FINANCIAL SAFETY NETS: THE GOOD, THE BAD, AND THE UGLY*  
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ABSTRACT

This paper focuses on the adverse long-run and distributional effects of stealthy zero-haircut rescues of US and EU megabanks by central bankers during the Great Financial Crisis and its aftermath. It explores movements in the crisis and postcrisis behavior of credit spreads at a sample of US and EU megabanks and develops a method for determining the extent to which the debt of individual firms is or is not trading principally on the taxpayers’ dime.

This analysis indicates that creditors remain unpersuaded by postcrisis reforms meant to signal an end to too-big-to-fail policy commitments and see these reforms instead as half-measures that do not change the underlying incentive structure under which megabanks and their regulators operate.

Financial safety nets consist of implicit and explicit guarantees that limit the losses that creditors can experience in the failure of institutions covered by the net. To sustain these guarantees over time, officials need three kinds of authority. The first is the right to prescribe and enforce prudent preventive measures aimed at restricting the risk of insolvency that individual institutions take on. The second consists of the right to offer scripted and unscripted financial assistance to confine the damage that selected creditors, customers, employers and stockholders suffer when and if a particular institution becomes incurably insolvent. The third entails the right, in the event of financial turmoil, to make taxpayers and surviving institutions

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pay—in one way or another—for the costs of whatever pattern of stakeholder rescues authorities decide to undertake.

The good a safety net can accomplish may be defined as the resources that government guarantees save in centralizing the task of monitoring guaranteed institutions’ safety and soundness, plus the incremental comfort they give to sophisticated and unsophisticated creditors alike. The bad may be defined as prudentially unwarranted subsidies to covered institutions’ potentially ruinous tail-risk exposures that national and global nets convey to stockholders, creditors, and aggressive managers of megabanks. The ugly can be defined as the high-handed way that, during a crisis and its aftermath, officials protect high-income stakeholders at large financial institutions at the expense of the citizenry at large. Although officials such as Timothy Geithner (2014) assure us in their memoirs that no-haircut creditor rescues seemed optimal in the moment, it is clear that not exercising a guarantor’s prudential stop-loss call options to take control of a ruined firm’s assets and eliminate incentives for endgame risk-taking has adverse long-run effects. Zero-haircut rescues set precedents that expand the safety net over time and transfer resources from ordinary taxpayers and from working-class families whose breadwinners lose their jobs (Kane, 1989a and 2016a). They also send the message that large, complex, and politically well-connected institutions are—as a practical matter—too difficult to fail and unwind (TBTFU).

During a financial crisis, incumbent governments find the short-term benefits of rescuing insolvent lenders and their creditors with generous loans and repayment guarantees hard to resist (Kaufman, 2015). No-haircut rescues seem especially attractive to central bankers responsible for stabilizing the world’s leading reserve currencies. Figure 1 shows that Federal Reserve officials made massive amounts of direct loans to troubled banks in the US and Europe. They
also used currency swaps and other nontransparent forms of assistance to reduce or avoid the need to haircut stakeholders in insolvent firms.

As portrayed in Figure 2, I believe that the cross-country bailout system in which the Fed participates is much more complicated than the access of a few foreign megabanks to below-market Fed loans. In Europe, national safety nets are backed up by EU support arrangements. In a crisis, the EU support system is expected to receive supplemental funding from the IMF. Finally, the Federal Reserve is understood to be a global hegemon that, when needed, will supply enough “liquidity” to rescue the whole shebang. For taxpayers, the rub is that, in extremis, liquidity support becomes insolvency support. I believe that the understanding that the Fed has everyone’s back has encouraged private counterparties and foreign government officials to see the Federal Reserve System – then and since – as the financial sector’s de facto global rescue party of last resort.

While it is stabilizing in the short run, widespread confidence in the Fed’s propensity to rescue the European system is producing what will prove to be a dangerously fragile system in the long run. This chapter presents evidence that indicates that, despite statutory reforms aimed at strengthening resolution authority and forcing creditor haircuts in crises, bond markets remain convinced that in crisis circumstances central bankers will be afraid to allow creditors of any major megabank to suffer much of a haircut.

The Fed’s continuing swap activity is probably collateralized. But collateral can lose value rapidly in a crisis, which is precisely when Fed calls for additional collateral would seem impossibly destabilizing. The likelihood that expected insolvency costs will shift to US taxpayers through Fed allows authorities in Europe to leave numerous zombie banks unresolved and appears to have emboldened at least a few countries to expand their national safety nets.
beyond their fiscal capacity to absorb the losses for which their guarantees put their taxpayers on the hook (Kane, 2016c).

Figure 1 shows how much, during the Great Financial Crisis (GFC), Federal Reserve officials stretched their formal last-resort authority to provide long-lasting amounts of below-market funding to large European banks. As a step toward limiting such bailouts in the future, authorities in the US and Europe have begun to toughen traditional prudential standards and introduced several new supervisory techniques. The most notable of the new techniques are the ideas of banks’ issuing contingent capital bonds (debt that converts into equity when designated indicators of distress reach trigger levels) and undergoing periodic “stress tests.” Stress tests are scenario-based and examine the ability of an institution’s balance sheet to weather the onset of credible sequences of hypothetical crisis events.

This chapter argues both that, almost a decade after the alleged end of the GFC, many European banks remain in great distress and that the strategies embodied in postcrisis patterns of reform will not and cannot reliably lead to their recapitalization without changing company law to establish that managers of covered institutions owe fiduciary duties of loyalty, competence, and care not just to shareholders, but to taxpayers as well.

Toughening rules that constrain a firm’s balance-sheet structure is an incomplete strategy of reform. New rules invite a determined search for new ways to get around them. Perhaps the least obvious symptoms of regulatory capture lie in two features of the inherited regulatory system that US reformers have not addressed. The first is continued legitimacy of what I call “theft by safety net:” managerial efforts to reap profits by devising loopholes that circumvent prudential controls on risk-taking at taxpayer expense. The second is the need to provide an
incentive counterweight sufficient to overcome regulators’ predictable reluctance to enforce solvency standards in distressed circumstances (Kane, 1989a and 1989b).

Mark Twain famously said that it is easier to fool people than to convince them that they have been fooled. I believe that industry claims that postcrisis reforms have ended too-big-to-fail policymaking offer a disheartening mixture of propaganda and wishful thinking. In both the US and EU, regulators have consistently underestimated the range of individual megabankers’ risk-taking opportunities and the force of incentives to frame risks in ways that finesse laboriously crafted laws and directives.

Postcrisis safety nets are being beefed up in three ways: to limit the generosity of future bailouts; to convey enhanced resolution authority; and to require megabanks to strengthen their capital, their liquidity, and their “resolvability.” Each of these steps is to the “good,” but the bad and ugly features of safety nets are not rooted in an inadequacy of past regulatory authority or standards. The ugliness traces instead to the career incentives that lead top regulators and distressed-bank managers to overlook and paper over losses at megabanks and to delay the resolution of deeply insolvent zombie firms (Kane, 2016a). Far from being undermined by postcrisis reform, these incentives have been strengthened by the largely unchallenged postcrisis accolades that members of the braintrust that managed the megabank rescue program during the GFC have heaped upon themselves [e.g., Geithner (2014) and Bernanke (2015)].

Data on megabank credit spreads presented in the next two sections indicate that megabank creditors are convinced that capital requirements and restrictions on US and EU member states’ ability to assist troubled banks can and will be finessed when crisis pressures break out again. To explain some of the possible finesses available to EU member states, the third section introduces and explains the concept of a “stealth bailout.” Finally, the fourth section
goes on to discuss some straightforward steps a government might take to improve megabanker and regulator incentives.

1. A Look at Crisis and Postcrisis Behavior of Credit Spreads in the US

The analysis presented in this section uses graphs constructed by Kamakura Risk Information Services to illustrate credit-spread behavior during and after the GFC for a series of large US firms: GE, Bank of America, Citi, JPMChase, Wells Fargo and Lehman Brothers. The blue dots plot these firms’ credit spreads. The spreads are based on actual trades and calculated using matched-maturity Treasury yields calculated from the daily Treasury yield database provided by the US Department of the treasury.

Light blue lines show the volume of trading in the selected bond. The orange lines plot movements in Kamakura Risk Information Services’ reduced-form model 6.0 of each firm’s one-year default probability, while (unless otherwise noted) the green lines plot 10-year default probabilities, again using version 6.0 of the KRIS reduced-form model.¹

A basic theorem of corporate finance is that, other things equal, increases and decreases in a firm’s default probability and/or its loss given default (LGD) ought to induce parallel movements in its credit spread. One of the “things” that might not be equal is the extent to which creditors’ estimates of LGD rely on perceived third-party guarantees. In particular, how much a series of distressful events might move the credit spread of a major US financial institution should depend to a great extent on the severity of its distress and how firmly and completely the Treasury and Federal Reserve are thought to stand behind its debts.

¹ Kamakura Corporation is a US financial software company with hundreds of paying clients. Its key economists are Donald van Deventer (owner), Robert Jarrow, and Jens Hilscher. Inputs to Kamakura’s models include company-specific attributes, industry-level measures, and selected macroeconomic factors.
Figure 3 uses credit spreads observed for General Electric to establish a qualitative baseline for how credit spreads on corporate debt not expected to be covered by the safety net move in response to changes in a firm’s default probabilities. Although GE is a very large firm and a significant user in 2008 of one of the Fed’s creative rescue programs (Gerth, 2018), its financial operations appear too small for the systemic threat posed by its insolvency to require much of a loss-absorbing creditor rescue. Because the pressure on the Fed to absorb GE losses figures to be small, surges in the orange line during the GFC are accompanied by marked and parallel changes in the blue dots that track the credit spread on the indicated bond.

Figures 4, 5 and 6 show how differently credit spreads respond to evidence of growing distress at the nation’s three largest banking firms. In each case, one-year default probabilities began to surge before the onset of the GFC, but throughout the 2008-2010 period their credit spreads moved to a disproportionately lesser degree.

Because the absorption by safety-net guarantees of imbedded and projected losses increases as the economic value of stockholder-contributed equity declines, the lesser distance between the surges in the orange and blue lines for JPMorgan Chase shown in Figure 6 is consistent with the hypothesis that Morgan’s stockholder support was less fully exhausted than that of Citigroup and Bank of America. A cartoon hanging in my office (drawn in 2009 by John Darknow of the Columbia, Mo. *Daily Tribune*) treats these two banks’ prolonged weakness as common knowledge. The cartoon shows Geithner and Bernanke piloting a speedboat labeled **STRESS TESTS** with two rotting corpses (identified as Citi and Bank of America) in a back seat. Geithner asks Bernanke whether he thinks anyone will notice that either bank is dead. To liken the subterfuge to the farcical goings-on featured in the movie “Weekend at Bernie’s,” Darknow’s drawing is entitled “Weekend at Bernanke’s.”
Another cartoon drawn during the crisis vividly brings to life the story told by our graphs. It shows a banker leaning out of the top-floor window of a building labeled “Megabank” to look down at a pile of bodies on the sidewalk below. A well-dressed banker lying on the top of the pile calls up to his colleague: “I’m okay. I landed on a bunch of taxpayers.”

Figure 7 tracks the behavior of Lehman Brothers’ credit spread during the crisis to show that, as it approached its abandonment to bankruptcy, its creditors treated it less and less as too big to fail. The graph shows that its credit spread widened drastically as bondholders began to realize that authorities were finding it difficult to fashion a viable rescue plan.

Figure 8 illustrates the importance of immediate capital shortages and systemic considerations in the flow of safety-net subsidies. Wells Fargo, the nation’s fourth-largest bank, issued a bond in 2012 that has shown a high credit spread throughout its life, apparently because the bank’s 10-year default probability has been high and rising. The customer-abuse scandal that surfaced in August 2016 drove its one-year default probability up sharply, but this barely affected its credit spread. Although evidence linking Wells’ scandal to top managers’ willingness to tolerate unethical behavior dominated the financial news for a few weeks, bondholders treated the surge in its one-year default probability and evidence of high-level mismanagement that covered in the press more or less as a line of passing storms.

**Implicit Statistical Modeling.** My interpretation of megabank credit-spread data presumes that changes in an individual bank i’s credit spread ($\Delta CR_i$) at any time is a function of changes in its default probability ($\Delta PD_i$), and treats the response coefficient $b_i$ as a positive function of its stockholder-contributed capital position ($NW_i$) and a negative function of the extent to which creditors’ loss-given-default is mitigated by the strength of its claim to TBTF status ($TBTF_i$). This model can be expressed as follows:
\[ (+) \quad (-) \]
\[ \Delta CR_i = a_i + b_i (NW_i, TBTF_i) \Delta PD_i + u_i, \]

where \( u_i \) is assumed to be a well-behaved random error term.

Because I do not have access to the data underlying the screen scrapes presented here, I cannot estimate and test this model explicitly. But the qualitative behavior shown on these screens fully accord with this model.

2. **A Look at crisis and Postcrisis Behavior of Credit Spreads in the EU**

Focusing on the only major EU banks included in KRIS’s database, Figures 9 through 12 use screen scrapes of credit-spread behavior to indicate that European spreads for these megabanks reacted, both during the GFC and in recent months, to increases in default probabilities much as they did for US megabanks during the GFC. For further confirmation, we can only wish that Spanish, Italian and Portuguese banks known to be carrying a heavy load of poorly performing assets had bonds trading in the US markets. But news reports suggest that banks in these countries are far more distressed than the German, Swiss, and British banks whose credit spreads KRIS is able to track.

Figure 9 shows that Deutsche Bank’s default probability surged in early 2008, pushing up its credit spread proportionately until midyear, after which implicit government guarantees apparently began to absorb more and more of its loss exposure. Figure 10 looks at the spread on a second DB bond, a bond that was issued during the postcrisis interval. Beginning in 2014, both DB issues begin to evidence an increasingly muted TBTFU-like response to the bank’s surging default probabilities.

The Credit Suisse and Lloyd’s bonds illustrated in Figure 11 and 12 were not issued until 2012, but the behavior of KRIS estimates of their default probabilities show that both banks
faced even more distress during the crisis than DB did. More importantly, the surge in default risk they experienced in 2016 occasioned increases in their credit spreads whose small size can only be explained—as caricatured in Figure 2—by the existence of implicit national, regional, IMF, and cross-continent Federal Reserve credit support.

3. **The Idea of a “Stealth Bailout”**

   As in the decades-long US savings and loan mess (Kane, 1989), a stealth bailout occurs when an insolvent institution is supported by widespread understandings about the depth of regulatory commitments to a policy of capital forbearance rather than by an explicit injection of on-budget funds. Data presented here and evidence of substantial discounts on bonds of EU banks trading in Europe suggest that the EU is currently harboring a horde of economically insolvent zombie banks. A zombie bank is a financial institution that creditors expect to operate indefinitely, even though the realistic value of its assets is known to have sunk well below the value of its liabilities. Each zombie’s creditors feel it is safe to fund and refund the bank’s liabilities because they are confident that government officials are unwilling to close the bank or take it over during the life of the instruments they hold. Zombies survive because their creditors are convinced that one or another government institution has strong political and bureaucratic incentives to prevent any kind of run-induced failure.

   The longer policymaker resistance to resolving zombie firms lasts, the greater the average value of the implicit taxpayer credit support the herd of zombies receives. Unlike direct loans, the value of implicit governmental support need not be booked by subsidized banks. Its value is not recorded in government accounts either. But as long as it is credible, this stealthy way of
delivering equity funding from taxpayers through the safety net fills the economic hole in the zombie’s stockholder-contributed net worth.

The continuation of a zombie’s stealth bailout is at the option of a country’s current policymakers, which is to say it need not outlast a zombie’s distress. This optionality leads speculators to test from time to time the depth of the government’s current commitment to forbearance, especially when rumors of new losses ratchet up a zombie bank’s need for further private funding or political upheaval upends an established regime.

I believe that fear of inducing a sudden spike in interest rates and sovereign credit spreads has prolonged US and European programs of quantitative easing beyond their macroeconomically useful sell-by date. Throughout the summer and fall of 2016, the Federal Reserve has reaffirmed its stealthy support for European safety nets by renewing each week about $1 billion of currency swaps at a price of about 90 basis points per annum with a handful of needy European banks and central banks. But increases in interest rates occasioned by the eventual end of quantitative easing are bound to increase the cost of these swaps, to intensify rollover pressures at zombie banks, and to generate a search for additional ways for government institutions to channel support to them.

One possibility is that the “taper tantrum” occasioned by the abandonment of quantitative easing (QE) in the US will be met by an expansion of QE at the European Central Bank (ECB). To lower effective capital requirements by reducing their ratio of risk-weighted assets to total assets, TBTFU banks in Europe are probably hedging their exposure to interest-rate and sovereign risk with shadowy institutions such as hedge funds, private equity funds, and sovereign debt funds. To maintain these hedges when yields spike, the banks must demand additional collateral from the shadow firms. This could set up a carry trade whereby intensified
QE provides EU banks with reserves to buy sovereign debt and onlend it to shadow counterparties so that they can meet the bank’s collateral calls. As long as the framework of implicit safety-net guarantees retains its credibility, megabanks can earn more on the risk exposures they formally choose to hedge than the shadows can charge them for the hedge. In addition, central banks (and possibly sovereign funds) might co-operatively load up on high-risk securities at rigged prices to help megabanks avoid having to book the full extent of the balance-sheet losses they need to book when interest rates and credit spreads come under pressure.

An increase in risk-based capital requirements for megabank risk exposures is avoided by formally transferring risk exposures in new government debt triggered by the taper tantrum to hedge funds that are selling protection against interest-rate and sovereign-default risk and need to borrow securities to meet collateral calls. Megabanks would be hoping to recapitalize themselves by buying protection at low TBTFU rates and effectively reselling it at high rates in a gamble for resurrection based on their and their counterparties’ confidence in the durability of central-bank forbearance.

4. Missing Elements in Postcrisis Financial Reform

For over 30 years, capital requirements and other balance-sheet restraints have served as the centerpiece of regulatory efforts to curtail the flow of “unintended” safety-net subsidies (Brewer, Kaufman, and Wall, 2008; Eisenbeis and Kaufman, 2006). Although these remedies have failed repeatedly, officials have done little to change the way that the cultures and career opportunities faced by megabankers and their regulators work to undermine the long-run effectiveness of these structural restraints.
Toughening *bank-level* balance-sheet restraints and imposing *bank-level* fines for regulatory breaches are only half-measures. Such controls do not change the incentive for *individual managers* to work within the system of constraints to increase stockholder value and their own level of compensation by creatively devising legal ways to increase the value of the subsidies they can extract from the safety net.

Safety-net subsidies are subsidies from taking tail risks and shifting responsibility for absorbing them onto the safety net. One may picture subsidies to tail risk as barrels of high-proof moonshine that megabank drivers recklessly drink to excess. Their excess consumption of these subsidies endangers the survival of their firm, takes resources from other citizens without proper compensation, and reduces the productivity of the real investment the banks finance.

The purpose of establishing the rule of law in any country is to deter such antisocial behavior. This is done by designating malicious behaviors as either crimes or breaches of civil duties and penalizing bad behavior appropriately when it can be proven in criminal or civil courts. To justify the high salaries paid to megabank CEOs and risk officers, the legal system may reasonably assume that they understand the workings of the safety net and *know or ought to know* the consequences of their risk-management policies. In fact, British law has begun to move in this direction (Kane, 2016b).

I have argued elsewhere that taxpayers have what amounts to a loss-absorbing equity stake in TBTFU banks (e.g., Kane, 2016 a and c). Compared to an explicit stockholding, taxpayers’ stake in TBTFU banks is cruelly structured because (among other disadvantages): (1) it saddles citizens with a limited upside and unlimited downside; (2) individual citizens cannot trade their loss exposures away; (3) managers owe the citizenry no legally enforceable duties of loyalty, competence, or care.
Simple fairness demands that efforts be made to measure taxpayers’ equity stake in TBTFU institutions fairly and to begin to compensate taxpayers regularly for the value of guarantee services they supply. But there are other simpler and less-novel ways to control individual bankers’ incentives to game the regulatory system. For example, governments might reintroduce extended liability for stockholders in TBTFU banks and develop easy-to-prove bright-line tests and penalties for reckless endangerment in banking patterned on the laws and graduated penalty schemes countries use to define and control reckless and drunken driving.
REFERENCES


FIGURE 1

• Finance is only a small part of GE operations.
• Blue line moves sharply with surges in orange line.
• Problems slowly resolved.
• Blue line moves to only a small degree when the orange line surges. Safety-net absorption of tail risk predominates.
FIGURE 6
Evidence that expectations of federal rescue were let down. Debt price crashed.
FIGURE 8
The 2016 surge in the Orange line foreshadowed the GFC. A second surge occurred as the crisis unfolded. As the TBTF model predicts, DB’s credit spread moved much less than the surges in its default probabilities. Evidence of TBTF emerges both during GFC and 2015-2016.
• The credit spread on this security did not show a jump like that of Lehman until the fall of 2016 when the US threatened to impose a crippling fine on DB and Angela Merkel and the EU temporarily expressed an inability to work out a program of credit support for the bank.
FIGURE 11

- No US debt in GFC
- TBTF pattern today
FIGURE 12