convertibles.

The first trigger would be a declaration by regulators that a systemic crisis is underway. The second trigger would be built into the hybrid security itself, so that when violated, the conversion will go into effect. An example of such a provision is if the ratio of tier 1 capital to risk-adjusted assets (the capital adequacy requirement) is violated. Other measures such as the specific rate at which debt would be converted into equity would have to be predetermined as well.

45. Other papers have looked at subordinated debt, but they do not have as clean a test of the effect of an increase or decrease in the degree of TBTF. This literature uses asset size as a proxy for TBTF status; but as Flannery and Sorescu note, any causal effect of asset size on spreads almost surely overstates the effect of TBTF on spreads since such an effect "may also indicate that large banks are better diversified, or that their [subordinated bonds] trade in more liquid secondary markets." Thus, the literature uses de facto difference in difference estimates: They look at the relationship between size and yield in years before and after an ostensible decline in TBTF policies, while Morgan and Stiroh looked at changes in yields over two days.

Sironi (op cit.) found that across four different specifications using subordinated debt yields in European countries from 1991-2000, there was a TBTF effect of between 25 and 32 basis points. Flannery and Sorescu had much noisier estimates using U.S. data from 1983-1991, and these authors found evidence that TBTF was increasing over the period from a negligible level, while Covitz, et al. found evidence TBTF was decreasing over the same period toward a negligible level. Both of these U.S.-based papers found

some quantitatively large, statistically significant TBTF effects (e.g., a greater than 140bp rise in yield from a halving of bank size). But the conflict over timing and the lack of significance across most specifications makes it difficult to come to a conclusion based on these U.S.-based results.

46. Daniel K. Tarullo, *Supervising and Resolving Large Financial Institutions*, Speech at the Institute of International Bankers Conference on Cross-Border Insolvency Issues, New York, New York, November 10, 2009. <http://www.federalreserve.gov/newsevents/speech/tarullo20091110a.htm>

47. Ibid.

48. Squam Lake Working Group on Financial Regulation, *An Expedited Resolution Mechanism for Distressed Financial Firms: Regulatory Hybrid Securities*, Council on Foreign Relations' Center for Geoeconomic Studies Working Paper, April 2009.

49. Ibid., 3.

50. Ibid.

In any event, the goal of this approach is to expedite the recapitalization of banks and to reduce the cost to taxpayers. The Squam Lake proposal is simply another application of speed bankruptcy: a fast, low-cost, way to reduce debt and increase equity without marshalling an enormous amount of taxpayer funds. Their proposal, like a simple debt-to-equity conversion, forces bondholders to bail out their own firms.⁵¹

Speed Bankruptcy as Emergency Parachute

In a world without funeral-planned bankruptcies or Squam Lake-style hybrid convertibles—which are perhaps the best kinds of speed bankruptcy—the debt-to-equity conversion I propose appears to be a practical alternative. It would instantly achieve something very close to the economist’s textbook version of bankruptcy: less debt, more equity, lower leverage, a firm with new shareholders acting roughly in the firm’s best interest. And because the nation’s large, complex financial institutions have a large amount of such widely-traded debt in circulation—Citigroup, for example, has issued over \$200 billion in long-term bonds as of 2010, roughly 10% of its assets—the proposal outlined here is a plausible resolution mechanism in real-time. Thus, if regulators fail to implement a usable funeral planning procedure, and if a large, systemically-important firm plunges into insolvency, policymakers should recall that they have investors at hand to recapitalize that weak firm: the firm’s own long-term bondholders.

Why the Focus on Long-term Bonds?

Why do I recommend that only long- (and medium-) term bondholders be converted into shareholders? Because to the extent that there is a risk of contagion, it is concentrated at the short end of the term structure. For instance, a study by Craig Furfine concluded from simulations that the failure of the biggest bank could create “illiquidity [that] could spread to banks holding almost 9% of U.S. banking system assets.”⁵² A liquidity crisis is manageable and much less serious than a true solvency crisis—liquidity is just a matter of the term structure of asset maturity—but it should be avoided when possible.

But this raises the possibility that the focus on long-term bonds could be a source of trouble in the future. If only medium- and long-term bond contracts will be broken in speed-bankrupted firms, then short-term debt is implicitly government-backed (just like all big-bank debt is implicitly or explicitly government-backed during the current crisis). Under such a regime, lenders will quickly realize that short-term lending is safer than ever, so borrowers will quickly find that short-term borrowing is cheaper than ever. The

net result would likely be a world of megabanks financed overwhelmingly by short-term, too-liquid-to-fail debt. Thus, if rapid debt-to-equity conversions become part of the new institutional mechanism, regulators will need to place limits on short-term debt, a proposal that is part of the larger Squam Lake proposal.

Indeed, this merely repeats some of the lessons learned in the debate over subordinated debt in the early 2000’s, surveyed in Stern and Feldman’s excellent book *Too Big to Fail*. The Gramm-Leach-Bliley financial reform bill attempted to create a class of subordinated debt that would be explicitly banned from any future bailouts. Major financial institutions would have been required to hold some portion of their liabilities in the form of subordinated debt in order to give financial markets and regulators alike a market-based measure of firm health: If yields on a major firm’s subordinated debt spiked, that would be a warning sign. But financial institutions and the Federal Reserve Board both pushed back against this market-based indicator, and so the subordinated debt requirement never made it through the regulatory process.

One lesson of the subordinated debt debacle is quite clear: If subordinated debt was being explicitly banned from bailouts, then all other debt is at least in principle bailout-qualified. The implicit government backing for major financial institutions was certainly known at the time of the subordinated debt debate.

Another lesson was that firms will resist issuing debt that is bailout-free, and will overwhelmingly prefer debt that is bailout-qualified. Thus, any push for speed bankruptcy will surely be met by resistance larger than the resistance to subordinated debt, and if speed bankruptcy were to become part of the institutions of modern financial capitalism, firms would do everything possible to issue short-term, non-defaultable debt. Regulators will need to place limits on short-term debt under any regime where long-term bonds can be converted to shares.

The Source-of-Strength Doctrine: Pushing Capital from Bank Holding Companies into Banks

Now, a technical issue: In large bank holding companies, the true “bank” subsidiary is under FDIC supervision, while the holding company is largely not. Indeed, the true bank is typically a wholly-owned corporate subsidiary of the parent holding company. Can conventional speed bankruptcy—a conversion of holding-company bonds into shares—help out an insolvent subsidiary? Indeed, is it even legal to do so?

The answer to both questions is “yes.” The Federal Reserve’s “source of strength” doctrine states that the Fed has

51. Charles Goodhart eloquently criticizes such contingent convertibles in “Are CoCos from Cloud Cuckoo Land?” *VoxEU*, <http://www.voxeu.org/index.php?q=node/5159>

52. Craig Furfine, “Interbank Exposures: Quantifying the Risk of Contagion,” BIS Working Paper No. 70. June, 1999. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=169089

authority to force a bank holding company to inject capital into its weak FDIC-regulated banks.⁵³ So if a bank holding company's stock has plummeted so far that it appears insolvent, and if the cause of the insolvency is largely from a weak bank subsidiary, then speed bankruptcy could be used to reorganize the firm. Holding-company debt would be converted to holding-company equity, and the Federal Reserve could force the now deleveraged firm to inject some of that equity into the weak bank subsidiary. So as long as tradable bonds exist within a holding company, there is an opportunity using current FDIC rules to use debt-to-equity conversions to save a large, weak bank owned by the holding company.

The Key Principle: Creditors Share Losses Before Taxpayers

The decision to make big-bank debtholders whole during the financial crisis has created massive moral hazard problems for future policymakers, and has created economy-wide debt overhang. The U.S. government has given a combination of explicit and implicit guarantees for the debt of the nation's major financial institutions. This reduces private-sector monitoring of bank health and raises incentives to lend to big banks over small banks. And at the macroeconomic level, expected bailouts amplify a leverage cycle that ends up depressing economic activity.

But as we've shown, there's an alternative, even in the midst of a crisis: speed bankruptcy, the court- or regulator-directed conversion of tradable bonds into shares of common stock.⁵⁴ By reducing debt and increasing equity, speed bankruptcy reduces leverage and places the firm back in the hands of people who have money at risk. And by freeing up future cash flow, it gives banks more money to lend. It is

surprising that this proposal, which Luigi Zingales pushed for in the midst of the 2008 crisis, didn't garner more attention at the time, since its underpinnings are familiar to macroeconomists and corporate finance economists alike.

As the epigraph and the quotations from the introduction make clear, leading macroeconomists are seriously considering debt-to-equity conversions as a tool for fixing weak banks. The serious debate over the next few years will likely be between advocates of speed bankruptcy (perhaps in the form of reverse or contingent convertibles) and advocates of permanent lower leverage. The thin layers of capital that characterized pre-crisis banks will likely be relegated to history.

For policymakers and regulators around the world creating new resolution authorities for big banks, the message is clear: government purchases of equity stakes in big banks may be unnecessary, given the structure of the balance sheets of modern systemically important banks. There is an alternative—indeed there always was.

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53. Ashcraft, Adam B. "Are Bank Holding Companies a Source of Strength to Their Banking Subsidiaries?" Federal Reserve Bank of New York Staff Reports no. 189, June 2004. http://app.ny.frb.org/research/staff_reports/sr189.pdf. As Ashcraft discusses, the separate cross-guarantee provision in U.S. law allows FDIC to force a strong bank within a holding company's umbrella to financially support a weak bank under the same umbrella. This implies that a strong subsidiary bank with tradable debt could be speed-bankrupted to provide financial support to a weak subsidiary bank.

54. This message has reached the floor of the U.S. Senate, where Senator Jon Kyl discussed an early version of this essay during the debate over financial reform. *Congressional Record*, May 3, 2010. Text and video at: <http://www.c-spanvideo.org/videoLibrary/clip.php?appid=598085010>

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