Comment for the  
Treasury Select Committee Capital Inquiry  
Recovery and Resolution  

Anat R. Admati  
George G.C. Parker Professor of Finance and Economics  
Graduate School of Business,  
Stanford University  
March 5, 2017

1. Introduction

I commend the Treasury Committee for undertaking this extremely important inquiry. Since the financial sector is such a large part of the UK economy, these issues are critical. A large, fragile and reckless system has the potential to cause enormous harm to UK citizens and beyond.

My short answer to the main question of whether current regulations, including resolution plans, have “ended too big to fail” is No. This opinion is hardly controversial. Many share it, including former governor of the Bank of England Sir Mervyn King who called for radical reforms in his 2016 book, asserting that without reform, another financial crisis is certain. The banking system, and particularly the largest UK financial institutions, remains much too fragile and inefficient, and it continues to endanger UK citizens unnecessarily. Too big to fail institutions distort competition, misallocate resources and harm both by borrowing too much and taking excessive risk and by misconduct.

The Bank of England has not done all it can to address the too-big-to-fail problem and protect the public. Individuals representing the Bank of England have made misleading statements in this regard. I will try to clarify the issues and explain these statements briefly. I, and others, have written extensively since 2010 exposing the persistent flaws in the regulations. UK citizens ultimately bear the consequences of this policy failure, and they are significant and unnecessary. I
hope that the Select Committee and the Parliament can take further action to ensure that the Bank of England acts in the public interest.

The harm from poorly designed banking regulations may only be visible when a full-blown crisis occurs. At that point, as we saw in the 2007-2009 crisis, the choices for central banks and governments are grim. However, a bloated and inefficient financial system that succeeds partly because of privileges and implicit subsidies that appear to be free but that are in fact ultimately very costly to the public causes subtle harm every day by distorting competition throughout the economy as well as the allocation of credit and investments, including human resources. The pay structure in the financial sector may also contribute to inequality (see OECD study by Denk 2015).

The simplest and most beneficial approach to correcting this situation, which will bring about numerous benefits at minimal, if any, relevant cost, is to make sure banks rely significantly more on meaningful equity funding. Using much more equity is superior in every relevant way from relying on loss absorption by debt securities, whether those meant to convert to equity ahead of resolution or in a resolution mechanism. There is simply no justification for relying on loss-absorbing debt when equity in banking is at such an unhealthy low levels.

‘Too big to fail’ is a symptom of regulatory failure. If truck drivers received a bonus for speeding, suffered little harm in an accident and their companies did not even pay for insurance, they would have strong incentives to drive recklessly. Yet, we do not allow reckless driving even if truck companies cover the direct costs of the damage to the car. Requiring that banks have more equity funding is a basic public safety measure that simply requires that those who are entitled to profits on the upside also bear losses when risks do not work out rather than passing it to others and causing collateral harm in addition. Excessive indebtedness and poorly designed capital regulations (which use complex risk weight and rely on poor substitutes to equity create fragility and increase the likelihood of crisis as well as persistent distortions (akin to burning the engine from high speed). The current situation perversely rewards large financial institutions for abusing their privileged access to funding.

The Treasury Select Committee asks many questions about the progress made, in UK and elsewhere, to put in place effective resolution mechanisms so even the largest institutions can “fail” without causing harm. The most obviously ‘too big to fail’ institutions, sometimes referred to as G-SIFIs (Global Systemically Important Financial Institutions) are monstrously large and complex institutions with no parallel in size and complexity anywhere in the economy and, paradoxically, with by far, the most unusual funding mix in their extreme level of indebtedness. These institutions are also opaque to the point that investors find their disclosures useless for understanding their true risks. Regulators also do not understand the risks, and partly rely on models that have led to mockery of capital standards before the crisis, developed by the institutions themselves and by
private, for-profit rating agencies with no accountability to the public, in the setting and implementation of capital regulations.

The institutions are also connected to one another and to other institutions within and outside the financial system and often across the globe in such intricate and opaque ways that it is unlikely that the failure of one of them will be an isolated event. Determining the point of failure, triggering the conversion of debt to equity (outside or within resolution) is extremely difficult. The fear of contagion effect and the inability, because of the opacity of the system, to be sure untested and complex legal processes will work quickly and without causing harm may well scare policymakers into postponing triggers until too late. Effective coordination of cross-border resolution is a pipe dream. In a crisis, nations naturally retreat and there is no internationally agreed mechanism.

“Single point of entry” is a new and innovative concept in this context but it is mostly limited to UK and US and unreliable even there. Efforts in the direction of making resolution palatable, at least for an isolated failure must continue but putting faith in these untested and challenging mechanisms to solve the ‘too big to fail’ problem when so much more can be done to prevent needing them in the first place is misguided and inappropriate. The Bank of England is making false assumptions in this context.

The fact that institutions much prefer bail-inable debt over equity flows mainly from the incentives of those within the institutions and from the short sighted view of everyone involves. In many jurisdiction, there is a tax advantage to debt, even if it is forced to convert to equity outside the usual insolvency procedure.¹ Investors buying these securities either believe that the likelihood of conversion is slim and that bailouts are likely in a crisis based on past experience (see discussion below), or in the case of retail investors they may be unaware of the risk they are taking. (The managers of institutional investors such as pension funds may be happy with slightly higher return, particularly in an environment with low interest rate, as a classic “yield chasing” behavior since their compensation likely depends on returns.)

In the remote event that debt is bailed in the ultimate investors will be hit exactly when the economy is in recession. Most importantly, banks are able to satisfy regulations while economizing on equity and providing incentives for their executives to chase “return on equity” measures that are flawed indicators of value creation for shareholders and certainly for society. Regulators declare that they have “solved” the problem although the entire concept, as discussed below, is fraught with problems and uncertainties. One need only look at the failure of all debt securities, including those counted as ‘regulatory capital’ (both within so-called Tier 1 and entirely in Tier 2

¹ Some so-called co-co bonds are not consider debt for tax purposes in the U.S. because it is too equity-like and fail some of the Internal Revenue Service tests. As discussed below, the entire tax subsidy of debt has no economic justification, and it is particularly perverse and distortive in banking, encouraging excessive borrowing that creates systemic risk.
requirement), to absorb losses during the last crisis even as massive bailouts were provided to make sure financial institutions kept every promise they had made to investors. The Bank of England is asserting that next time will be different, but there are good reasons to be skeptical. Even in the best-case scenarios these processes will be disruptive and costly especially if there is fear or the reality that many institutions fail at the same time.

Most importantly, it is possible do significantly more, using immediately available means to prevent needing resolution and thus relying on this problematic and untested process or on debt securities to absorb losses. The simplest and most straightforward step would be to insist that ‘too big to fail’ institutions not make payouts to their shareholders in the form of dividends or share buybacks, or they must raise significant amounts of common equity (through rights offerings, for example) until such point that they are much more able to absorb losses without going into resolution. Alternatively, the institutions will have to restructure in ways that would make them simpler, their risk more transparent, and their systemic footprints much smaller so that resolution can be realistically palatable.

The fact that institutions are so resistant to equity is itself a symptom of weakness, because corporations routinely use their earnings and refrain from making payouts to their shareholders in order to make worthy investment. The fact that banks are in such severe debt overhang that their decisions are colored by the conflict of interest between shareholders and managers and creditors and society is consistent with the assessment that the largest financial institutions are much weaker than the various ratios meant to reassure us suggest. Indeed, to a corporate finance expert their behaviors indicate extremely unhealthy and inefficient levels of indebtedness that corporations generally avoid even without any regulation of their funding.

The equity markets operate in the same way for all corporation. The fact that equity investors find large banks to be almost “uninvestible” because of their opaque disclosures and hidden risks and that they would pay little for their shares in markets despite the explicit and implicit guarantees of large portions of the banks’ liability is alarming. I am yet to be convinced that these institutions have a viable business model and that they could survive without the outsized implicit support they receive. More equity weans them somewhat from relying on the ability to shift risks and costs to others. For society, such steps are essential and beneficial in numerous ways even beyond avoiding resolutions and bailouts, because heavily indebted corporations do not make efficient decisions. It is hard to believe that in a hypothetical without implicit guarantees the largest institutions could become so large and complex. Investors in markets would not agree to fund such institutions except at punitive prices and under tough and unattractive conditions, thus leading to natural shrinkage and reduced complexity and opacity.

I also note in a related context that the notion of ‘level playing field’ or the need to protect ‘national champions’ in global competition is flawed (see Admati and Hellwig 2011a, 2013 Chapter 12).
The failures of regulators in other nations to put in place effective regulations does not justify Bank of England’s actions. Policymakers must protect citizens and avoid subsidizing recklessness and endangerment. “Successful” banks in Ireland, Iceland and Cyprus caused enormous harm to the national economy. Since the UK banking system is particularly large relative to the economy, it is of utmost important to make sure it does not cause harm. Brexit actually allows UK to design regulations independently of the rest of the EU, where the state of banks has been disastrous for nearly a decade.

Below I elaborate on the issues, addressing some of the questions posed by the Committee in more detail.

2. Assumptions versus Reality of the Implementation of Resolution Plans and Bail-inable Securities

Questions 1-3 mainly concern new resolution and recovery plans. The Bank of England appears to ask the public to trust a new resolution process in which losses will be imposed on holders of bail-inable or loss-absorbing debt securities so as to prevent bailouts and thus “solve” the too big to fail problem. There are significant problems with this approach, related to whether resolution is likely to be triggered in time, whether it would work without causing collateral harm, and the impact on banks of continuing to fund their investments almost entirely by debt and thus being continuously on the verge of some form of default and failure. Below is a list of some of the issues and some responses.

1. **Lack of information/expertise and fear of systemic effect**: The triggers for imposing losses on creditors are difficult to determine, and fear of contagion may delay or prevent the trigger, especially if it is unclear whether the imposition of losses will itself have systemic consequences.²

2. **Instabilities when investors fear resolution is imminent**: When the relevant indicators are close to the triggers for conversion, managers or strategic investors can take actions that might precipitate conversion; there might also be runs in the markets for these securities or for the shares of the banks. The existence of such securities may reduce financial instability associated with default and bankruptcy, but it can introduce a new kind of instability associated with conversion events. (Admati et al. 2013)

² For more details see Admati 2010a, Admati and Hellwig 2011b, 2011d; Admati 2015a, Hellwig 2010; Bair 2012; Admati and Hellwig 2013; Arnold 2014; IMF 2014; Wilmarth 2016.
3. **Legal complexities especially for cross-national banks**: The process will be legally and technically messy, particularly if it involves institutions with operations in multiple legal jurisdictions. Integrated operations in areas such as cash management and IT systems would not work unless authorities cooperate effectively across jurisdiction and give deference to one national regulator as the leader. The most recent Financial Stability Board’s ‘Principles for Cross-border Effectiveness of Resolution Actions,’ (November 3, 2015) includes a very large wish list and recommendations whose implementation is unlikely any time soon. As IMF 2014 noted, cross-border resolution requires political will that appears lacking, and it is and despite official statements, it is not yet viable. *Recent political events in the USA and elsewhere suggest that cooperation across national jurisdictions is even less likely now than in prior years.*

4. **Collateral harm through spillovers to the economy**: If many institutions go into resolution at the same time, there may be significant market instability that will affect the rest of the economy. The collateral damage would likely be significant even if the direct cost of bankruptcy or resolution were borne by investors or by the banking industry.

5. **Political backlash**: Regulators would likely face significant political obstacles in trying to impose losses on bail-inable debt holders of a failed SIFI, as recently seen in Italy and Portugal. Anyone who may or does suffer significant losses has reason to lobby to prevent the losses.

6. **Guarantees and “liquidity supports” would resemble bailouts**: If the holders of bail-inable debt or TLACs are sufficiently important, governments’ temptation to bail them out will be no less than it was for subordinated and hybrid securities in the current crisis. In any case, government funds and central bank supports will generally be necessary to permit an orderly resolution, if only to provide temporary liquidity and market confidence. Officials are reluctant to concede this reality.

7. **Consequent moral hazard**: If banks and their creditors expect guarantees and bailouts, bankers have incentives to take more risk.

Many of these problems were obvious in the last crisis, when holders of non-equity “regulatory capital” that previous regulations (e.g., under Basel I or II framework) have counted on to absorb losses did not actually lose and instead were paid in full, sometimes using taxpayer funds through bailouts and central bank supports (Hoenig 2016a).

---

3 See Admati and Hellwig 2011b, 2013, and 2015, IMF 2014 and Westbrooke 2014. In some jurisdictions such as US and UK, the idea of “single point of entry” was advanced, but at this point this notion is still unreliable and limited in scope, see Admati 2014 (TESTIMONY) and WilmARTH 2016.

4 See Admati et al. 2010; Admati and Hellwig 2011b; IMF 2014 and WilmARTH 2016.

In order to make resolution possible without bailouts, regulators seek to have sufficient “gone concern” securities that can absorb losses, now referred to TLAC (Total Loss Absorbing Capital in the form of debt) or bail-inable securities. Closely related are contingent convertibles securities that may be able, depending on how the trigger is set, to absorb losses when the institution is still a “going concern.” These securities add debt burden and create debt overhang effects before triggers are hit, and both the trigger event and the persistent overhang in normal times, cause distortions.

Thomas Hoenig, vice Chair of Federal Deposit Insurance Corporation in the US (which is in charge of systemic resolution) stated the overall problem as follows (Hoenig 2016a): “It is paradoxical to suggest that the best way to manage the effects of excess leverage and financial vulnerability is to layer on even more leverage, potentially raising financial vulnerability.” Below are some additional specific concerns with the use of loss absorbing debt.

8. **Exacerbated incentives to take excessive risk.** TLAC increases indebtedness thus magnify the risk that banks will not be able to meet their obligations. The result is increased incentives to take excessive risk that thus add fragility to the system. (See Admati et al 2013 and Hoenig 2016a 2016b).

9. **Banks supporting holding companies.** Hoenig 2016b raises the concern that if a holding company has trouble making debt payments (e.g., in a recession), regulators may allow the transfer of resources from a bank subsidiary to the holding company to avoid default. Such action would weaken the bank and undermine the principle that the holding company should be a source of strength for the insured bank. (In fact, prior to the financial crisis, it was Citibank that was a source of strength for Citigroup; see White 2014)

10. **CDS market adding systemic risk.** As Hoenig 2016a notes, buyers of TLAC securities often buy insurance on potential default through the CDS market, which amplifies contagion risks due to the interconnectedness of financial institutions.

11. **Losses imposed on broad investing public.** Ultimately, *someone* must bear losses, and TLAC would impose losses from megabank failures on small retail investors, as mutual funds and pension funds are likely to be the buyers of bail-inable debt (see Wilmarth 2016). Mis-selling loss-absorbing debt to retail investors (as happened in Italy, for example) or doing so through financial intermediaries whose managers chase short-term returns can cause collateral harm on the broader economy when TLAC impose losses.

12. **TLAC’s effectiveness is untested and prior experience is not encouraging.** For example, as Hoenig 2016a notes, trust-preferred securities (TruPS), a predecessor to TLAC, had a bad track record that “provides a clear warning as to the dangers of encouraging megabanks to issue large amounts of deeply subordinated, high-yield debt.” Wilmarth 2016 and Admati and Hellwig 2015 also note that in 2008-2009, holders of long-term debt and other securities meant to absorb losses as Tier 2 capital were paid even as banks were bailed out with taxpayer funds.
I would like to make only one statement regarding the possible impact of Brexit. Europe, and particularly the Eurozone, has significant problems in the banking system, and governments in Europe have been in particularly symbiotic and unhealthy relationships with their banks. One unfortunate part of the EU for the UK was the demand for “maximum harmonization,” which has meant for EU to adopt the same flawed and inadequate regulations in the rest of Europe and possibly prevented UK from demanding separate subsidiaries for foreign banks.

After the bad experience with Icelandic banks, I hope the UK government has learn the importance of making sure that any foreign bank operating in UK forms a UK subsidiary that can be regulated according to UK rules. Moreover, the case of Iceland, Ireland, and the enormous harm brought about by the failure of regulations that allowed risk to build up that the system came near implosion banks during the financial crisis illustrates quite starkly the importance prudent regulations of all institutions operating in your country. The lessons from the crisis, and from the parts of the regulations that failed so badly must be learned and not ignored. Unfortunately, current reforms do not reflect some key lessons.

3. Must We Tolerate this Dangerous, Distorted System?

The concerns discussed above with the credibility and effectiveness of resolution and with the use of loss-absorbing debt may seem to suggest that it is not possible to address the too big to fail problem through regulations of bank funding. Many feel that banks that are too big to fail are too big and that the only solution to the too big to fail problem is to break banks up in some fashion. Ring fencing, size restrictions, and other structural reforms proposed in US and Europe go in this direction. The Volcker rule in the US similarly tries to restrict the types of investments banking institutions take.

As discussed in Admati and Hellwig 2013, such proposals may be beneficial, particularly as they allow tailoring regulations to different types of institutions. However, structural reforms may not reduce the fragility of the financial system, which is due to the combination of high indebtedness, great opacity, and the dynamics of “systemic risk.” In today’s complex, opaque and interconnectedness system consisting of many heavily indebted opaque and linked institutions, individual failures are relatively rare. The largest “systemic” institutions can each cause ripple effects if they become distressed or default on their obligation. However, crisis may also come from many institutions taking similar risks and having too little equity to absorb losses, as happened in the Savings and Loan crisis of the 1980s in the US or in Spain more recently. Moreover, systemic institutions need not be banks, as shown by the cases of Long Term Capital Management (a hedge fund in the late 1990s) or AIG (an insurance company that required massive bailout in 2008).
Fortunately, it does not follow, despite the difficulties noted above of making the “failure” of the largest financial institutions or many institutions at the same time palatable that we must tolerate a fragile and dangerous financial system. Those who benefit from this system, and remarkably also regulators such as the Bank of England, imply that the best way to solve the too big to fail is to make ‘fail’ palatable, but this suggestion is false. Moreover, there are many reasons even beyond this concern, to reform capital regulations substantially and thus bring about significant benefits.

A simple, powerful and highly beneficial approach to addressing fragility and inefficiencies in the financial system is simply to counter the incentives and correct the market failure that enables banking institutions to have much too little equity. The anomaly in which banks routinely live with low single digit of equity relative to assets while it is considered absolutely minimal, with no regulation, for corporations to have at least 30 percent, and often much more than 50% equity and many thriving corporations borrow little has mostly to do with bankers preferring this situation and getting away with it.

One passage in a letter from twenty prominent academics from US and Europe, including UK (Admati et al. 2010) captures the idea of using equity instead of loss-absorbing debt: “Debt that converts to equity, so-called “contingent capital,” is complex to design and tricky to implement. Increasing equity requirements is simpler and more effective.” There is no rationale whatsoever for using loss-absorbing debt when equity dominates debt entirely for the purpose of preventing bailouts and having reliable loss absorption by investors.

Any suggestion that loss-absorbing debt (TLAC or bail-inable debt) can do something that equity cannot do, or that debt is in any other way preferable to equity in this context, is false and misleading. Of course, once a bank is in default or insolvent, there is no equity left and losses must be borne by someone else, which must be some debt holders if a bailout is to be avoided. However, the point of insolvency or default itself is immediately affected by how much equity there is to begin with. The more equity there is, the more losses it can absorb, so as to avoid insolvency and entry into resolution in the first place. The total loss absorbing capacity of equity and bail-inable debt is not increased when equity is replaced by bail-inable debt.

Instead of requiring that banks issue a specific amount of loss-absorbing debt, it would be far better, simpler and more effective to require that they raise the same amount in equity funding. In fact, profitable institutions have immediate access to equity by retaining their profits rather than making cash payouts to shareholders and managers. Indeed, institutions can make rights offerings to their shareholders or pay their executives with newly issued equity instead of cash, which will immediately increase the institutions’ loss absorption capacity, reducing the likelihood of going into resolution or needing to convert debt to equity. Reducing indebtedness, in fact, has significant benefits even outside the scenario of debt converting to equity, because many of the additional...
problems mentioned above (points 8-12) become irrelevant and the need to deal with the challenge of resolution, or the size of any support if any is deemed necessary, can be dramatically reduced.

Note that with equity, the credibility problem with resolutions does not arise. It is precisely the virtue of equity that it absorbs losses without anyone triggering a formal resolution procedure.”

There is also no need to go through the process of mandatory conversion, and the potentially problematic process of any uncertainties leading up to the actual conversion are avoided.

The following figure from Admati et al 2013 Section 8, which is relatively detailed, shows why even if contingent capital or bail-inable debt is to convert to equity as postulated, if equity was used to begin with, it would be able to absorb the loss automatically.

A mantra in banking is that “equity is expensive.” Question 4 in the request for comments by the Treasury Committee ask about the judgment of the Financial Policy Committee (FPC) with respect to resolution and capital regulations. I have written dozens of pieces at many length on issues
directly related to this question, from 400 words letters to a book. I would like to be emphatic in answering these questions and I will be happy to send you copies of Admati and Hellwig 2013 or any other materials, or to come before you to elaborate if this document and the references do not provide sufficient explanations. I attach as appendices the short text of Admati et al 2010 as well as a recent summary of the issues around capital regulations that are relevant to this inquiry, published in the National Institute Economic Review in February 2016, in which I make some critical comments on Brooke et al 2015. (Vickers 2016 provides detailed critique.)

The FPC has made flawed and inappropriate judgements regarding the balance between equity capital and bail-inable securities as well as about the strength of the banks on the basis of regulatory capital ratios and stress test run by the Bank of England. Some key statements by individuals in the Bank and in FPC have been misleading or otherwise flawed.

There is no sense in which hybrid loss-absorbing debt securities are ‘cheaper’ than equity from society’s perspective; in fact, equity provides many more benefits. (See, e.g., If the investors who hold the hybrid securities anticipate conversion, similar to creditors envisioning default or bankruptcy, they would require higher rates of interest on these securities as compensation for the risk to which they are exposed. Additional discussion of these issues at various levels of details are offered in Admati 2010a [Comments on bail-inable debt to Basel Committee], 2011a, 2013c, 2014c, 2016a, 2016e, Admati et al 2013, Admati and Barofsky 2012, and Admati and Hellwig 2011b [comment to the Independent Committee on Banking (ICB)] 2013, 2015.6 Capital regulations as formulated in Basel III and as implemented by the Bank of England and others are flawed critical ways. The letter from 20 academics already quoted and attached (Admati et al 2010) summarizes some of them briefly and Admati 2016a (with the 2016b related presentation) provides additional detail. More material and details are in Hellwig 2010, Admati et al 2013, and especially Admati and Hellwig 2013, 2015. Prominent policymakers have also spoken up on this issue, and additional writings are cited elsewhere in this document, including by Lord Mervyn King, Lord Adair Turner, Andrew Haldane, Sir John Vickers, Sheila Bair and Thomas Hoenig (past and present Chair and vice Chair respectively of the FDIC).

In brief, flaws include (i) flawed regulatory measures that are highly uninformative because of accounting tricks and complex and distortive system of risk weights (ii) equity levels are much too low and many equity substitutes are allowed. At the end of Admati 2016a (attached in appendix), I quote Martin Wolf 2013, who was a member of the Independent Commission on Banking

---

6 Individuals within the Bank of England, including at leadership positions, are aware of many of these writings. Yet, they continue to make misleading claims and do not engage on the issues. Members of the interim Financial Policy Committee have advocated forcefully more equity in banking (see, e.g., Jenkins 2011, 2013, Farrell 2011, Ryan and Moshinsky 2013). However, the voices of Mervyn King, Robert Jenkins, Andy Haldane, as well as Adair Turner and David Miles, are now all gone.
offering a grim assessment of the situation and warning of another crisis. Many others have stated strongly that financial reform has been inadequate, including Lord Mervyn King 2016, the previous Governor of the Bank of England. Wolf 2013 writes: “The problem is bigger than that banks are ‘too big’ or ‘too interconnected’ to fail. It is that they are so complex and so grossly undercapitalised. The model is intellectually bankrupt. The reason that this is not more widely accepted is that bankers are so influential and the economics are so widely misunderstood.”

In Admati 2017a I explain in detail the incentives, willful blindness, and moral disengagement of the many enablers of this situation and the spin and narratives they use to obscure the situation, confuse the public and muddle the policy debate. I contrast aviation, where many collaborate to ensure safety with banking, where people within the system have strong incentives to endanger (by transferring downside risk to others) and policymakers appear to tolerate and even reward recklessness. Because harm from banking is abstract and often misunderstood or unrecognized, and because accountability is lacking, this situation can persist if the public and well-meaning individuals are unaware of the problems, confused by the enablers’ narratives, or powerless to bring about change.

Vickers 2016c points to a number of critical flaws in Brooks et al 2015 (in addition to those I pointed out in the attached Admati 2016a.7 Dowd 2015, 2016 has examine in some detail the various regulatory capital ratios and the stress tests by the Bank of England, showing that there is significant reason for concern about the false safety that both the stress tests and regulatory capital they provide. Admati and Hellwig 2013, 2015, Hoenig 2016a, 2016b, Kerr 2011, and Haldane 2011a, 2011b, 2012 offer related observations.

One significant flag is that the accounting or book value of the banks is higher than their market values. Regulations based on accounting numbers can therefore provide false sense of security just as happened before the financial crisis. (see Dowd 2015, 2016, Haldane 2011a, 2011b, Kerr 2011, Admati and Hellwig 2013, Admati 2016a, 2016b). Importantly, banks actually benefit from subsidized equity funding relative to the risk, and the market value of their shares reflects an implicit too-big-to-fail subsidy, as discussed by Admati 2014b and studied eg in Kelly et al 2015, Gandhi et al 2016. This subsidy is, of course, additional to the debt subsidy both in the tax code and in explicit and implicit guarantees.

The discussion in the previous section, as well as other indications that credit markets are destabilized and distorted by lenders’ excessive borrowing and by implicit guarantees indicate clearly that the FPC makes overly optimistic assumptions about the ability of recovery and resolution regimes to address risk and distortions in banking.8 The benefits of additional equity

7 Vickers 2016a, 2016b also discusses the issues, and Chu 2016 usefully explains the jargon to the public.
go much beyond crisis prevention. As explained in Admati et al 2013, 2016 and Admati and Hellwig 2013, heavy indebtedness is inefficient as well as addictive. Once significant debt is in place, managers and shareholders of heavily indebted corporations have strong incentives to take actions that benefit themselves at the expense of creditors and others and while causing inefficiencies. The tax subsidy of debt over equity does not help in this regard.  

If markets and contracts fail to control these inefficiencies, regulations become essential, which is the case in banking. Heavy and inefficient borrowing is pervasive in banking because banks have significant debt, starting with deposits, that does not exert the normal burden on the banks and which is explicitly or implicitly guarantees, exacerbating all moral hazard problem. Bail-inable debt is just like any junior debt that any corporation issues. I am not aware of a reduction in moral hazard because of the development of recovery and resolution regimes. (This concerns the last bullet under question 4.) It is widely understood in corporate finance that debt funding of any kind exacerbates moral hazard and the use of equity generally reduces it.

With respect to Question 5, I note that it is not a policy objective to ensure market liquidity of bail-inable debt securities. Liquidity is determined in markets. If investors expect markets to be illiquid, they might avoid them. Instead, more equity will improve both loss absorbency and the liquidity of the equity that comprises the loss-absorbing securities. Indeed, more equity would make equity markets for banks less volatile, because, as explained in Admati and Hellwig (2013, Chapter 2) and as homeowners who bought houses with little down payment or who refinanced their mortgages to add on more debt and take out cash discovered, having little equity magnifies risk dramatically.

As discussed earlier in this comment, there are clear contagion risks associated with the use of bail-inable securities; effectively they become similar to equity when fear of conversion trigger is substantial, but without the depth of equity markets. If the holders of the securities treated the securities as “fixed income” and safe, the possibility of major losses that might come exactly in in situations of downturns that trigger the need for conversion, this will cause them to want to sell in a hurry. Among the numerous benefits of equity relative to any debt substitute is that it absorbs losses automatically and reduces contagion dynamics. Equity markets are more liquid than debt markets and since there is no clear benefit to bail-inable debt, reliance on equity markets, where

---

9 The distortive tax subsidy that encourages corporations to choose debt over equity exacerbates the problem. See e.g., DeMooij and Hebous 2017 and Roe and Troge 2017. The Economist 2015 called this problem “The Great Distortion.”

10 Of course, bank managers may take excessive risk to maximize their compensation and bonuses while harming their shareholders, as explained in Admati and Hellwig 2013a, chapter 8, 2013 [ROE Bloomberg]. This situation suggests that there may be serious governance problems that can be addressed with different compensation structures and increased personal liability rules. These important issues are beyond the scope of my discussion here. For more discussion of likely distortions from bail-inable debt see Admati et al 2013 Section 9.
prices aggregate investors’ expectations would work better. Equity investors also have more incentives to collect information and thus provide market discipline than debt investors. If an institution cannot raise equity at any price, the situation should raise concern with insolvency.

When an institution becomes insolvent, equity investors may lose both liquidity and their initial investment, as recently happened to shareholders of Monte Dei Paschi de Siena, which became insolvent and stopped trading. Equity investors generally tend to be highly diversified and can stand the occasional failure of some of the companies whose share they own. Moreover, they can subject banks to much more meaningful market stress test than any of the stress tests conducted by regulators. Instead of complex and flawed tests based on accounting numbers and risk weights that do not provide much reassurance that the banks, or the system as a whole, are safe, banks can be required to raise specific amount of equity through retained earnings, new shares, or possibly some sales of assets. (See Admati and Hellwig [2013book, 2015, Admati 2016a, 2016b 2016 [rethink]). Inability to raise equity would be a clear flag of weakness or severe governance problem that must be addressed as banks can cause harm in recklessness to all their investors and beyond.

Finally, Question 6 asks about transparency. It would be desirable to have more transparency about the resolution and recovery plans of the major UK banks, and about the PRA’s and Bank of England’s assessment of them because it will become easier to see the numerous assumptions needed to claim that these plans are reliable or that no major harm will come when they are triggered. The FSB and IMF documents on cross-border resolution are in the public domain and they explain why investors do not have much trust that there is sufficient political will to make cross-border coordination of resolution of global institutions credible.

4. Needed: Political Will and Courage

A pervasive myth holds that banking is special and different from other sectors in the economy. Banking expert have developed narratives and jargons around this view that is difficult for outsiders to see through. Claiming “specialness” allows banking experts to dismiss inconvenient realities. The modern banking sector is special in what it gets away by confusing or coopting policymakers.

The banking sector has always been fragile and subject to boom, bust and crises. A key source of fragility is that banks use debt as part of their business of providing a payment system. Bankers, like anyone who invests other people’s money, prefer to take the upside of risk they take while letting others share the downside. As governments and central banks increasingly have increasingly took on downside risk, and as innovations have allowed banks to expand their operations and to take and hide ever more risk around the globe, the fragility of the financial system
has increased while policymakers’ continue to prioritize other political objectives over creating a healthy and stable financial system.

Correcting the distorted incentives requires effective rules because markets fail to do so. Instead of creating such rules, however, governments may actually add distortions in the process of trying to control banks’ decisions.\textsuperscript{11} When banks take risks that may not work out or make poor decisions that can result in losses, \textit{someone} must bear the downside risks and absorb losses. In banking, executives have come to expect that someone other than them will bear this risk. It is time to change this situation and begin to bring basic responsibility and liability to banking. I hope your committee can start the UK on this process, and increasing equity requirement significantly is a critical first step.

\textsuperscript{11} For more discussion of these issues see Admati and Hellwig 2011c, 2013, ch. 12, and Admati 2017a, 2017b.
List of References with Links\textsuperscript{12}


\textsuperscript{12} Note: This list of references includes some that to save some space are not directly referred to in the comment text but that are relevant to the topic. For more pieces, including some linked here as well as others, partly organized by topic, see https://www.gsb.stanford.edu/faculty-research/excessive-leverage
46. Bair, Sheila, 2012, Bull by the Horns: Fighting to Save Main Street from Wall Street and Wall Street from Itself (Simon & Schuster).
55. Financial Stability Board, 2016, “Key Attributes Assessment Methodology for the Banking
19 October.


Appendix

Healthy Banking System in the Goal, Not Profitable Banks
Letter from 20 Banking and Finance Academics, Financial Times, November 9, 2010

The Basel III bank-regulation proposals that G20 leaders will discuss fail to eliminate key structural flaws in the current system. Banks’ high leverage, and the resulting fragility and systemic risk, contributed to the near collapse of the financial system. Basel III is far from sufficient to protect the system from recurring crises. If a much larger fraction, at least 15%, of banks’ total, non-risk-weighted, assets were funded by equity, the social benefits would be substantial. And the social costs would be minimal, if any.

Some claim that requiring more equity lowers the banks’ return on equity and increases their overall funding costs. This claim reflects a basic fallacy. Using more equity changes how risk and reward are divided between equity holders and debt holders, but does not by itself affect funding costs.

Tax codes that provide advantages to debt financing over equity encourage banks to borrow too much. It is paradoxical to subsidize debt that generates systemic risk and then regulate to try to limit debt. Debt and equity should at least compete on even terms.

Proposals to impose a bank tax to pay for guarantees are problematic. High leverage encourages excessive risk taking and any guarantees exacerbate this problem. If banks use significantly more equity funding, there will be less risk taking at the expense of creditors or governments.

Debt that converts to equity, so-called “contingent capital,” is complex to design and tricky to implement. Increasing equity requirements is simpler and more effective.

The Basel Accords determine required equity levels through a system of risk weights. This system encourages “innovations” to economize on equity, which undermine capital regulation and often add to systemic risk. The proliferation of synthetic AAA securities before the crisis is an example.

Bankers warn that increased equity requirements would restrict lending and impede growth. These warnings are misplaced. First, it is easier for better-capitalized banks, with fewer prior debt commitments hanging over them, to raise funds for new loans. Second, removing biases created by the current risk-weighting system that favor marketable securities would increase banks’ incentives to fund traditional loans. Third, the recent subprime-mortgage experience shows that some lending can be bad for welfare and growth. Lending decisions would be improved by higher and more appropriate equity requirements.

If handled properly, the transition to much higher equity requirements can be implemented quickly and would not have adverse effects on the economy. Temporarily restricting bank dividends is an obvious place to start.

Many bankers oppose increased equity requirements, possibly because of a vested interest in the current systems of subsidies and compensation. But the policy goal must be a healthier banking system, rather than high returns for banks’ shareholders and managers, with taxpayers picking up losses and economies suffering the fallout.

Ensuring that banks are funded with significantly more equity should be a key element of effective bank
regulatory reform. Much more equity funding would permit banks to perform all their useful functions and support growth without endangering the financial system by systemic fragility. It would give banks incentives to take better account of risks they take and reduce their incentives to game the system. And it would sharply reduce the likelihood of crises.

Anat R. Admati
George C. Parker Professor of Finance and Economics
Stanford Graduate School of Business

Franklin Allen
Nippon Life Professor of Finance; Professor of Economics
Co-Director, Financial Institutions Center
The Wharton School, University of Pennsylvania

Richard Brealey
Emeritus Professor of Finance
London Business School

Michael Brennan
Professor Emeritus, Finance
Anderson School of Management, UCLA

Markus K. Brunnermeier
Edwards S. Sanford Professor of Economics
Princeton University

Arnoud Boot
Professor and Director Amsterdam Center for Law & Economics
University of Amsterdam

John H. Cochrane
AQR Capital Management Professor of Finance
University of Chicago Booth School of Business

Peter M. DeMarzo
Mizuho Financial Group Professor of Finance
Stanford Graduate School of Business

Eugene F. Fama
Roger R. McCormick Distinguished Service Professor of Finance
University of Chicago Booth School of Business
Michael Fishman
Norman Strunk Professor of Financial Institutions
Kellogg School of Management, Northwestern University

Charles Goodhart
Professor, Financial Markets Group
London School of Economics

Martin F. Hellwig
Director Max Planck Institute for Research on Collective Goods, Bonn

Hayne Leland
Professor of the Graduate School,
Haas School of Business, UC Berkeley

Stewart C. Myers
Robert C. Merton Professor of Financial Economics
Sloan School of Management, MIT

Paul Pfleiderer
C.O.G. Miller Distinguished Professor of Finance
Stanford Graduate School of Business

Jean Charles Rochet
SFI Professor of Banking
Swiss Banking Institute, University of Zurich

Stephen A. Ross
Franco Modigliani Professor of Financial Economics
Sloan School of Management, MIT

William F. Sharpe (Nobel Laureate, 1990)
The STANCO 25 Professor of Finance, Emeritus
Stanford Graduate School of Business

Chester S. Spatt
Pamela R. and Kenneth B. Dunn Professor of Finance; Director, Center for Financial Markets
Tepper School of Business, Carnegie Mellon University

Anjan Thakor
John E. Simon Professor of Finance
Olin School of Business, Washington University
The Missed Opportunity and Challenge of Capital Regulation

Anat R. Admati
Graduate School of Business
Stanford University

December 2015, Forthcoming 2016

Abstract

Capital regulation is critical to address distortions and externalities from intense conflicts of interest in banking and from the failure of markets to counter incentives for recklessness. The approaches to capital regulation in Basel III and related proposals are based on flawed analyses of the relevant tradeoffs. The flaws in the regulations include dangerously low equity levels, complex and problematic system of risk weights that exacerbates systemic risk and adds distortions, and unnecessary reliance on poor equity substitutes. The underlying problem is a breakdown of governance and lack of accountability to the public throughout the system, including policymakers and economists.

Keywords: Banking regulation, capital regulations, banking, equity in banking, capital structure,
The Missed Opportunity and Challenge of Capital Regulation

Anat R. Admati
Graduate School of Business
Stanford University

Introduction

The events of 2007-2009 exposed the failure of regulators to prevent the buildup of risk in the financial system and showed that flawed rules and ineffective enforcement of financial regulations can cause significant harm to the rest of the economy. Despite this experience, the effort at regulatory reform has been messy and unfocused. The small adjustments to capital regulations, in particular, are far from sufficient to protect the public, and the regulation is still based on a flawed approach that distorts markets, exacerbates systemic risk, and undermines the purpose of the regulation.

A healthy and stable financial system is essential for enhancing the allocation of resources, risk sharing and economic welfare. If designed and implemented properly, capital regulation can be a powerful tool for correcting market failures, reducing externalities, and ensuring that the financial system serves the economy. The continued failure of this regulation has permitted an unhealthy, opaque, inefficient and excessively fragile system to persist. This system exposes the public to unnecessary risks and distorts the economy.

The causes for the failure of capital regulation seem to reflect, at least in part, confusion about why this regulation essential and beneficial and about the relevant tradeoffs. Studies purporting to provide guidance to policy routinely make flawed assumptions and ignore the critical distinction between private and social costs and benefits. The specialized jargon used in banking has obscured the issues and further muddles the debate.

In this essay I explain the key issues and how capital regulations fall short. I start by discussing the economics of funding and the forces that cause banks to use too little equity, which make effective capital regulation essential and beneficial. I then provide an overview of current status of the regulations, point to some key flaws and discuss some of the claims made in the policy debate.

---

Forthcoming in National Institute Economic Review, Special Issue on Financial Regulation, 2016. I am grateful to E. Philip Davis, Martin Hellwig, Paul Pfeiderer, Matthew Zuck and two anonymous referees for helpful comments. Contact information: admati@stanford.edu.
I close with remarks that place the debate in a broader governance context.

Are Banks Special and if so, How?

Capital regulation places restrictions on how banks and other institutions are funded in order to address distortions in their incentives. Well-designed capital regulation ensures that an appropriate part of funding is obtained and maintained from owners and shareholders who provide equity. Because owners and shareholders are not promised any specific payments, they automatically absorb losses as long as debts are paid.

A mantra in banking is that “equity is expensive.” This view is taken to imply that requiring banks to use more equity entails meaningful costs that should be balanced against the benefits of more equity. In fact, the costs of using more equity are entirely private and incurred by a small set of individuals. These private costs arise because when more equity is required these individuals are less able to pass costs and downside risk to creditors and to taxpayers, and they are more than offset by the substantial benefits to the broader society. Policy must be based on social, rather than narrowly private costs and benefits.

Before discussing the economics of funding and how they apply in banking, we must address an insidious confusion that often perverts the discussion. The confusion concerns the meaning of the word “capital” in banking. Many believe that bank capital is analogous to cash reserves or a rainy day fund, and that capital requirements force banks to “set aside” or “hold in reserve” idle cash that cannot be used to make loans or other investments. This suggestion is patently false. Capital requirements do not require banks to hold anything; they only concern the source of funding banks use and the extent to which investments are funded by equity (or other forms of “loss absorbing capital,” as discussed below). Corporations do not “hold” their own funding; rather, investors hold (own) claims such as common shares that are paid from cash flows the firm generates.

If capital is falsely thought of as idle cash, the discussion of capital regulation is immediately derailed by imaginary tradeoffs. Nonsensical claims that increased capital requirements prevent banks from making loans and “keep billions out of the economy” may resonate with media, politicians and the public just because the jargon is misunderstood. In light of this confusion and its ability to muddle the debate, it is disturbing that regulators and academics, who should know better, routinely collaborate with the industry to obscure the issues by using the misleading language and failing to challenge false statements. If instead the language that is used focused attention properly on funding and indebtedness, the debate would be elevated and more people

14 Such claims are made routinely by lobbyists. A recent example is Tim Pawlenty of the Financial Services Roundtable (See “Fed lifts capital requirements for banks,” Ryan Tracy, Victoria McGrane and Justin Baer, Wall Street Journal on July 20, 2015. For more discussion, see Admati et al (2013, Sec 3.1), Admati and Hellwig (2013a, Chapters 1, 6) and Admati and Hellwig (2015, Claims 1-2).
would be able to understand the issues. Instead of saying “hold” or “set aside more capital” one can say, for example, “use more equity,” “rely less on debt/borrowing,” or “borrow less.”

The economics of funding start with the observation that borrowing always creates leverage and magnifies risk. In financial markets, the required return on any security depends on risk because investors are risk averse. A seminal insight, made in 1958 by Franco Modigliani and Merton Miller and taught in basic courses in finance, is that rearranging risk among different investors does not by itself change the overall funding costs of a corporation.

Are banks so special that this basic principle and everything else we know about the economics of funding do not apply to them? One way banks are special is that some of their funding comes from depositors, who accept lower returns in exchange for services such as ATMs. To the extent that deposits involve provision of these services, deposits are a bit different than other debts, but the logic of Modigliani and Miller and much of what we know about funding still apply to banks and particularly to their funding with equity and borrowing in wholesale markets. In those markets banks interact with the same investors who provide funds to businesses and corporations and who value securities in the context of portfolios using the same criteria for all investments.

Importantly, like all other firms, banks have owners or shareholders who have some discretion about the mix of debt and equity used to fund the banks’ assets. And like other firms, banks are more likely to become distressed or insolvent when they are highly indebted and take risks in their investments. The distortions and inefficiencies brought about by distress and insolvency are particularly relevant for banks, as discussed below.

The funding mix of non-financial corporations is rarely regulated. Companies can rely on any amount of debt funding if they find willing lenders to provide this funding. Despite the tax advantage of debt over equity for corporations, and without any regulation, most healthy corporations maintain significant equity levels, and some borrow very little. It is rare for corporations to maintain on a regular basis less than 30 percent equity relative to their total assets. Retained earnings are a popular source as of internally-generated equity funding. Many successful companies grow and thrive by routinely using their profits to make additional investments without taking on more debt.

Banks, like other companies, can retain their profits or sell additional shares to investors, which would enable more loans and investments. Yet banks often choose to make payouts (such as dividends) to their shareholders and continue to borrow even while their equity levels might be 5

---


16 In some of the academic literature on banking, the statement “MM does not apply to banks” is used to postulate frictions that, under the assumptions of the models, might be addressed by borrowing, while conveniently ignoring the enormous frictions and collateral damage on the system that borrowing creates. See Admati and Hellwig (2013a, Chapters 3, 6, 8 and 9, 2013b), and Pfleiderer (2014, 2015).
percent or even less relative to their assets.  

Because they operate with little equity and their assets are often opaque and difficult to value, banks are fragile. Even small losses can raise concerns about their insolvency. If depositors or short-term creditors are concerned they might not be paid, the result can be a run, even if the bank is still solvent. Because banks provide essential services, the collateral harm of their default and failure can be large. If many banks fail or become distressed at the same time, the economy as a whole is disrupted and harmed.

Does the business of banking imply that banks must be heavily indebted and use very little equity? Must we, as a society, tolerate this fragility in order to obtain the benefits banks provide? The answer is a resounding No. Nothing about the business of banking makes it essential or beneficial for banks to operate with the very low equity levels they choose to maintain. To the contrary, banks are better and more consistently able to make all worthy loans at appropriate prices and their ability to provide reliable liquidity to depositors and other creditors would be enhanced if they were safer by using more equity. A safer bank would be less likely to experience liquidity problems or runs, and because it is more likely to be solvent when experiencing a liquidity problem, the central bank will be better positioned to serve as a lender of last resort.

Why then do banks persist in having such high leverage and why do bankers fight furiously against regulations that would force them to use more equity? To answer these questions, it is useful to consider why nonbanks do not borrow more even though using more debt funding can save on their taxes. A key reason is that borrowing has a dark side.

First, high levels of debt can lead to financial distress and bankruptcy, which in turn create delays, legal costs, and disruptions that deplete the remaining assets of the firm. Second, and more important, borrowing creates fundamental conflicts of interest between borrowers and lenders regarding subsequent investment and funding decisions. The conflicts arise because borrowers benefit fully from the upside of any risk taken while they share the downside risk with creditors. Because of these conflicts of interest, decisions made by the managers and shareholders of an indebted corporation may harm creditors and reduce the combined total value of the firm to all investors. Specifically, decisions on behalf of shareholders when debt is in place reflect a bias in favor of riskier investments and additional borrowing and against relatively safe investments with insufficient upside and any reduction of leverage.

Anticipating the costs of bankruptcy and the potential distortions to decisions made against their interest, lenders typically try to protect themselves by increasing the interest rate they charge, and they may attach restrictive conditions to debt contracts to constrain shareholders’ subsequent actions. Debt covenants, however, cannot cover all contingencies and, because they may restrict

---

17 These ratios may depend on accounting convention and they might be poor measurements of indebtedness or solvency. The so-called distance to default depend on the market value of the assets relative to the amount it would take to settle all the debt.
18 See Admati and Hellwig (2013a, Chapter 5) for a discussion of contagion effects in banking.
the flexibility of the firm to take advantage of beneficial opportunities, may be renegotiated later. Covenants are also costly to enforce, particularly if creditors are dispersed and face a free-rider problem in pursuing them. As a result, heavy borrowing becomes expensive and unattractive for many companies despite the tax advantage of debt. The problem is particularly intense for banks because they are so highly indebted already.

Admati et al. (2015) explore the implications of borrower-creditor conflicts on corporate funding. We show that these conflicts of interest create a leverage ratchet effect that can have profound impact on the dynamics of corporate leverage. Borrowing and indebtedness can become addictive, excessive and irreversible, because shareholders avoid actions to reduce the amount of debt and increase the equity such that they take on downside risk that would otherwise be borne by creditors. Shareholders may, however, increase leverage to benefit themselves.

The leverage ratchet effect is particularly relevant for banks, because part of banks’ business involves taking deposits, which involves borrowing.\(^{19}\) Once debt is in place and the conflicts of interest take hold, bankers prefer to increase leverage and “economize” on equity. If deposits are explicitly or implicitly insured, bankers have little reason to worry about depositors withdrawing funding en masse. Importantly, insured depositors do not generally monitor banks’ activities and do not put in place constraints on the risks or additional borrowing that banks take, on the payouts banks make to their managers and shareholders. Since deposits are not secured by collateral, banks can use assets purchased with deposits as collateral to obtain more debt funding from investors under attractive terms.\(^{20}\)

Thus, bank creditors fail to counter properly the intense leverage ratchet effect that accompanies heavy borrowing, and without regulations, the resulting inefficiencies of distress or insolvency can persist for extended periods of time. As long as the bank meets its commitments and its creditors feel safe, the creditors may not notice if the bank becomes distressed through losses or additional borrowing, or even if it becomes insolvent. The addiction to borrowing in banking thus is tolerated, enabled and encouraged by the passivity of their creditors and by guarantees and subsidies.

The unusual passivity of depositors as creditors can cause bankers to forget that deposits are part of the banks’ debts. For example, in criticizing rules that would force banks to issue long term

---

\(^{19}\) It is sometimes argued that debt helps resolve governance problems between managers and shareholders. These considerations, however, do not apply to the funding considerations of banks that are the main focus of this chapter. For discussions of debt as a “disciplining” device for managers, see Admati et al (2013, Section 5) and Admati and Hellwig (2013b), which represents an “omitted chapter” from Admati and Hellwig (2013a).

\(^{20}\) In the case of repo and derivatives, there is a also a bankruptcy exemption that further reassures creditors and lowers their concern with the overall risk, thus adding fragility. See, for example, Skeel and Jackson (2012). Brunnermeier and Ohemke (2013) discuss the shortening of maturity as another distortion in funding that is due to conflicts of interest and relevant in banking.
debt that might absorb losses, John Stumpf, CEO of Wells Fargo Bank, made the nonsensical claim that because his bank has a lot of retail deposits, it does not have a lot of debt. Mr. Stumpf was also quoted in the same context saying “The last thing I need is debt.” The story title referred to Wells Fargo Bank as “debt averse.”

In criticizing proposals for long term debt, Mr. Stumpf did not advocate for more equity, and his bank remains heavily indebted. If Wells Fargo Bank was actually “debt averse,” it could reduce its indebtedness by retaining its profits or selling new shares. Mr. Stumpf’s objection to issuing long-term debt likely stems from the fact that, unlike insured depositors, investors who might suffer losses, even if this event is highly unlikely, are concerned with the risk of investing in Wells Fargo Bank, and might find the bank’s financial disclosures poor.

Equity investors would be even harsher with Wells Fargo Bank and similarly large and complex banks given their complexity and poor disclosures. An investigative report that examined the financial statements of Wells Fargo Bank, which is less active in derivatives than other large institutions but has extensive off-balance-sheet exposures quotes many investors and accounting experts stating that the large banks are so opaque that they are “uninvestible.” Andrew Haldane of the Bank of England has also pointed to the opacity and complexity of these institutions. If regulations forced more equity funding, appropriate valuations based on true value creation and fewer subsidies and better disclosures would restore market discipline that is currently missing.

In summary, banks borrow too much and resist using more equity because their managers and shareholders have strong incentives to do so. These incentives include the already-high leverage in banking and the guarantees and subsidies that feeds and rewards their strong “addiction” and which enable leverage to ratchet up. Because the result of this leverage ratchet is that costs and downside risks are simply shifted to others while making the financial system fragile and creating further distortions, from society’s perspective, and contrary to the mantra “equity is expensive,” it is having too little equity in banking that is expensive and highly inefficient. This situation can be corrected only by effective regulations. Unfortunately, the regulations we have are entirely

23 See “We Should Go Further Unbundling Banks,” Andrew Haldane, Financial Times, October 2, 2012. Kerr (2011) shows how banks can artificially inflate reported profits and capital levels and mislead investors and regulators. There has been no meaningful change in this situation. Accounting properly for risk in derivatives markets and exposures off balance sheet remain major challenges to investors and regulators.
inadequate and their design adds further distortions.

**A Critique of Capital Regulation Based on Basel III**

The Basel III accord agreed upon in 2010 and being implemented, with some variations, around the world, recommends a modest increase in capital requirements relative to Basel II. Although it strengthens some definitions and rules, Basel III still allows equity levels to be much too low, and it maintains an approach where capital requirements are stated relative to risk-weighted assets (RWA). Among other things the regulation establishes a “conservation buffer.” Banks have to rebuild their buffers by avoiding payouts to shareholders and bonuses if their equity falls below 7 percent of RWA, and more interventions take place if the ratio falls to 4.5 percent. The new leverage ratio introduced in Basel III requires that equity be at least 3 percent of total assets, allowing assets to be more than 30 times larger than equity as measured by book value.

Banks designated as globally systemic institutions are required to have up to 2.5 percent additional equity relative to RWA and, in addition, a recent proposal by the Financial Stability Board agreed upon by G20 leaders in 2015 adds a requirement for banks to use long term debt called TLAC (Total Loss Absorbency Capacity) that is supposed to absorb losses and in some situations.

It is important to note that regulatory capital ratios are based primarily on accounting conventions that can be quite arbitrary and vary by jurisdictions. Balance sheet disclosures tend to obscure significant exposures to risk, allowing much risk to lurk “off balance sheet,” and to manipulate the disclosures, particularly since auditors are subject to their own conflicts of interest and are unlikely to challenge managers.  

Regulatory capital ratios, especially those based on risk weights, can therefore give misleading reassurances. Through the financial crisis of 2007-2009, these ratios still appeared strong even as banks were failing and receiving bailouts and supports. The intense lobbying by banks against any increase in required equity only reinforces the view that the requirements are entirely inadequate.

In addition to the problems related to accounting measures, there are three key flaws in capital regulations based on the Basel III accord. (See Admati and Hellwig (2013a, Chapter 11) for a more detailed discussion.)

1. Required equity levels are much too low.

---

2. The use of complex manipulable risk weights that ignore some risks exacerbates systemic risk and distorts incentives, particularly because equity levels are so low.
3. Debt-like securities are used in the regulations although they are complex, unreliable, and entirely dominated by equity.

**Dangerously Low Equity Levels**

Bankers and policymakers claim that Basel III capital requirements are much improved, citing the fact that they are “multiples” of those specified under Basel II. The requirements are actually very modest in absolute terms. Multiplying a small number such as 2 percent equity to risk weighted assets in Basel II by a factor of 2, 3 or even more does not result in a large number. The 3 percent “leverage ratio” of equity to total value is outrageously low. Whereas some countries such as US have adopted higher leverage ratios (5 percent for bank holding companies and 6 percent for deposit-taking banks), the levels are still too low. (Much of the regulation uses risk weighted assets as denominator. As discussed below this approach is highly problematic.)

Increasing equity requirements substantially brings about numerous benefits beyond increasing loss absorption capacity that allows banks to continue making loans after incurring losses without needing support. With more equity, liquidity problems, runs and all forms of contagion are less likely. Moreover, any loss in the value of the assets is a smaller fraction of the equity, thus fewer assets must be sold under distressed conditions to “delever.” Better yet, distortions in banks’ lending and funding decisions due to overhanging debt are alleviated. As another bonus, more equity is the best way to reduce the implicit guarantees subsidy that distorts markets and rewards recklessness.\(^26\)

All the studies I am aware of that claim to provide scientific guidelines for the design of capital regulations have fundamental flaws that render their conclusions meaningless. The estimates they provide for costs and benefits of specific capital ratios are based on many inappropriate assumptions. None of the models captures properly the relevant costs and benefits and none provides meaningful estimates that should guide policy.

A recent paper produced in the Bank of England, Brooke et al (2015) cites earlier flawed studies and provides its own set of flawed estimates. For example, the benefit of higher capital requirements are only described in terms of crisis prevention, ignoring all the other benefits discussed above, including the fact that more equity reduces the externalities associated with intense asset sales in distress. The authors presume falsely that all lending is valuable and neglect the fact that bad loans are wasteful and too much risky lending can put banks operating with little equity at risk of insolvency, which can create disruptions and reduce lending even if there is no crisis or if losses are absorbed by investors. As recent experience illustrated, credit and growth

\(^{26}\) Admati et al. (2013, Section 2) and Admati and Hellwig (2013a, Chapters 6 and 13) discuss the benefits of higher equity requirements in some detail
suffer when banks have too little equity. Credit cycles and distortions are evidence of unhealthy financial instability that better laws and regulation can and should contain.

The analysis of the costs of higher equity requirements in Brooke (2015) is fundamentally flawed because it fails to make the critical distinction between private and social cost; the authors provide no coherent model for how any social costs would come about. The stated policy regarding “too big to fail” institutions is to eliminate bailouts. Current efforts focus on loss-absorbing debt are said to achieve this objective, but, as discussed below, the arrangement presumes a willingness to let banks go into resolution, which is not credible in a crisis. With equity, this problem does not arise. Equity is the simplest, most reliable and most beneficial way to reduce those subsidies while also enhancing the health and safety of the system.27

The disturbing fact that debt funding is subsidized and equity is penalized through the tax code is also not discussed in Brooke (2015), but it is relevant. There is no economic rationale for the tax subsidies of debt broadly given to corporations. The Economist magazine (in May 15, 2015) called this subsidy “a vast distortion in the world economy.” Having a tax code that encourages excessive and harmful indebtedness in banking, which only exacerbates the intense leverage ratchet effect and the impact of explicit and implicit guarantees, is perverse. The tax code must be changed, neutralized or ignored for the discussion of capital regulation. Even if banks pay more taxes, there is no cost to society because taxes are to be used by governments on behalf of the public.28

When banks have high levels of debt and little equity, the leverage ratchet effect is intense and as a result the choices they make in response to requirements specified in capital ratios might entail unintended consequences such as reduction in lending or selling assets in ways that exacerbate price declines for others. To avoid such problems, especially in transition to higher requirements, regulators must instruct banks to raise specific amounts of equity through retained earnings and new issuance. Inability to raise equity must raise concerns about the institution’s health. Insolvent banks are dysfunctional and dangerous; they must be dealt with promptly. These issues are discussed in Admati and Hellwig (2013a, Chapter 11) and explored in more depth in Admati et al (2015, Sections 5-6).

How much equity should banks have? Historically, equity levels in banking were much higher than they are today. As partnerships in the 19th century, for example, banks’ equity often accounted for 50 percent of their assets, and bank owners had unlimited liability, so owners’ assets could be used to pay depositors. Equity levels in banking were commonly 20 or 30 percent of total assets early in the 20th century, and owners had double, triple or unlimited liability in the US until after

---

27 Implicit subsidies are discussed in detail in Admati and Hellwig (2013a, Chapter 9) and in Admati (2014). Admati et al (2013, Section 9) discusses capital regulation and lending.

28 On tax and other subsidies, see Admati et al (2013, Section 4). Admati and Hellwig (2013a, Chapters 6 and 9) and Admati (2014).
Admati and Hellwig (2013a) propose that equity requirements be set at 30 percent of total assets and allowed to decline to 20 percent, maintaining a conservation buffer between 20 and 30 percent. Such levels are considered minimal for healthy companies outside banking. They are common for hedge funds and, as noted above, were prevalent in banking before safety nets were put in place. It is important to note that the meaning of any number depends critically on how the ratio is defined and measured and on how assets are valued, which is extremely challenging. One thorny issue is accounting for derivatives and other off-balance-sheet exposures. Another is asset classification, and whether regulators are able to build equity buffers in advance and intervene promptly as needed. The detail of the rules and how they are implemented are critical for their effectiveness. Supervisors play a critical role.

There are more flawed claims made in the discussion of capital regulation and about the specialness of banks. A few are taken later in this essay; others are discussed in writings such as Admati and Hellwig (2013a, b, 2015) and Kay (2015).

**Highly Problematic Risk Weighting System**

Capital regulations under the 2004 Basel II accord were based on a complex way to calibrate regulatory ratios to risk. They did this by attaching a “risk weight” to each asset and defining the denominator of the capital ratio as the sum of these “risk-weighted” assets. This approach was maintained and only tweaked under Basel III. It is abundantly clear that the system of risk weights used in Basel II did an extremely poor job of assessing how high capital requirements should be. In the period leading up to the crisis, banks had strong incentives to create and invest in highly-rated securities, particularly if the securities were rated AAA, because such securities had a zero risk weight and did not require any equity funding.

Risk weights introduce distortions in multiple ways.

(i) They allow the use of internal models that often ignore tail risk, thus encourage concentrated tail risks and increase systemic risk;

(ii) The use of banks’ internal models allows manipulation of the requirements in order to increase leverage and risk.

(iii) Risk weights distort bank lending, often away from business lending and towards government lending and other investments. A recent example is the excessive lending of private banks in Europe to the Greek government in 2001-2010. Such lending received zero risk weight and thus the risk was ignored.

Combined with extremely low equity levels, the complex risk weights system provides banks many ways to ratchet up leverage and increase systemic risk while satisfying the requirements.²⁰

²⁰ See Admati and Hellwig (2013a, Chapter 2) and references there, as well as Turner (2014).

²⁰ Hellwig (2010), Admati and Hellwig (2013a), Bair (2012), and Haldane (2011, 2012) discuss the issues
A crude leverage ratio, *at levels significantly higher than any of the levels implemented today*, can go a long way towards making sure that risks taken in banking are borne by investors and not by taxpayers. If a system of risk adjustments is used, it is particularly important that no assets that may entail risk, even when risk is deemed small by banks or rating agencies, receives zero or near zero risk weight. Risk weights should only be used to increase equity requirements when opacity makes any risk estimation difficult. The point of equity requirements is to prepare for the “unknown unknowns.” Having “too much” equity must not be a concern in the foreseeable future.

**Poor Equity Substitutes**

Another flaw of existing capital regulations is that they try to “economize” on equity by requiring the largest banks to issue debt securities designated as “loss absorbing capital.” The term that is used is TLAC (total loss absorbing capital), and the securities are meant to provide an alternative to bailouts by “bailing-in” some creditors. A related concept is contingent capital or cocos, which uses various trigger points to convert debt to equity. The idea behind these securities is to create mechanisms other than bankruptcy and, in the case of TLAC closely related to resolution by regulators, which would impose loses on investors other than shareholders to avoid government bailouts.

In the past, the inclusion of debt as part of capital regulation has not worked. Tier 2 capital included only debt-like securities and even Tier 1 capital allowed many non-equity claims that were held by investors expecting specific returns. Yet, holders of such claims did not suffer losses even when banks ran into trouble and received government bailouts. Nevertheless and ignoring the lessons and the economic considerations, regulators claim that next time will be different.

Persaud (2014) rightly refers to bail-in securities as “fool’s gold.” It is unrealistic to expect that regulators will trigger recovery and resolution processes that are complex, costly and untested so that losses can be imposed on debt-like TLAC securities, and that they would be politically able to follow up with imposing losses on creditors or mandatory conversion to equity. This is particularly true if a potential crisis is looming, since pulling triggers and inflicting haircuts might have unpredictable consequences throughout the opaque financial system. A thorny issue concerns cross-border coordination of any resolution, which bail-in would be part of. The legal challenges are daunting.  

Since there is no sense in which more equity in banking is “expensive” from society’s perspective, it is baffling that regulators devise such complex and unreliable securities when equity would accomplish the objective of absorbing losses more simply and reliably at no additional relevant cost. When risk is taken, losses must be absorbed by someone. Shareholders who are

---

31 For more on the legal challenges associated with TLAC debt, the bail-in concept, and cross-border resolution, see, for example, Wilmarth (2015). In Europe, the implementation of a banking union with deposit insurance and resolution is mired in legal and political complications as of this writing.
entitled to the upside and who absorb losses without the need to go through complex and costly
triggers, are the most obvious candidates. Especially given the low levels of equity, the better
approach would be to focus entirely on increasing equity levels.\textsuperscript{32} It makes no sense to plan for
scenarios that would be costly and disruptive even in the best case when much more can be
achieved by trying to\textit{ prevent} reaching those bad scenarios. Moreover, equity is already on the banks’
balance sheet and often trades in well-developed and liquid market. None of this holds for the complex and
untested alternatives.

By far the most important approach to enhancing financial stability and increasing loss
absorbing capacity is a dramatic increase in equity requirements for banks and other financial
institutions. Genuine, reliable, credible and cost-effective loss absorption cannot be achieved by
any of the other means. The use of debt securities instead of equity ignores both the lessons from
past attempts and the economic considerations. This approach is misguided, poorly motivated, and
fraught with problems; it represents a false hope.

\textbf{Is Equity Scarce for banks?}

A question often asked regarding proposals to increase equity requirements for banks
dramatically is “where would all this ‘new’ equity come from?” The concern is misplaced. As
explained in Admati et al (2013, Section 7), a change to the funding mix of banks, even a radical
change, does not by itself interfere with any of the overall productive activities in the economy
and does not involve any radical change in the way risks in the economy are held and shared. All
that is involved is a certain “reshuffling” of financial claims.

Higher equity requirements help place risks where they should belong, namely with
shareholders, for the purpose of aligning incentives and reducing distortions. Requiring more
equity funding “privatizes” risks that are otherwise borne by governments and taxpayers. Once
risks are privatized and conflicts of interest are reduced, undistorted markets can determine the
appropriate allocation of resources and the size of individual banks and of the industry. Currently,
markets fail because of the distortions of excessive leverage and subsidies and flawed regulation
that further distorts incentives.

The easiest way to implement the transition to higher equity requirements is to ban payments
to equity until banks are better capitalized. Avoiding cash payouts to shareholders, and even
requiring that some executive compensation come in the form of new shares rather than cash, can
build up equity buffers. It may also be useful for regulators to mandate specific amounts of equity
issuance. Banks that cannot raise equity must be viewed as failing a basic market stress test. They

\textsuperscript{32} Admati and Hellwig (2013a, pp. 187-88) and Admati et al (2013, Sec. 8) elaborate. Similar considerations
apply to so-called contingent capital.
may well be too opaque, insolvent, or too big and inefficient. Such institutions should not persist.

Instead of relying on market tests, regulators use annual stress tests to reassure themselves and
the public that the banks are safe enough. The premise of the stress tests is the flawed notion that
equity is scarce and expensive and that banks should have “just enough” of it. In fact, there is little
harm and much benefit in more safety, and the stress tests give false reassurances. The tests rely
on many of the same flawed measures used in capital regulations and on numerous unreliable and
untested assumptions.33

It is impossible to predict with any precision how an actual crisis, which may come from an
unexpected direction, would play out in the highly interconnected system. The opacity of the
system and the existence of many layers of intermediation make it difficult to assess true
counterparty risk and the correlation between underlying macro risk and counterparty risk. Risks
that are assumed to be transferred and dispersed may instead be concentrated elsewhere, as
happened in the case of AIG. Hansen (2013) discusses the difficulty of estimating systemic risk
with any precision, and Hellwig (2014) concludes that given the challenge of devising
macroprudential regulations, ensuring significant equity buffer for banks must be a key approach
to reducing systemic risk.

Flawed Excuses

A claim often made against increasing equity requirements is that it would force activities to
move to the “shadow banking system.” This argument is flawed. The shadow banking system
actually grew as a direct result of the failed enforcement of previous (light) regulations. Regulated
institutions were able to hide risk exposure from regulators in the shadow banking system, and
they continue to do so.

The lesson is that we must do better at enforcing regulations. Tracing the exposures of the
biggest institutions, which can be viewed as “shadow hedge funds” given their enormous scope
and complexity would be an important start. Pillar 2 of the Basel agreement gives authority to
supervisors to intervene in imprudent practices, and they must use this authority to prevent blatant
attempts at regulatory arbitrage. If effective enforcement is deemed impossible, maybe radical
solutions, such as those proposed in McMilan (2014), should be considered.

Another argument against higher equity requirements is that the requirements must be
coordinated internationally to maintain a “level playing field,” or that it is a policy priority to help
“our” banks succeed in global competition. Such flawed policy concerns explicitly interfere with
financial stability, as admitted in Brooke et al (2015). In fact, banks are in competition not only in
markets for financial services but also in markets for inputs, including scarce talent. The people
that they have drawn into the financial sector have not been available to other industries. Extolling

33 Dowd (2015) provides an extensive discussion of the weaknesses in stress tests.
the competitive success of the financial sector ignores the opportunity costs of these successes.

For the economy as a whole, the question is not whether banks are successful but where resources are most usefully employed. We usually rely on the market system to guide resources to their best uses. Absent distortions, a firm’s ability to compete successfully in input and output markets is prima facie evidence that its use of the resources is economically desirable. But this assessment is unwarranted if market functioning is distorted by externalities and/or government taxes and subsidies.\textsuperscript{34}

Policymakers must focus on protecting their citizens, not “their” banks. Implicit guarantees subsidies distort competition and impair the ability of the market system to provide proper allocation of resources. More generally, the economy may be putting too many resources into the financial sector. In that case, eliminating these distortions through higher equity requirements will improve the market system and enhance economic welfare, even as financial-sector activities are reduced. The global success of banks in Ireland, Iceland and Cyprus has brought disaster on their citizens, and nations with large banking sector should be particularly concerned with protecting their citizens from reckless, excessively leveraged banks.

\textbf{Concluding Remarks}

Our fragile and unhealthy financial system would be much better able to support credit and growth if capital regulation were better designed and implemented. The view that equity levels in Basel III are much too low is shared by many. For example, in 2010 a short letter signed by twenty academics (Admati et al (2010)) pointed to the key flaws discussed here and urged more radical reform.\textsuperscript{35} Hoenig (2013) [from FDIC] called Basel III “a well-meaning illusion.”

Despite the extremely strong case for requiring much more equity and for improving the design of the regulation, recent statements from regulators suggest that the debate over capital regulation is largely over, with virtually no major improvements over the flawed Basel III.\textsuperscript{36} A story on

\textsuperscript{34} See Admati and Hellwig (2013a, Chapter 12) for more discussion.
\textsuperscript{35} The full text and signatories’ names and titles are available at https://www.gsb.stanford.edu/faculty-research/excessive-leverage/healthy-banking-system-goal The 15 percent figure was meant to illustrate that the 3 percent figure in Basel III is entirely in the wrong range. As discussed above, exact numerical ratios are not meaningful until an appropriate measures of the total assets is specified, which involves thorny accounting issues. Links to two other letters from many academics published in 2011, many other writings are provided at https://www.gsb.stanford.edu/faculty-research/excessive-leverage
\textsuperscript{36} “Bank regulators see mood shift as rule-making phase nears end,” Huw Jones and Steve Slater, Reuters, October 22, 2015 quotes Andrea Enria, chair of European Banking Authority: “The rule-making phase in banking is coming to an end. We will then move to consistency and implementation issues.” William Coen, secretary general of Basel Committee on Bank Supervision stated: “there's not a prevailing view among the Basel Committee that we need more and more capital, I think we've got a good handle on the amount of capital.”
December 1, 2015 with the headline “Bank of England draws the line on bank bashing” quotes Governor Mark Carney saying “there is no Basel IV.” Bankers were of course quite pleased.\textsuperscript{37}

Instead of questioning their assumptions, re-examining the issues, and acting in the public interest, policymakers and many others, including academics, have maintained flawed narratives and displayed willful blindness. Instead of simple and cost-effective regulations to counter distorted incentives that harm the economy, regulators have devised extremely complex regulations that may not bring enough benefit to justify the costs but which allow the pretense of action.\textsuperscript{38}

The quest for high equity requirements should not be viewed as “bank bashing” but as a common sense approach that is based on a proper costs and benefit analysis. Individuals who work in banks respond in predictable ways to their incentives to benefit themselves. The rules must recognize and account for these incentives. Where possible, laws and regulations should be designed to reduce the conflict between what is good for banks and those who work for them and what is good for the broader public. When laws, regulations, enforcement, and overall governance fail, it is policymakers and watchdogs who deserve criticism for creating flawed rules that tolerate recklessness and exacerbate distortions, and for betraying the public trust.

Martin Wolf, who served on the UK Independent Commission on Banking, wrote an excellent summary of the issues related to capital regulations: “Allowing such important businesses to operate with almost no equity cushions encourages dangerous conduct. Banks are not special, except for what they are allowed to get away with. The problem is bigger than that banks are “too big” or “too interconnected” to fail. It is that they are so complex and so grossly undercapitalized. The model is intellectually bankrupt. The reason that this is not more widely accepted is that bankers are so influential and the economics are so widely misunderstood.” He concluded by asserting that “we have failed to remove the causes of the crisis. Further such crises will come.”\textsuperscript{39} Many have reached the same conclusion, including among regulators and the industry.\textsuperscript{40}

Why are bankers so influential, and why are the economics so widely misunderstood? The problem appears to be rooted again in people’s incentives and the lack of accountability. It is easier and more convenient to believe that free markets achieve efficient outcome, and to avoid challenging those with power. The “other people” whose money and welfare are at stake are either unaware that they are harmed or unable to do much about it. Governance and control appear broken

\textsuperscript{37} \textit{Financial Times} headline, report by Chris Giles, Caroline Binham and Martin Arnold.
\textsuperscript{38} On willful blindness, see Heffernan (2012). Other People’s Money is both the title of Kay (2015), a chapter title in Luyendijk (2015) and the final chapter title of Admati and Hellwig (2013a). Regarding the academics, Admati et al (2013, Section 5-7), Admati and Hellwig (2013a, b, 2015) and Pfliederer (2014) point to flawed models and analyses and their misuse in policy.
\textsuperscript{39} “Why Bankers are Intellectually Naked,” \textit{Financial Times}, March 17, 2013.
\textsuperscript{40} See, e.g., Luyendijk (2015), which is based on many interviews and concludes that the system has “an empty cockpit.”
at all levels. When the public is confused about the issues, there is no accountability for flawed claims and bad policy.

It is both sobering and alarming to contemplate the failure to learn key lessons from a crisis as harmful as that of 2007-2009. A developed financial system meant to efficiently allocate risk and resources continues to distort the economy and endanger the public. My fear is that this system persists because it benefits powerful people, and that even if we experience more major crises in the future, convenient narratives and narrow interests will again prevail to prevent effective reform. My hope is that more people engage on these issues, gain better understanding, and do what they can to change this situation. The issues go beyond crisis prevention; our banking system is inefficient, distorted and harmful every day. Collectively, we must find ways to improve it.
References


Reserve Bank of Kansas City’s 366th economic policy symposium, Jackson Hole, Wyoming, August 31.

17. Heffernan, Margaret (2012), *Willfull Blindness: Why We Ignore the Obvious at Our Peril*. New York: Bloomsbury USA.


