

The Parade of the Bankers' New Clothes Continues:

31 Flawed Claims Debunked

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The debate on banking regulation has been dominated by flawed and misleading claims. The title of our book *The Bankers New Clothes: What's Wrong with Banking and What to Do about It* (Princeton University Press, 2013, see bankersnewclothes.com) refers to flawed claims about banking and banking regulation, and the book discusses and debunks many of them.

Flawed claims are still made in the policy debate, particularly in the context of proposals that banks be funded with more equity and less debt than current or new regulations would allow. Those who make the flawed claims do so without addressing our arguments, even when commenting on the book or on our other writings. Because the financial system continues to be dangerous and distorted, however, flawed claims must not win the policy debate.¹

This document provides a brief account of claims that we have come across since the book was published in February, 2013. We provide brief responses, with references to more detailed discussions in the book and elsewhere.² Many claims are asserted without any justification. Some of these claims are simply false or based on fallacious reasoning. Other claims are misleading or irrelevant, for example confusing costs and benefits to banks or bankers with costs and benefits to society, which must be the focus of policy. Still other claims are based on implausible theories that ignore important parts of reality.

We first provide a list of the flawed claims that the rest of this document takes on. References to chapter numbers refer to our book. Nothing that we heard or read changes our conclusions or our strong policy recommendations.

*This document is a revision of a document from October 10, 2014, which debunked 28 flawed claims (which itself was a revision of an earlier document from 2013 debunking 23 flawed claims). In addition to updates and some additional discussion and references (specifically in claims 4, and 7), we have added current Claims 6, 12, and 22. We are grateful to Peter Conti-Brown, Paul Pfleiderer and Kim Schoenholz for comments on earlier drafts.

¹ Others who have written to challenge flawed claims include John Cochrane (e.g., “Capital and Language” posted at <http://johnhcochrane.blogspot.com/2014/09/capital-and-language.html>), Mark Whitehouse (e.g., “Seven Dumb Things Bankers Say,” April 5, 2013 and “Too-Big-To-Fail Myths, Goldman Sachs Edition,” May 28, 2013, both in Bloomberg View), Bloomberg View Editors (e.g., “What’s so Radical about a Safer Financial System?” April 9, 2013) and Simon Johnson (e.g., “The Impact of Higher Capital Requirements for Banks,” April 18, 2013, Economix and “Two Views on Finance.” Project Syndicate, September 29, 2014) Paul Pfleiderer has been active in the debate with academics privately and publicly (see Pfleiderer, 2014). See also the preface of the paperback edition, available at <http://press.princeton.edu/chapters/p10230.pdf>

² In some cases, we give specific references to writings where flawed claims are made, but we have not attempted to find all such references. Some of the claims have come up in various discussions of the book that we have had after its publication. Aside from the book, all our other writings are available through the book website, SSRN or the website in which we have posted writings since 2010 <https://www.gsb.stanford.edu/faculty-research/excessive-leverage>

List of Flawed Claims

Claim 1: Capital is money that banks hold or set aside as a reserve, like a rainy day fund; higher capital requirements keep money out of the economy.

Claim 2: Requiring banks to hold cash reserves equal to 15% or more of their assets does not make them significantly safer, and therefore even such high capital requirement would not address the key problems in banking.

Claim 3: The argument for requiring banks to have substantially more equity is only based on a theoretical result called the Modigliani-Miller theorem, which says that the funding costs of a corporation are independent of the mix of debt and equity it uses. This result does not apply in the real world because its assumptions are unrealistic.

Claim 4: The key insights from corporate finance are not relevant for banks because the economics of funding for banks is entirely different from that of other companies.

Claim 5: Banks are special because they create money.

Claim 6: Bank deposits differ from other kinds of debt because banks themselves create deposits by lending.

Claim 7: Increasing equity requirements would reduce banks' ability to take people's deposits and issue short-term claims that are liquid and can be used like money.

Claim 8: Increasing equity requirements would increase the funding costs of banks because investors require higher returns when investing in equity than when investing in debt.

Claim 9: Increasing equity requirements would lower the banks' return on equity (ROE) and thus make investors unwilling to invest in banks' stocks.

Claim 10: Increasing equity requirements would constrain banks so they must reduce lending.

Claim 11: Increasing equity requirements would be harmful for the economy because banks would be less willing to make loans.

Claim 12: Higher equity requirements would restrict banks' ability to provide market-making services, harm market liquidity, and prevent banks from stabilizing volatile stock markets by countering adverse price movements.

Claim 13: Higher equity requirements are undesirable because they would prevent banks from taking advantage of government subsidies and thus force them to charge higher interest on loans.

Claim 14: Historically, banks have never had as much as 30% equity; requiring as much equity would therefore harm the business of banking.

Claim 15: There is not enough equity around for banks to be funding with 30% equity.

Claim 16: Because banks cannot raise equity, they will have to shrink if equity requirements are increased, and this will be bad for the economy.

Claim 17: Increasing equity requirements would harm economic growth.

Claim 18: Basel III is already very tough, doubling or tripling previous requirements; banks that comply with Basel III requirements are safe enough.

Claim 19: Basel III, and capital regulations as implemented in different jurisdictions, are based on careful scientific analysis of the cost and benefits of different levels of equity requirements, whereas the rough numbers of those who advocate much higher requirements cannot guide policy because they are not supported by scientific calibration.

Claim 20: Because capital requirements should be adjusted to risk, it is essential to rely primarily on requirements that are based on assigning risk weights to assets.

Claim 21: Instead of issuing more equity, banks should be required to issue debt or debt that converts to equity when a trigger is hit, so-called “contingent capital” or co-cos.

Claim 22: Whereas equity is needed for banks as going concerns, banks in resolution need long-term debt that can be bailed in. Total Loss-Absorbing Capacity (“TLAC”) in resolution must be large enough to permit a quick recovery.

Claim 23: The Dodd-Frank Act in the US, or the newly adopted Banking Recovery and Resolution Directive (BRRD) and Single Resolution Mechanism in the European Union, have done away with the need to bail out banks; if a bank gets into trouble, the authority in charge of resolution will be able to resolve it without cost to taxpayers; there is therefore no need to increase equity requirements.

Claim 24: If equity requirements are increased, banks will increase their “risk appetite,” which will make the system more dangerous.

Claim 25: If equity requirements are increased, bank managers will be less disciplined.

Claim 26: The best way to make banking safer is to require banks to put funds from deposits into reserves of central bank money or Treasury Bills (so-called narrow banking, also known as the Chicago Plan for 100% reserve banking). Such a shift will give us a stable financial system, and there would be less need to impose equity requirements.

Claim 27: The financial system would be safe if banks are subject to a 100% reserve requirement so they can take no risk with depositors' money, while non-bank financial institutions are entirely prohibited from borrowing.

Claim 28: Tighter regulation of banks, and in particular higher equity requirements, are undesirable because they would cause activities to move to the unregulated shadow banking system.

Claim 29: Since banking is a global business, it is important to maintain a “level playing field”. Therefore, banking regulation must be coordinated and harmonized worldwide.

Claim 30: Stricter national regulation would harm “our” banks; instead we should be supporting them in global competition.

Claim 31: The politics of banking makes effective regulation impossible, and therefore debating the merits of specific regulations such as equity requirement is “beside the point.”

Flawed Claims Debunked

Flawed Claim 1: Capital is money that banks hold or set aside as cash reserve, like a rainy day fund; higher capital requirements keep money out of the economy.³

What's wrong with this claim? This statement is plainly false. As discussed in Chapters 1 and 6, capital in banking is a source of funding that can be used to make loans and other investments. This source of funding, elsewhere called equity, must be distinguished from debt, i.e., funds obtained by borrowing. Whereas banks typically fund less than 10% of their investments by equity, it is rare for any healthy non-financial company to have less than 25% in equity, and many successful companies borrow little or nothing, although there is no regulation that prevents them from borrowing as much as they would like (if they can find lenders).

Flawed Claim 2: Requiring banks to hold cash reserves equal to 15% or more of their assets does not make them significantly safer, and therefore even such high capital requirement would not address the key problems in banking.⁴

What's wrong with this claim? This claim rests on the same confusion between bank capital (equity) and cash reserves as Claim 1. Bank capital is *not* a cash reserve but a way of funding the bank. *Capital requirements do not impose any restriction on what assets banks hold.* They do not require banks to hold cash reserve. Since current requirements, and even the proposed Basel III reform, allow banks to have as little as 3% equity relative to their total assets, requiring 15%, or even 30% would make banks *significantly* safer. With equity levels considered minimal for healthy companies in the rest of the economy, banks would be able to absorb significantly more losses without becoming distressed or insolvent and without needing support, and, as we discuss in many writings, many distortions in the economy would be alleviated.⁵

Unlike equity requirements, reserve requirements are not as useful for maintaining the safety of banks unless they are very high. For example, if a bank has \$97 billion in deposits and \$3 billion in equity funding, cash reserve of \$15 billion will not help it to survive if it loses \$4 billion on its

³ For example, Tim Pawlenty, president of the Financial Services Roundtable, is quoted in *Wall Street Journal* on July 20, 2015 (“Fed Lifts Capital Requirements for Banks,” by Ryan Tracy, Victoria McGrane and Justin Bear) claiming that “this rule will keep billions of dollars out of the economy.” In “How to solve the bank capital Goldilocks question,” CNN Money and *Fortune*, May 6, 2013, Cyrus Sanati falsely claims that capital requirements ask banks to “hold some cash on the sidelines.” The comparison of capital to “a rainy day fund” has also been used in Andrew Ross Sorkin, “Easing of Rules for Banks Acknowledges Reality” *New York Times*, January 7, 2013, and in Gretchen Morgenson, “Trying to Slam the Bailout Door,” *New York Times*, April 27, 2013. By contrast, “A Simple Rule to Stop the Next Financial Crisis,” Pat Ragnier, CNN Money, September 15, 2014, and “Bank Rules Debate, Capital Matters – and Words Too,” by Peter Coy, Bloomberg BusinessWeek, September 18, 2014 help clarify the terminology.

⁴ See for example, Cyrus Sanati, cited in footnote 3, who criticizes the higher capital requirements proposed by Senators Brown and Vitter and who, throughout the piece, falsely refers to the proposal as if it concerns cash reserves.

⁵ See Chapter 6, Admati et al (2013, Section 2).

loans and other investments. After the loss, it has \$96 billion in assets and is insolvent, just as a homeowner is “under water” if the mortgage is larger than the value of the house. If instead the bank had \$85 billion in deposits and \$15 billion in equity, it would easily withstand the \$4 billion loss and even a much larger loss without becoming distressed or insolvent. (However, see the discussion of Claims 23-24 regarding 100% reserve requirements.)

Flawed Claim 3: The argument for requiring banks to have substantially more equity is only based on a theoretical result called the Modigliani-Miller theorem. This result does not apply in the real world because its assumptions are unrealistic.⁶

What’s wrong with this claim? Chapter 7 discusses the Modigliani-Miller theorem, which says that under some special conditions, a company’s mix of equity and debt funding does not affect the company’s overall value and funding costs, just like cutting a pizza into six slices instead of eight does not change the size of the pizza. The key insight of Modigliani and Miller, which holds universally, is that purely re-arranging how the risk taken by a corporation is divided among investor does not by itself change its funding costs.⁷ Other considerations may affect the funding costs, but they do not change our conclusions, as discussed in the context of Claims 4-13 below.

Our argument for requiring much more equity is *not in any way* based on the presumption that the funding mix, in banking or elsewhere, is irrelevant. Our argument is based, as it should be, on a comparison of the costs and benefits to society of different funding mixes for banks. We argue, in particular, that there is a large cost, and no benefit to society, from having banks funded with as much debt as they can under current and proposed regulations allow.

Flawed Claim 4: The key insights from corporate finance are not relevant for banks because the economics of funding for banks is entirely different from that of other companies.⁸

What’s wrong with this claim? Chapter 7 contains a section (pages 110-112) entitled: “The Big Question: Are Banks Special?” that directly takes on the claim “Modigliani-Miller does not apply to banks.” What is meant by this claim depends on whether “Modigliani-Miller” is considered as the “irrelevance” result or as an analytical approach. Whereas, as discussed in the context of Flawed Claim 3 above, the irrelevance result holds only under special assumptions,

⁶ For example, Barclays Credit Research, “The Costs of a Safer Financial System,” March 25, 2013, Clearing House, “Vanquishing TBTF,” March 26, 2013, Oxford Economics, “Analyzing the impact of bank capital and liquidity regulations on US economic growth (A report prepared for The Clearing House), April 2013.

⁷ See also other references there, and Pfleiderer (2015). See also “Banks fail to convince crying foul over Basel reforms,” David Miles, *Financial Times*, November 23, 2010.

⁸ See, for example, Oxford Economics and Barclays Credit Research, both referenced in footnote 6, and “Safety in Numbers,” *The Economist*, April 11, 2013. DeAngelo and Stulz (2015), mis-characterize our arguments as relying only on Modigliani and Miller and proceed to develop a model of liquidity benefits from deposits in a model that assumes no uncertainty, which is hardly suited for discussing the notion of “liquidity.” The DeAngelo and Stulz analysis involves assumptions about pricing and the appropriation of consumer surplus by banks that are incompatible with market equilibrium, which they never actually study.

the analytical approach applies to all firms, including banks. Denying the relevance of the key insight of Modigliani and Miller is akin to denying the universal relevance of the laws of gravity in the presence of air frictions.

The difference between the irrelevance result of Modigliani and Miller and the logic of Modigliani and Miller is easily seen when considering the role of liquidity benefits from bank deposits. It is widely acknowledged that such benefits invalidate the Modigliani and Miller irrelevance result, which presumes that participants care only about portfolio returns.⁹ However, this observation does not imply that it is efficient for banks to fund entirely by deposits, i.e. debt. If the liquidity of deposits depends on the bank's not going into bankruptcy, then, with uncertainty, the bank needs equity to support the liquidity of its deposits by reducing the risk of bankruptcy. The loss of benefits from the liquidity of deposits represents a bankruptcy cost which according to the logic of Modigliani and Miller is part of the tradeoff determining the bank's optimal funding mix – and moving the optimum in the direction of more equity funding.¹⁰

For bank equity and borrowing in wholesale markets and bond markets, the logic of Modigliani and Miller applies fully. Banks interact with the same investors that buy shares and bonds of other corporations. These investors value banks' shares and bonds in the context of their overall portfolio and using the same criteria for all investments. The logic of how funding costs and the risks borne by different investors depend on the banks' funding mix applies also to the borrowing by banks from other financial institutions.¹¹ For large banks, this observation is important because typically more than half of their debt funding comes from markets rather than depositors.

Importantly, like all other firms, banks can choose how much equity to use for funding and how much to borrow. And, like other firms, banks are more likely to become distressed or insolvent when they are highly indebted and have little equity. Moreover, the issues discussed in Chapter 3, entitled “The dark side of borrowing,” including the strong conflicts of interest between borrowers and creditors, and the distortions and inefficiencies of high indebtedness and particularly of distress and insolvency, apply to banks. Because of these distortions, the dynamics of leverage are characterized by an excessive growth of debt, which again exacerbates the distortions, as discussed in Admati et al (2015). As we show, once debt is in place, the funding mix is no longer determined by the choice that maximizes the total firm value, but rather chosen to benefit managers and shareholders even if the result destroys total firm value, in

⁹ See Admati et al. (2013) and Chapter 10, as well as Gorton and Winton (2014), DeAngelo and Stulz (2015).

¹⁰ DeAngelo and Stulz (2015) miss out on this effect because they assume that there is no uncertainty. They also miss out on the possibility that, because of debt overhang effects, ongoing funding choices may not be value maximizing, see Admati et al. (2015). Gorton and Winton (2014) allow for this effect in principle but then impose special assumptions that eliminate it again, namely, either there are no assets outside of banks or equity is raised at a time when the incidence of risk is already known.

¹¹ 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, which we discuss in Chapters 3, 6, 8 and 9. See also Pflleiderer (2015) and Admati and Hellwig (2013).

contrast to standard corporate finance results. Those who argue that banks are different and seek to justify the banks' choice of funding mix as inevitable or efficient often neglect these distortions and inefficiencies, which can spill over to taxpayers and the public.¹²

Flawed Claim 5: Banks are special because they create money.¹³

What's wrong with this claim? This claim rests on an abuse of the word "money."¹⁴ The notion that banks "produce" or "create" money is based on the observation that people can easily transform deposits into cash and that they regard the funds they have in a bank deposit as being similar to cash and are able to use those funds for payments, such as by checks and credit cards.¹⁵ Monetary economists therefore refer to people's total holdings of cash and of deposits in the economy as the amount of "money" in the economy.¹⁶

"Money creation" in the sense described above is related to banks' holding so-called fractional reserves, i.e. keeping a fraction of the funds deposited with them as cash reserves and using the remainder for loans. As the banks' borrowers use the funds they get to make payments, the recipients will keep parts of these payments in bank deposits. In this way, fractional reserve banking causes total deposits to be larger than the amount of central bank money deposited with the banks. The amount of "money" measured as the sum of deposits and cash in the economy is thus bigger than the amount of money that the central bank has issued.

Putting demand deposits and cash into the same macroeconomic aggregate does not mean that they are literally the same. A critical difference is that *deposits are a form of debt*.¹⁷ Banks are

¹² On the inefficiency of high leverage even from the private perspective of all banks' investors, see Admati et al (2015).

¹³ We have been confronted with this statement in various discussions of the book.

¹⁴ For a forceful criticism of this abuse of language, see Tobin (1967).

¹⁵ Some (for example, Gorton, 2010) have suggested that the use of short-term borrowing, for example through so-called repos, is a modern-day form of deposits. (See also Cyrus Sanati, referenced in footnote 3.) Repos share with deposits the very short-term nature of the lenders' claims. Unlike deposits, however, repo borrowing is not accompanied by provision of payment services. The repo lender, e.g., a money market mutual fund, might provide payment services to its own investors, but those services have nothing to do with the bank that acts as repo borrower. Repo borrowing takes place in wholesale markets with financial institutions acting as lenders. In these markets, as discussed in the context of Claim 4, the insights about the economics of funding that apply to all firms are fully relevant. The so-called shadow banking system, with money market mutual funds offering money-like claims and investing the funds they get in short-term claims on banks as well as other institutions, poses problems for monetary policy as well as prudential regulation and supervision. On the former, see Pozsar (2014), on the latter Gorton and Metrick (2010).

¹⁶ The value of this amount depends on how one draws the line between claims that are "money like" and claims that are not, for example whether one considers savings deposits or term deposits to be sufficiently similar to demand deposits to be included. Pozsar (2014) suggests that the amount of "money like" claims in non-bank institutions such as money market mutual funds should also be taken in.

¹⁷ One of the strangest statements in this context comes from John Stumpf, the CEO of Wells Fargo Bank, who reportedly said in an interview: "Because we have this substantial self-funding with consumer deposits we don't have a lot of Debt." (See Tom Braithwaite, "Wells Chief warns Fed over Debt proposal," *Financial Times*, June 2, 2013. "Self-funding" ordinarily refers to equity and retained earnings. Deposits, by contrast, are a form of debt. It is false, indeed a contradiction in terms, to say that a bank that relies primarily on deposit funding does not have a lot of debt.

obliged to pay the depositor when he or she wants the money back. If a bank cannot repay depositors, there is clearly a problem. By contrast, cash, issued by a central bank, is nobody's debt.¹⁸ (For a detailed discussion, see Chapter 10.)

Flawed Claim 6: Bank deposits differ from other kinds of debt because banks create deposits by lending.

What is wrong with this claim? This claim is often made in opposition to a “loanable funds” view of banks as intermediaries that collect deposits in order to fund their loans. Moreover, this “money creation through lending” is said to be the way money from the central bank gets into the economy.¹⁹ The claim rests on a confusion between stocks and flows. Indeed, if a commercial bank makes a loan to a nonfinancial firm or to a private household it provides its borrowers with a claim on a deposit account. Whereas this fact provides a link between the flow of new lending and the flow of new deposits, it is hardly relevant for the bank's funding policy, which concerns the stocks of different kinds of debt and equity that it has outstanding, which must cover the stocks of claims on borrowers and other assets that the bank holds.

A nonfinancial firm or household that receives a loan from a bank will typically use the associated claim on a deposit account for payments to third parties. The recipients of these payments may want to put some of the money they get into deposits, but they may instead prefer to move the money out of the banking system altogether, e.g., to a money market fund or a stock investment fund.²⁰

From the perspective of the individual bank, the fact that lending goes along with deposit creation does not change the fact that *the bank owes its depositors the full amount they deposited*. The key difference between deposits and other kinds of debt is not that deposits are “like money” or that deposits may be created by lending, but rather that the bank provides depositors with services such as payments through checks and credit cards or ATM machines that make funds available continuously. The demand for deposits depends on these services, as well as the interest that the bank may offer, and it may also depend on the risk of the bank becoming insolvent or defaulting.²¹

¹⁸ Deposits with the central bank usually are claims to receive cash. Since the central bank can itself create this cash, these deposits do not involve serious obligations for the central bank

¹⁹ See McLeay et al (2014), and Jakab and Kumhof (2015). See also Thomas Mayer, “Lasst Bankpleiten zu!” (Allow banks to fail!), *Frankfurter Allgemeine Sonntagszeitung*, January 5, 2014, Martin Wolf, “Only the Ignorant Live in Fear of Inflation,” *Financial Times* April 10, 2014, and “Strip Private Banks of Their Power to Create Money”, *Financial Times* April 24, 2014.

²⁰ Nor is it the case that lending by commercial banks is necessary for central bank money to get into the economy. Central bank lending to commercial banks and the latter's lending and deposit creation represent only one channel by which the central bank can inject money into the economy. Another way is for the central bank to buy securities such as government bonds or shares of private companies in the open market. The sellers of such shares might be private investors rather than banks, in which case bank lending plays no role in the central bank's money creation at all.

²¹ Because depositors get returns through services just as well as, or instead of interest payments, the key insight of Modigliani and Miller is less important for deposits. As discussed in the context of Claims 4-5 and as explained in

The suggestion that bank lending is the only source of deposit creation is plainly false.²² Deposits are created when people bring cash to the bank, and they are destroyed when people withdraw cash. In this case, the reduction in deposits – like any reduction in funding – goes along with a reduction in the bank’s assets, i.e., a shortening of its balance sheet, but this reduction affects the bank’s cash reserves rather than its lending. The impact of such withdrawals on banks and entire banking systems are well known from the Great Depression or from the recent experience of Greece. In Greece in the spring and summer of 2015, depositors also were worried about the prospect that in the event of the country’s exit from the euro, their denomination of their deposits would be changed, whereas a stack of bills under a matress would not be affected.

Flawed Claim 7: Increasing equity requirements would reduce banks' ability to take people's deposits and issue short-term claims that are liquid and can be used like money.²³

What’s wrong with this claim? The claim falsely assumes that the amount of a bank’s equity is fixed and limited, and that none of the banks’ debt can be replaced with equity without interfering with “liquidity provision.” In fact, a bank can raise the amount of equity by retaining and reinvesting its earnings, or by issuing new shares, either in addition or instead of some of its debt. By increasing its equity, the bank could actually raise the amount of deposits it can take; if equity requirements are increased, adding equity would allow the bank to keep its deposits and other “liquid” debts unchanged.

Relying on more equity would actually *enhance* a bank’s ability to provide useful liquidity because, with more equity, the bank’s debt is more trustworthy. Thus, contrary to the claim, the “liquidity” or “money-like” nature of deposits and other short-term bank debt is actually improved when the bank is less highly indebted and has more equity. By making the banks' deposits and other short-term debt safer, additional equity actually enhances the banks' ability to provide benefits to depositors without needing support from central banks or governments.

In this context, however, the banks have flawed incentives, which lead them to borrow excessively. If the banks' owners and managers could firmly commit all their future funding decisions, they would take account of the fact that additional equity enhances the safety and the liquidity of their debt and makes the creditors willing to accept lower interest rates. As a matter of fact, however, such commitment is impossible. Over time, banks repeatedly take new funding

Chapter 7, however, this insight is essential for the other borrowing banks do, such as short-term borrowing from money market funds or hedge funds, and to their equity..

²² This suggestion is made in McLean et al. (2014).

²³ Barclays Credit Research, referenced in footnote 6, DeAngelo and Stulz (2015), *The Economist*, referenced in footnote 8, and Kling, “What Do Banks Do?” *The American*, February 26, 2013 warn of the reduction in bank deposits that, in their view, would be implied by higher equity requirements. Gorton (2012) refers to banks as “producers of debt” in the form of deposits and other short-term claims that people want because these debts are similar to money. Gorton views equity and investments as “inputs” for this debt “production.” There is actually no sense in which the bank’s equity is an input to its debt when both debt and equity entitle investors to payments from the bank, both being on the same side of the bank’s balance sheet. Indeed, it makes little sense to refer to debt promises the bank makes to its creditors as something that is “produced.”

decisions. In these decisions, the interest rates on previously-contracted debt are taken as given. Banks have no reason to take into account the fact that additional equity makes their previously-contracted debt safer whereas additional debt and the risky investments funded with this new debt make it less safe.

Debt overhang, i.e., the existence of previously-contracted debts, may generate a ratchet effect that makes the bank's leverage increase whenever new needs or opportunities call for additional borrowing, whereas there is an aversion (on the part of the bank's owners, shareholders and managers) to reduce leverage because such a reduction would benefit incumbent debt holders. Because of this effect, the mix of debt and equity funding of banks that we see is likely to take insufficient account of the beneficial effects of additional equity for the safety and liquidity of deposits and other reforms of "money-like debt" of banks, in addition to not taking account of the effects of the risks to which their actions expose the rest of the financial system and the overall economy. The leverage ratchet effect is explored in detail in Admati et al (2015), and it is highly relevant for banks because of their already-high indebtedness and the passivity of their creditors, particularly depositors.

The discussion above also suggests that the increased reliance of banks on short-term debt that we have seen in the past decade cannot be presumed to be beneficial for society or even privately for the banks. More likely, as we explain in our book and in other writings, this increase reflects the flawed incentives that banks' managers and shareholders have as a result of debt overhang.²⁴

Flawed Claim 8: Increasing equity requirements would increase the funding costs of banks because investors require higher returns when investing in equity than when investing in debt.²⁵

What's wrong with this claim? First, as discussed in Chapter 7, it is fallacious to suggest that using more equity in the funding mix is more costly on the basis of the mere observation that the required return on equity is higher than the required return on debt. The required return on equity, debt, or any other security depends on the entire funding mix, and the required return on equity (as well as generally on other securities, including debt) will go down if the bank has more equity. As discussed in Chapter 9, and below in the context of Claim 13, a reason that total funding costs of banks might increase as a result of higher equity requirements is that with more equity banks would be less able to benefit from guarantees and subsidies, which come at the expense of taxpayers. For the policy debate, the relevant concern must be the cost and benefits *to society* of banks using different mixes of funding with different levels of equity. Because the fragility of the financial system is costly and harmful to society, a correct statement, contrary to the claim, is: "Increasing equity requirements would reduce the cost to society of having a fragile

²⁴ For more detail, see Admati et al (2013, Sections 4.2 and 4.3) and Admati et al (2015). The latter contains a detailed analysis of this effect as well as the method by which banks would choose to reduce leverage in response to leverage ratios requirements. This analysis and our recommendations in Chapter 11 of the book are relevant for making leverage regulation work.

²⁵ See, for example, Oxford Economics, and Barclays Credit Research, (see footnote 6), *The Economist* (see footnote 8), and Elliott (2013).

and inefficient financial system where banks and other financial institutions borrow excessively, and thus it would be highly beneficial.”

Flawed Claim 9: Increasing equity requirements would lower the banks’ return on equity (ROE) and thus make investors unwilling to invest in banks’ stocks.

What’s wrong with this claim? As explained in Chapter 8, the first statement is false; when asset returns are low, the ROE is actually higher with more equity. Investors’ willingness to invest in banks’ stocks, or in the stocks of other firms, depends on whether they are properly compensated for the risk they take, not just on the stocks’ expected returns. If managers target specific ROE levels, they may actually harm shareholders by exposing them to risk without proper compensation. Moreover, when managers borrow excessively or take excessive risks, they harm creditors and taxpayers and endanger the public, which includes most of their shareholders.

Flawed Claim 10: Increasing equity requirements would constrain banks so they must reduce lending.²⁶

What’s wrong with this claim? As explained in Chapters 6 and 11, to comply with higher equity requirements, healthy banks can increase their equity levels by retaining their earnings or by selling new shares to investors. In either case, with more equity banks would have *more* funds, which can in turn be used to increase their lending. If increased equity requirements cause banks to reduce their lending, the reason is that they do not *want* to increase their equity. As explained in Chapters 3, 8, and 10 and in other writings, this phenomenon is due to the effect of overhanging debt and the conflicts of interest created by indebtedness which create a sort of addiction to borrowing that is reinforced and encouraged by government guarantees and by compensation structures in banking.²⁷ Banks that are unable to raise equity at any price may well be insolvent and should be unwound, as discussed in Chapter 11.

Banks’ lending decisions also depend on how attractive loans are relative to other investments. Many banks, including most of the large banks in the United States, are not even using all the funding they obtain from depositors to make loans.²⁸ If banks do not make loans, therefore, the problem is *not* a lack of funds *nor* an inability to raise more funds for profitable loans, but rather

²⁶ See, for example, S&P, “Brown Vitter Bill: Game-Changing Regulation for U.S. banks, April 25, 2013. Elliott (2013) stresses that frictions in capital markets make it difficult or impossible for banks to raise new equity. As we discuss in Chapter 11, the arguments he gives that allude to information asymmetries are not applicable to new equity issues through rights offerings.

²⁷ Admati et al. (2015) explore the leverage ratchet effect and explain why the effect is so important in banking.

²⁸ See, for example, Elizabeth Dexheimer, “JPMorgan Leads U.S. Banks Lending Least Deposits in 5 Years,” Bloomberg, February 20, 2013. In the same story quotes a principal at Deloitte & Touche LLP, saying that new regulations that include “holding more capital to cushion losses” would impede lending. Quite obviously, especially in the context of the story (about the low ratio of loans to deposits), this statement is fallacious and misleading. This fact may not be obvious to readers because of the pervasive confusion between capital and cash reserves discussed in Flawed Claims 1-2.

the banks' choices to focus on other investments instead.²⁹ The risk-weighting system used in capital regulation, which we discuss in some detail in Chapter 11, also creates incentives for banks to invest in securities in the market rather than, for example, make business loans.

Flawed Claim 11: Increasing equity requirements would be harmful for the economy because banks would be less willing to make loans.³⁰

What's wrong with this claim? This claim obscures the fact that credit crunches are primarily due to heavy indebtedness and financial distress, not from "too much equity." More equity generally enables banks to *increase* their lending and to be able to continue to lend in downturns.³¹ As discussed in our response to the preceding claim and in Chapter 11, if banks choose to make fewer loans, the reason would most likely be because their overhanging debt makes issuing new shares unattractive or because they intensify their efforts at "risk weight management," which, under the current system of capital regulation, induces a bias against lending and in favor of other investments. (See Flawed Claim 20 for more discussion of risk weights.) Controlling the transition to more equity by banning payouts to shareholders and specifying target levels of equity rather than ratios would mitigate any such effect.

It is also false to presume that all lending is useful. Banks help the economy by making *appropriate* loans at *appropriate* interest rates that reflect the borrowers' risks and the cost of funds. Some loans (such as, quite clearly some subprime mortgages prior to 2008) might actually be wasteful and inappropriate; such loans are usually the result of banks counting on someone else to bear the losses. Excessive lending can also result when there are too many banks with too much capacity; in this case, banks' "gambling for survival" may offer cheap loans for a while, but their actions may expose the economy to increased risk of a major crisis later on. In fact, as already noted, credit crunch and reduced lending are due to the effect of debt overhang, which comes from excessive borrowing, not from having "too much equity." The effect of higher capital requirements on lending is discussed in some detail in Admati et al (2013, Section 9).

²⁹ Under-investment is among the distortions and inefficiencies associated with heavy borrowing, again due to a "debt overhang" effect. This problem is explained in Chapter 3.

³⁰ In addition to Barclays Credit Research, Oxford Economics (see footnotes 6), and Elliott (2013). The Clearing House, referenced in footnote 6, and S&P (see footnote 26), also warn that higher equity requirements would reduce the supply of credit.

³¹ In the same spirit, Mervyn King, the outgoing governor of the Bank of England, recently said: "Those who argue that requiring higher levels of capital will necessarily restrict lending are wrong. The reverse is true. It is insufficient capital that restricts lending. That is why some of our weaker banks are shrinking their balance sheets. Capital supports lending and provides resilience. And, without a resilient banking system, it will be difficult to sustain a recovery." (See King (2013).) Kapan and Minoiu (2013) show that "banks with strong balance sheets were better able to maintain lending during the crisis," and suggest that "strong bank balance sheets are key for the recovery of credit following crises." Cole (2013) shows that bank lending to businesses suffered when banks incurred losses and that the Troubled Asset Relief Program (TARP), which did not alleviate the banks' indebtedness, did not result in improved lending.

Flawed Claim 12: Higher equity requirements would restrict banks' ability to provide market-making services, harm market liquidity, and prevent banks from stabilizing volatile stock markets.³²

What's wrong with this claim? There is no automatic connection between equity requirements and the ability of banks to provide market-making services, to enhance market liquidity, or to stabilize stock market. For example, banks avoiding a safe investment such as in US Treasury bond, in favor of a risky and more rewarding trade. Such behavior generally harms creditors and taxpayers.

If banks merely act on commission for their customers, their own accounts are not affected at all. If banks act as counterparties, buying securities that the customers want to sell or selling securities that the customers want to buy, the question is how these transactions fit into the bank's own asset management and portfolio decisions. As with the Flawed Claims 10 and 11, about bank lending, such questions of portfolio choice do not depend on the bank's funding mix. To comply with higher equity requirements, banks retain their earnings and raise more equity. With ample equity, it is moreover likely that asset choices are undistorted by excessive incentives to take risks.

From the customers' perspective, banks' professed desire to provide market making services can be a mixed blessing. In many instances in the past, banks have used their customers' dependence on such services in order to take advantage of the information provided by customers' orders, using practices such as front-running or dual-capacity trading to speculate on the basis of privileged information about their customers' orders.³³ Whereas banks claim that their services improve market liquidity, such practices, which are almost impossible to prevent, actually harm the customers' confidence and the liquidity of the markets.

Market liquidity captures the ability and ease of converting financial securities to cash through trading in markets and the price at which securities can be bought and sold. Liquidity is determined by the balance of reasons for trading of various market participants, namely the availability of buyers and sellers at a given time and price, the trading mechanism that determines the market price (for example, how buyers and sellers find each other, whether an intermediary or an exchange is involved, etc.), and, importantly, on the information that participants have about the value of the security, which may differ across participants. Liquidity

³² For example, "Bank Capital Needs Seen Soaring on Basel Market-Risk Review," John Glover and Boris Groendahl, Bloomberg, October 20, 2015, quotes Mark Gheerbrant from the International Swaps and Derivatives Association (ISDA) saying "We're concerned about the impact [increased capital requirements] will have on market liquidity". Jürgen FItschen, Co-CEO of Deutsche Bank claimed that, as saw recently, banks will be less able to counter adverse market moves, with reference to the stock market declines in the summer of 2015 (see "Wenn e suns zu gut geht, machen wir Fehler" – "If we are doing too well, we make mistakes," Handelsblatt, September 3, 2015,).

³³ See, for example, Pagano and Roell (1990, 1993) and Roell (1990). The debate on high-frequency trading involves similar issues. Some of the episodes in Lewis (2014) illustrate the problem and the potentially large social costs involved.

can be reduced, or even break down, if some participants have much better information than others, creating so-called adverse selection (similar to the market for used car). Whether some financial institutions must use more equity funding for their trading does not bear directly on any of these considerations.³⁴

There is also no automatic connection between equity requirements and the positions banks take in stock markets, except perhaps that stock market investments might involve higher risk weights than other kinds of investments. Solvent banks can always raise additional equity if their portfolio decisions require it. Higher risk weights for stock market investments – or prohibitions of stock market investments under the Glass-Steagall Act or the Volcker Rule in the United States) – reflect the assessment that such investments may be too dangerous for banks. The banker’s promise to try to prevent stock prices from falling, if actually not empty, should raise concerns about the risks the banks are taking. When banks tried to stop and reverse a falling stock market on October 24, 1929, it only took four days for them to realize the futility of the effort and the size of the losses they had incurred.³⁵

In this context, it is useful to note that the worldwide decline in stock market values after the Lehman Brothers bankruptcy amounted to some \$20 trillion, three or four times the decline after the burst of the tech bubble in the early 2000s. This decline was greatly exacerbated by banks’ scrambling for cash and selling assets as money markets on which they had relied for funding ceased to function. Lack of equity to absorb losses from “toxic” assets was one reason so many banks were mistrusted and were unable to roll over their short-term funding.

Flawed Claim 13: Higher equity requirements are undesirable because they would prevent banks from taking advantage of government subsidies and thus force them to charge higher interest on loans.³⁶

What’s wrong with this claim? Whereas deposit insurance is useful for preventing inefficient bank runs, it is often underpriced for individual banks, and it has the undesirable impact of enabling and encouraging banks to take risk and to “economize” on equity. Underpriced explicit or implicit guarantees to any form of bank borrowing make bank funding artificially cheap and create a distortion in the economy. By rewarding debt and penalizing equity funding the subsidies are socially harmful, especially at the very high levels of debt the banks choose. Even if all the subsidies are passed to banks’ customers in the form of cheaper loans, they contribute the financial system’s being inefficient, bloated and fragile, and they distort competition and the allocation of resources in the economy.

³⁴ Liquidity requirements, which mandate the holdings of assets within specific set may have more of a direct income on the willingness of institutions to trade in, or make certain markets.

³⁵ See Galbraith (1954, pp. 105-120).

³⁶ See, for example, Oxford Economics, referenced in footnotes 6, and Elliott, referenced in footnote 17. William Isaac, in “Better than Brown-Vitter: Make Banks Issue Long-Term Debt,” *American Banker*, June 4, 2013 warns that higher equity requirements on the largest banks would cause them “to decrease their lending dramatically and/or increase significantly the price of loans.”

There are two types of subsidies banks receive when they borrow but not when they use equity funding. First, the tax code in most countries gives debt a tax advantage relative to equity for all corporations. Despite this tax treatment, and even with no regulation of their funding, no healthy corporation maintains as little equity as banks. The tax code has no economic rationale and it is highly distortive. Whereas the effect can be neutralized, there is still no social cost if banks pay more taxes. (See Admati et al (2013, Section 4.1).)

Second, explicit guarantees through deposit insurance for which banks often do not pay the appropriate economic costs, and implicit guarantees that allow banks to borrow at terms that are more favorable than their indebtedness and the risks they take would normally imply, encourage and subsidize excessive borrowing.³⁷ Measuring the size of subsidy is difficult because it amounts to an underpriced insurance contract whose value changes with the likelihood and extent to which it will be needed. In fact, there is reason to believe even many academic studies under-estimate the subsidies.³⁸ Despite the overwhelming evidence that the subsidies are substantial, large banks deny the existence of subsidies, while claiming that their cost of funding would increase with more equity. These claims are inconsistent with one another.

Requirements that banks use much more equity do not impose a cost to society; rather, they attempt to correct distortions and reduce excessive subsidies. If it is deemed desirable to subsidize specific loans or any other activities, subsidies should be given directly to the intended recipient, for example by attaching the subsidies to specific loans. Blanket subsidies to bank borrowing, by contrast, provide banks with below-market funding that they can use at their discretion. The cheap funds may not actually go to the loans that the economy needs, and instead

³⁷ There is broad agreement that the subsidies are substantial. For example, see Chapter 3 of IMF 2014 Financial Stability Report, yet in documents such as, “Measuring the TBTF effect on bond pricing,” by Goldman Sachs Global Markets Institute, May 22, 2013, large banks argue that large banks do not benefit from a too-big-to-fail effect on their funding costs. There are a number of critical flaws in the Goldman Sachs analysis, and most are discussed in Mark Whitehouse “Too-Big-To-Fail Myths, Goldman Sachs Edition,” Bloomberg View, May 28, 2013. (See also Christopher Cole, “Goldman’s TBTF Study Used Flawed Data to Reach Flawed Conclusions,” *American Banker*, May 30, 2013.) First, it compares interest rates on bonds of large banks and small banks without adjusting for differences in the risk creditors are supposedly exposed to. As discussed by Brando et al (2013), however, too-big-to-fail banks tend to take more risks in their investments than smaller banks; unless the implicit guarantee is perfect, this would raise the interest TBTF banks have to pay. (Frank Partnoy and Jesse Eisinger, in “What is Inside America’s Banks,” *The Atlantic*, January 3, 2013 also shows banks’ disclosures make it difficult for investors to assess the risk.) Second, the observation that creditors suffer more in failures of small banks relative to those of large itself reflects too-big-to-fail policies, including support from the Federal Reserve that has provided ample and cheap funding to banks since 2008. The GS paper dismisses findings of a large literature (some of which is also cited in Chapter 9) without engaging on substance, including academic studies that conclude that the value of the subsidies is in the tens of billions of dollars and particularly large in downturns. Many other industry-sponsored studies also fail to correct properly for the funding mix and other parameters of the bank borrowing that would affect the risks that their long term creditors would be exposed to, relative to those of other companies that do not have access to safety nets.

³⁸ See Stefan Nagel, “Too Big to Fail is Larger than You Think,” Bloomberg View, March 2, 2014. Given the opacity and complex structure of the liabilities of the largest banks, it is possible that without any guarantees, the cost of unsecured borrowing to these banks would be prohibitive. Of course, among the reasons banks are able to borrow as much using collaterals is that deposits are unsecured, and at least some assets purchased with deposits can be used as collateral for additional borrowing.

the borrowing itself makes banks more fragile, exposes the economy to substantial risks, and distorts banks' investment decisions, giving them incentives to take excessive risk in their investments or to under-invest in relatively safe but worthy loans because bankers do not find them to have enough upside.³⁹

For more on these issues, see Chapter 9, entitled “Sweet Subsidies,” which discusses harmful effect of guarantees and subsidies, Admati (2014b), and Chapters 12 and 13. The critical distinction between private costs to the banks and social costs to society is discussed in more detail in Admati et al, (2013, Section 4). If banks' funding costs (or any costs to banks' shareholders) are increased as a result of them being less able to take advantage of subsidies, the impact is entirely private. The cost and the harm of excessive indebtedness in banking is borne by the broader public without producing any corresponding benefit. Nevertheless, subsidizing banks through implicit guarantees is attractive for policymakers, because it does not show on budgets as it is given, thus appearing costless. In fact, the costs to society of providing banks with outsized and highly distortive subsidies are large, and equity requirements that reduce these subsidies and correct the distortions are thus highly beneficial.

Flawed Claim 14: Historically, banks have never had as much as 30% equity; requiring as much equity would therefore harm the business of banking.⁴⁰

What's wrong with this claim? The statement is false. First, references provided in our book (particularly in notes 20-27, pp. 242-243) support the claim that going back more than a century to the period before bank owners and shareholders could rely on creditors, central banks, or governments to pay their creditors, it was common for banks to have as much as 50% equity. Second, arguments based on history presume that circumstances are similar. However, since the 1970s (uninsurable) macroeconomic risks have become much larger than they had been in the preceding decades. More importantly, financial institutions worldwide have become much more interconnected; this has greatly increased systemic from contagion. In some parts of the business also competition has become much more intense; this has reduced the ability of banks to rely on margins to provide buffers against shocks.

Our proposed leverage ratios *do not stand* on any historical figures, but are rather based on the economic arguments and observations of leverage in other, unregulated industries and on considerations of the social cost of banks' leverage. As indicated in the discussion of Flawed Claims 4-9, the economics of high leverage is not fundamentally different for banks even if some

³⁹ For example, Levitin (2014) questions our statements that there is no social cost in reducing distortive subsidies, missing the distinction between social and private costs that is explained in detail in Admati et al (2013, Section 4). Matt Yglesias, in “Banks Borrow Too Much,” Slate, March 7, 2013, expresses concerns regarding the potential cost of withdrawing the banks’ subsidies. However, in his subsequent blog post entitled “How I Learned to Stop Worrying and Love Higher Capital Requirements,” March 8, 2013, he states that in our book we “in many ways end up underselling the power of [our] idea,” emphasizing that, as we explain in Admati et al (2013, Sections 2 and 9), not only would more equity make banks safer, but it will also make their lending and investment decisions more appropriate and better for society.

⁴⁰ Calomiris (2013) and Levitin (2014).

of banks' debt is useful for providing liquidity.⁴¹ Quite clearly, the bankruptcy of Lehman Brothers had significant collateral damage. As Admati et al (2013, 2015) explain, markets may allow leverage to get socially, and even privately, excessive. Requiring investment banks, which can scale up risk and become systemic, to have 30% equity corrects this situation and produces substantial social benefits with minimal if any relevant cost.

We are sometimes asked why we do not go to 100% equity. The reason is precisely that deposits do provide benefits (beyond providing funding for the banks) that are not captured by standard corporate finance arguments. However, for most large banks today, deposits amount to less than half of their funding.⁴² The 30% ratio we propose is roughly what banks themselves impose on financial institutions, such as hedge funds or REITs, to which they lend.

Flawed Claim 15: There is not enough equity around for banks to be funding with 30% equity.⁴³

What's wrong with this claim? As explained in the context of Claim 1, equity is not a cash reserve but a financial claim that banks can issue to obtain funding for their investments. Contrary to this claim, higher equity funding for banks does *not* require new savings and new inflows into capital markets. If a bank issues more equity and uses the funds it obtains to buy listed securities, capital markets will adjust so that investors who have sold the other securities will hold additional bank shares because the bank's returns would partly reflect the returns on those other securities. No new savings and no new inflows of funds into capital markets are required. To the extent that all assets in the economy are held by, and all risks are borne ultimately by end investors and taxpayers, the effect of a reshuffling of financial claims to make sure more equity funds banks' investments would generate less distorted, more appropriately priced investments in the economy.⁴⁴ As discussed below, the size of individual firms and of a sector in the economy should be determined in undistorted markets. If the banking sector has access capacity, it is best for the economy if unhealthy institutions that can survive only because of supports exit rather than persist.

Flawed Claim 16: Because banks cannot raise equity, they will have to shrink if equity requirements are increased, and this will be bad for the economy.

⁴¹ Levitin (2014) also argues that the market does not demand 20% or 30% of small banks that can fail or of investment banks. But small banks have insured deposits who don't bear deadweight bankruptcy costs, and Lehman Brothers' creditors may have well believed that they would be paid in full, as were the creditors of Bear Stearns even though they were not explicitly insured.

⁴² See Advisory Scientific Committee (2014), as well as Chapter 6.

⁴³ For example, Elliott (2013) stresses that frictions in capital markets make it difficult or impossible for banks to raise new equity. As we discuss in Chapter 11, and in Admati et al (2015), the arguments he gives that allude to information asymmetries are not applicable to retention of earnings or to new equity issues through rights offerings

⁴⁴ A more detailed discussion of this argument is offered in Sections 7 and 9 of Admati et al (2013). At current levels of indebtedness, individual institutions, and the banking sector as a whole, are likely to be inefficiently bloated due to excessive subsidies. See also the discussion of Claim 17 and Admati (2016).

What's wrong with this claim? As we discuss in Chapter 11, solvent banks can always raise equity by selling additional shares, to existing shareholders through rights offerings or to new shareholders in the market.

If a bank cannot raise equity at any price, the bank is likely to be insolvent.⁴⁵ The existence of nonviable banks that cannot raise equity may reflect excess capacity in banking. (Excess capacity appears to be a serious problem in some countries and maybe globally at this time.) In this case, some downsizing of the industry would benefit the economy, contrary to the claim. The remaining banks would be viable and would have fewer incentives to gamble at the expense of their creditors, the taxpayers and the economy.

Flawed Claim 17: Increasing equity requirements would harm economic growth.⁴⁶

What's wrong with this claim? Those who make this sweeping assertion do not typically provide a coherent explanation for why increased equity requirements, which amount to a reshuffling of financial claims in the economy, would have a harmful effect on growth. They also neglect the fact that the worst downturn in economic growth occurred as a result of the actions taken by highly indebted banks and other financial institutions, which led to the financial crisis in the last quarter of 2008. One reason for the severity of this crisis was the lack of equity in banks, which made banks vulnerable to the decline in US real estate markets, defaults on subprime mortgages and the collapse of the markets for asset-backed securities. Growth can suffer also when risk weights, discussed in the context of Claim 20 and in Chapter 11) distort investments away from worthy business loans and towards government lending and traded assets. Crowding out of private borrowing by government borrowing can have substantial negative effects on economic growth, as seen in southern Europe in the decades before 1990.⁴⁷

Reference to the impact of higher equity requirements on bank lending ignores the fact that it is overhanging debt, and not excessive equity that lead to credit crunches, as discussed above in the context of Claim 11. In fact, banks with more equity to absorb losses without becoming distressed would be more able to sustain lending in a subsequent economic downturn, which would have positive effects for investment and the economy. Growth, as seen for example in Iceland and Ireland, can be temporary and illusionary when it reflects a boom that is followed by bust. As we discuss in Chapter 11, if the transition to a system with more equity funding for banks and other institutions is handled properly, there would be no negative consequences to making the financial system less indebted and thus safer and less distorted.

⁴⁵ For details of the argument, see Admati et al. (2013, 2015)

⁴⁶ See for example Oxford Economics, referenced in footnote 5. Levitin (2014, p. 2036) complains that we have not dealt with this claim in the book even as he does not explain why the claim should be true (except that bankers such as Josef Ackermann have asserted it to be true). In the book and elsewhere (including in the current document) we have argued that whatever justification (if any) is given to this claim, it is invalid or misleading.

⁴⁷ See, for example, the essays by Caminal et al., and Borges in Dermine (1990)

Flawed Claim 18: Basel III is already very tough, doubling or tripling previous requirements; banks that comply with Basel III requirements are safe enough.⁴⁸

What’s wrong with this claim? As we discuss in Chapter 11 (on the basis of the arguments of previous chapters), these statements use a false benchmark for the desired and feasible equity levels. Basel III still allows banks to fund up to 97% of the assets on their balance sheets by borrowing, just as Lehman Brothers did. As discussed below regarding Claim 19, the numbers in Basel III are not based on sound analysis, and the papers justifying them are fundamentally flawed. Stress tests have also based on flawed approaches; they have been much derided when banks that the stress tests said were safe became insolvent only a few months afterwards.⁴⁹ Moreover, the measurements of so-called bank capital often refer to accounting ratios of accounting measures of equity relative to risk-weighted assets, which has proven very poor for predicting banks' ability to withstand losses. Moreover, the regulations often rely on debt-like alternatives to equity, which are problematic. (See the discussion of Claims 21-23 below.)

Flawed Claim 19: Basel III and capital regulation as implemented in different jurisdictions, are based on careful scientific analysis of the cost and benefits of different levels of equity requirements, whereas the rough numbers of those who advocate much higher requirements cannot guide policy because they are not supported by scientific calibration.⁵⁰

What’s wrong with this claim? Basel III, and regulations as implemented, appear to be the result of a political process much more than of valid scientific analysis. As we discuss in Chapter 11 and elsewhere, the studies that support the Basel III rules are based on flawed models and their quantitative results are meaningless. For example, they assume that the required return on equity is independent of risk; one paper purports to derive the “optimality” of Basel III without even considering the costs that bank failures can impose on the rest of the financial system and the economy.⁵¹ The “scientific” papers that discuss costs and benefits of different capital requirements also ignore the distinction between private and social costs, the distortions in investments associated with high leverage, and the problems with risk weights, discussed below.⁵²

⁴⁸ Claims that the requirements are tough and that banks are stronger now are frequently made by regulators, bankers and others. For example, Tom Braithwaite, in “Quest for Profits can Make Banks Safer,” *Financial Times*, February 18, 2013, suggests that the “lust for improved ROE” is a helpful, ignoring the possibility that a lust for return often involves taking risks and borrowing inefficiently, including to get around regulations based on risk weights.

⁴⁹ We discuss stress tests in Chapter 11. See also Vestergaard and Retana (2013) and Dowd (2015) for critiques.

⁵⁰ Claims that the requirements are tough and based on “science” are frequently made by regulators, bankers and others. For example, in a November 19, 2013 interview to *Die Welt* Lloyd Blankfein, CEO of Goldman Sachs, said: “The new capital adequacy regulations under Basel III are the results of a long and meticulous process.”

⁵¹ Admati et al (2013) discusses some of flaws in papers produced by the Basel Committee on Bank Supervision and other authors.

⁵² On the attempts to provide estimates, see also Admati and Hellwig (2013), Admati (2014a). A recent paper, Brooke et al (2015) still includes a flawed analysis of the tradeoffs. For a discussion of some of the flaws, see Admati (2016).

The fact that studies end up with precise numbers for “optimal” capital regulation is irrelevant if the foundations of the studies are shaky. We are not aware of any theory or model that would provide appropriate estimates of the costs and benefits to society associated with different funding mixes for banks. Despite this, we are confident in asserting that equity levels of three percent of total assets, as admitted by Basel III, are unsafe, and that a significant increase will substantially improve the health and safety of the financial system. Low levels of equity expose the banks and the economy to unnecessary risk. Allowing banks to rely as much on subsidized borrowing distorts and harms the economy. Countering the banks’ incentives to choose unsafe levels by effective regulation is essential, because, as discussed in Admati et al (2013, 2015), markets fail to produce an efficient outcome both privately for all of banks’ investors and socially.

A significant challenge in specifying any specific capital ratio has to do with setting the appropriate numerator and denominator, which have to do with valuations of the relevant assets and liabilities. Accounting conventions matter greatly, including how to deal with off-balance-sheet exposures and derivatives. As explained in Chapter 11, the key to capital regulation is high requirements for genuine, loss absorbing equity, and prompt intervention by regulators if equity is depleted through losses.⁵³

Flawed Claim 20: Because capital requirements should be adjusted to risk, it is essential to rely primarily on requirements that are based on assigning risk weights to assets.⁵⁴

What’s wrong with this claim? As we discuss in Chapter 11, the system of risk weights that we currently have has more to do with politics and tradition than with science. In fact, the Basel rules negate important sources of risk altogether: Risks from sovereign debt that is funded in the currency of the country in question, risks of changes in funding conditions for medium or long-term loans, risks from the possibility that borrowers might default simultaneously because their default risks are correlated. Risk from sovereign debt that is funded in the currency of the country was in evidence in the Greek default in 2012. Funding risk for long-term loans was a key factor in the S&L crisis in the 1980s. Correlated borrower defaults were a major factor in the subprime mortgage crisis of 2006-2009. Even if the politics of the regulation could be dealt with, attempts to improve risk weighting are limited by a lack of data and by the never-ending changes in the risks and correlations.

In practice, the system of risk weights allows banks to be extremely highly indebted, masks important risks, and adds to the interconnectedness of the system. Whereas proponents of the system argue that it is important to require banks to have more equity funding when their assets are more risky, in fact the system allows banks to get away with *much less* equity funding when

⁵³ On accounting issues and ways banks can manipulate them through securitization and derivatives, see Kerr (2011). For more on “numbers” see Admati (2014b, 2016).

⁵⁴ For example, Tom Braithwaite (referenced in footnote 25) praises the Basel risk weights system for controlling banks’ risks. Most regulators appear to take it for granted that risk weights are essential, and the Federal Reserve has proposed to adopt Basel III, including the use of risk weights, for all US banks.

they say that their assets are less risky. A uniform ratio of required equity to total assets would provide a bound on the banks' leverage. By contrast, because some risk weights are (near) zero, the risk-weighting system allows very high leverage. Thus, banks could take large positions in assets with (close to) zero risk weights, such as Greek sovereign debt or AAA-rated toxic securities, and fund them almost entirely with debt and with hardly any equity. The system also distorts banks investment decisions, typically against business lending, and is highly manipulable by the banks.⁵⁵

The ability of banks to “economize on equity” is enhanced by their ability to use their own models to assess risks. The scope for manipulation they have is largest for assets in the trading book, which is why they were keen to put mortgage-backed securities and the like into the trading book, subject to mark-to-market accounting rules. Most of the losses in 2007-2009 were incurred on assets in the trading book, where equity often was as low as 1 percent of investments.⁵⁶

Credit risk on assets in the bank book, i.e., assets that banks claimed they intended to hold to maturity, played less of a role in the crisis (except for sovereign exposures in the euro crisis). The changes in regulation (“Basel II”) that allow banks to use their own models to assess credit risk were only being introduced when the crisis unfolded. However recent empirical research has shown that the use of model-based internal ratings to assess credit risk and determine risk weights for capital regulation has gone along with a significant deterioration in the quality of these assessments: for comparable borrowers, internal ratings are better and actual risk incidence is worse than under the previously used “standard approach.”⁵⁷

The Basel Committee has recently recognized that that there is a problem with risk weights. However, its focus is on heterogeneity of risk assessments across banks as evidence of problems in assessment procedures, rather than the scope for manipulation that the model-based approach offers altogether. The Committee tries to impose more control and more homogeneity on risk assessment procedures without however questioning the approach as such.⁵⁸ The risk weighting system is particularly harmful because equity levels are as low as they are, thus the incentives to increase leverage and take excessive risk are particularly intense, leading to a focus on manipulating risk weights that undermines the regulations and exacerbates systemic risk.

⁵⁵ See further discussion in Chapter 11. The report on JP Morgan Chase “London Whale” loss by the Senate Committee on Investigation specifically refers to attempts to manipulate models, and points to poor risk controls. See, for example, David Henry and Lauren Tara LaCapra, “JPMorgan and other banks tinker with risk models,” Reuters, March 18, 2013, and Floyd Norris, “Masked by Gibberish, the Risks Run Amok,” *New York Times*, March 21, 2013. On the flaws in the Basel approach, see also Haldane (2012, 2013), Hoening (2013), Joe Rizzi, “Risk-Based Capital: The Good, the Bad and Mostly the Ugly,” *American Banker*, May 20, 2013, William Isaac, referenced in Footnote 37, and Robert T. Taylor, “Basel Rules Echo Missteps of S&L Era,” *American Banker*, June 19, 2013. See also a related discussion in Dowd (2015) in the context of stress test.

⁵⁶ FSA (2010).

⁵⁷ See Behn et al. (2014).

⁵⁸ See Basel Committee on Bank Supervision BCBS (2015)

Flawed Claim 21: Instead of issuing more equity, banks should be required to issue debt that converts to equity when a trigger is hit, so-called “contingent capital” or co-cos.⁵⁹

What’s wrong with this claim? As we explain in Chapter 11 (pp. 187-188), in a section entitled “Anything but Equity,” and in Admati et al (2013, Section 8), the various proposals to use hybrids between debt and equity as a way of forcing investors rather than taxpayers to bear losses offer no advantages, and in fact have important disadvantages, relative to equity. First, like other debt, they raise the specter of domino effects or near the triggers where debt converts to equity (or is written down, depending on what the contract says). If the institutions that hold the co-cos are systemic, the consequences of a conversion to equity can be dramatic, and fear of these consequences might motivate a bailout. Indeed, in 2008-2009, holders of long-term debt and other hybrid securities meant to absorb losses as Tier 2 capital were paid even as banks were bailed out with taxpayer funds. Second, when conversion is imminent, the strategic behavior of market participants can induce dramatic changes in prices of equity and/or co-cos. Thus, co-cos do not provide reliable loss absorption and can create instability in a crisis. Third, as long as they have not been converted to equity, co-cos and other debt-like claims add distortions to banks’ lending decisions by exacerbating the effect of debt overhang and contributing to credit reductions in downturns.

There is no sense in which having banks rely on these hybrid securities is “cheaper” or better for society than relying on equity. For the purpose of regulation, using equity simply dominates these alternatives. Those who propose such alternatives as a substitute for equity have yet to give a valid reason for their proposal that is relevant for policy considerations.⁶⁰

Flawed Claim 22: Whereas equity is needed for banks as going concerns, banks in resolution need long-term debt that can be bailed in. Total Loss-Absorbing Capacity (“TLAC”) in resolution must be large enough to permit a quick recovery.⁶¹

What’s wrong with this claim? The suggestion that debt that serve as TLAC (or, as the European Banking Recovery and Resolution Directive calls it, bail-in-able debt) can do something that equity cannot do is false and misleading. Obviously, once a bank is insolvent,

⁵⁹ See, for example, Calomiris (2014). Proposals to use co-cos instead of equity have been implemented in Switzerland and have been discussed in the UK (see UK Independent Commission on Banking) and the European Union (see Liikanen Report). A variation on the concept is Equity Recourse Notes (ERNs) proposed by Bulow and Klemperer (2014), which amount to debt whose coupon payments are made in equity when a trigger is hit.

⁶⁰ As discussed in the context of Claim 13, compromising financial stability in order to give tax subsidies to inefficient funding by banks makes no sense. (Because they can force conversion to equity and do not confer creditors’ rights on their holders, co-cos do not qualify as debt under the US tax code, and thus do not have the tax advantage over equity in the US that they appear to have in Europe.) On the claim that long-term debt provides better discipline than equity, see the discussion of Claim 25 below. Co-cos and ERNs that they are meant to convert some debt to equity ahead of insolvency and failure are better than debt claims that can only suffer losses within a “bail-in” process or in a resolution or bankruptcy (which are discussed in the context of Flawed Claim 23 below). And they are obviously a less fragile funding source than short-term debt that is subject to runs.

⁶¹ See FSB (2015).

there is no equity left and thus any 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 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-in-able debt is not increased when equity is replaced by bail-in-able debt.

To the contrary, if the authorities end up being unwilling to impose losses on debt holders, a replacement of equity by bail-in-able debt *reduces* loss absorption capacity. The arguments in the discussion of Flawed Claim 21 concerning co-cos and the likelihood that holders of co-cos might be bailed out after all apply equally to bail-in-able debt or TLAC. Legally, the holders of TLAC have stronger claims than those of the holders of hybrid (convertible) debt considered as regulatory Tier 2 capital before the crisis but in 2008, yet even those weaker claims were bailed out routinely and did not absorb losses. The one exception to this rule, Washington Mutual, was highly disputed inside the US Government, and the systemic effects from the bail-in of unsecured senior debt holders of Washington Mutual has convinced many that, in a systemic crisis, such bail-ins are to be avoided. These considerations are bound to be brought back if there is a question of bailing in unsecured senior debt in a situation of systemic stress. Holders of bail-in-able debt may also be small savers who have not realized that they might be called upon to absorb the banks' losses, as happened in Spain and more recently in Italy, thus causing a political problem if losses are large or many institutions fail.⁶²

In sum, this flawed claims neglects the fact that equity absorbs losses more reliably than any other form of "loss absorbing capital," and that it is best to use used equity *instead* of any poor alternatives. It is precisely the virtue of equity that it absorbs losses *without anyone triggering a formal resolution procedure*. Systemic effects from the triggering of such a procedure may well prevent the procedure from being triggered at all, in which case any notion of loss absorption by certain debt instruments is moot.⁶³

Flawed Claim 23: The Dodd-Frank Act in the US, or the newly adopted Banking Recovery and Resolution Directive (BRRD) and Single Resolution Mechanism in the European Union, have done away with the need to bail out banks; if a bank gets into trouble, the authority in charge of resolution will be able to resolve it without cost to taxpayers; there is therefore no need to increase equity requirements.⁶⁴

⁶² See "Italy bank rescues spark bail-in debate as anger at Renzi grows," James Politi, *Financial Times*, December 22, 2015.

⁶³ Persaud (2015) calls the bail-in concept "fool's gold" as a solution to the too-big-to-fail problem.

⁶⁴ See, for example, presentation by the Clearing House to the Board of Governors of the Federal Reserve regarding Title II of Dodd Frank Act on February 13, 2013, and their March 26, 2013 "Vanquishing TBTF." See also William Isaac, referenced in Footnote 37. This claim is the basis for proposals by the Federal Reserve to force bank holding companies to use more long-term debt (see, e.g., Governor Daniel Tarullo testimony to Senate Committee on Banking, Housing and Urban Affairs, February 6, 2014), and similar discussions by the Financial Stability Board

What’s wrong with this claim? As we discuss in Chapters 5 and 9, this claim ignores a number of critical points and is not credible.⁶⁵ First, to minimize the economic disruptions from having banks go into resolution, it may be necessary to maintain some important operations at least temporarily. This requires funding. Under the Dodd-Frank Act, such funding might be obtained by borrowing from the government; such borrowing puts the taxpayer at risk.⁶⁶ Second, whereas both the Dodd-Frank Act in the US and the BRRD in the EU rely on industry levies and on creditor bail-ins to absorb losses, in a crisis, when many banks may be weak at the same time and the financial system is at risk, the industry as a whole or the banks’ creditors (which may be other financial institutions) may be too weak to perform this role. Even if the charges are spread over time, the burden of obligations they impose may be so great that the institutions involved become incapable of functioning. These concerns arise even if the debt in question is long-term or, as in Claims 21-22, subject to contingent conversion clauses. If the banks were required to rely on equity levels much higher than the low levels current regulations allow, loss absorption would be obtained without any of these disruptions and it would fall most naturally and appropriately by the shareholders who are entitled to the upside.

Third, cross-border issues in the resolution of global banks, which played an important role in the Lehman Brothers bankruptcy, have hardly been addressed. If a bank with systemically important operations in different countries goes into a resolution procedure, the procedure will be handled by different authorities in the different countries in which the bank has legally independent subsidiaries; because the different authorities act independently and each authority takes care of problems in its domain, integrated operations in areas such as cash management and IT systems are no longer feasible. It may therefore be impossible to maintain, even temporarily, some of the functions which are essential for the rest of the financial system.⁶⁷

Flawed Claim 24: If equity requirements are increased, banks will increase their “risk appetite,” which will make the system more dangerous.⁶⁸

What’s wrong with this claim? As we discuss in Chapter 8, such a claim was made by Bob Diamond when he was CEO of Barclays. Statements like these may be empty threats, but if they

about so-called GLAC “Gone Concern Capital Absorbing Capacity” (e.g., “Progress and Next Steps Towards Ending Too-Big-to-Fail,” Report to G-20, September 2, 2013).

⁶⁵ See also Simon Johnson, “The Myth of a Perfect Orderly Liquidation Authority for Big Banks,” *New York Times* Economix, May 16, 2013, and Simon Johnson and Marc Jarsulic, “How a Big Bank Failure Could Unfold,” *New York Times* Economix, May 23, 2013. See also Anat Admati, “Too Much Equity? If Anything, Brown-Vitter Asks Too Little,” *American Banker*, June 24, 2013.

⁶⁶ The Bank Recovery and Resolution Directive in the European Union ignores the problem altogether.

⁶⁷ See Advisory Scientific Committee (2012). The more recent Financial Stability Board’s “Principles for Cross-border Effectiveness of Resolution Actions,” November 3, 2015 includes an enormous wish list and recommendations that would help make cross border resolution viable, but the implementation of these recommendations cannot be expected any time soon. The June 2014 IMF document “Cross-Border Bank Resolution: Recent Developments” summarizes the key challenges, and they have not been met as of the end of 2015. For the European Reforms, see also Hellwig (2014)

⁶⁸ See, for example, Bill Black, “Brown-Vitter Will not and Cannot Work but it is Criminogenic,” *Naked Capitalism* blog, May 11, 2013.

are not, the claim raises serious concerns about governance that should trouble banks' shareholders and boards of directors. If risks are worth taking on behalf of the banks' investors, why aren't the banks already taking them? If the risks are not worth taking, why would the banks take them when they are funded with more equity? The claims appear related to the flawed focus on ROE in banking that we discuss in Chapter 8.⁶⁹

Flawed Claim 25: If equity requirements are increased, bank managers will be less disciplined.⁷⁰

What's wrong with this claim? The claim rests on the false notion that bank creditors can "discipline" bankers, or provide better governance, than shareholders, and that bankers are more disciplined when investing borrowed money than when they invest shareholders' money.

The academic literature includes theoretical models that claim to capture the idea that "debt disciplines managers." Some such theories are specific to banks, arguing that by threatening to withdraw their funding, depositors and short-term creditors can provide "discipline." As we have argued in various writings, including Chapter 10, these models are a poor basis for policy advice because they lack empirical support and ignore critical elements of the real world which, if included, would reverse their conclusions.⁷¹ The fact that assertions about the real world are made on the basis of theoretical models without justifying the appropriateness of the models or addressing the critical issues we raise about their inadequacy is highly disturbing.

The suggestion that long-term debt provides better discipline to managers than equity is also flawed in the context of banking. First, whereas long-term debt does not cause a risk of runs, it may still generate systemic risk. As discussed in the context of Claims 21 and 22, if debt holders are sufficiently important for the financial system, for example large insurance companies, it may be deemed undesirable to impose losses on them in resolution or insolvency. Moreover, the too-big-to-fail problem is relevant for long-term debt as well as short-term debt in that the

⁶⁹ See also Anat Admati, "Beware of Banks' Flawed Focus on Return on Equity," *New York Times Dealbook*, July 25, 2011, and Anat Admati and Martin Hellwig, "The Case Against Banking's Case for Less Capital," *Bloomberg View*, February 5, 2013.

⁷⁰ A recent example is Raghuram Rajan, "Love the Bank, Hate the Banker," *Project Syndicate*, March 27, 2013, which refers to the Washington Mutual (WaMu) bank failure, claiming that it is an illustration that the threat of runs helps provide "discipline" to bank managers. In fact, the timing of the events in the WaMu case is at odds with the argument Rajan seems to be trying to make. Significant withdrawals from WaMu started after the Lehman Brothers bankruptcy on September 15, 2008, and the bank was closed on September 24, 2008. By that time, it was too late to "discipline" the bank's managers. William Isaac, referenced in Footnote 37 argues that long-term debt provides better discipline than equity. Seemingly echoing such claims, Jamie Dimon, CEO of JP Morgan Chase, warned in 2011 that bankers might do "stupid things" if they had "too much capital." (See Alistair Barr, "J.P. Morgan's Dimon concerned about too much capital: Surfeit of capital may make people do 'stupid things,' CEO says," *Wall Street Journal MarketWatch*, February 15, 2011.) His statement raises the concern of why bankers would do stupid things with shareholder money, and why they would expect to get away with it.

⁷¹ We have discussed this problem in earlier writings, particularly Admati et al (2013, Section 5), which first appeared in 2010. In Admati and Hellwig (2013), we explain that fragility in banking is more likely to reflect a *lack* of discipline, which allows bankers to continue to borrow and thus prevents debt from providing any discipline. See also Admati et al (2015, Section 5), and Pflleiderer (2014).

collateral damage associated with distress or insolvency may lead to bailouts. If debt holders believe they can count on being bailed out, they will not impose any discipline on the bank.

Second, even if long-term creditors want to impose discipline, the scope for doing so is limited. For example, with a ten-year bond, on average one tenth of the debt is rolled over each year. But discipline can only be imposed when the debt must be renewed and investors negotiate with the bank for the conditions under which a renewal would be granted. As we have argued in the context of the possibility that deposit and short-term debt provide “discipline,” long-term debt may in fact provide the precise *opposite* of discipline: Negotiating with new short-term creditors, or offering them collateral can make incumbent long-term creditors worse off (should they expect to bear losses), yet these creditors are unable to withdraw their claims until the debt expires.

Flawed Claim 26: The best way to make banking safer is to require banks to put funds from deposits into reserves of central bank money or Treasury Bills (so-called narrow banking or the Chicago Plan for 100% reserve banking). Narrow banking will give us a stable financial system, and there would be less need to impose equity requirements.

What’s wrong with this claim? Requiring banks to put all funds into cash or Treasury Bills will make these banks safer but the financial system as a whole may become less efficient and/or less safe. If final investors maintain current funding patterns, banks will provide a lot of funding to the government; which may well come at the expense of funding of nonfinancial firms. The experience of southern European countries in the decades before 1990 shows such crowding out of private borrowing by government borrowing can have substantial negative effects on economic growth.⁷²

More likely, narrow banking would lead investors to put substantially more of their money in other institutions, for example money market funds which are “bank-like” without being subjected to the same regulation as banks. As we have seen in the weeks after the Lehman bankruptcy, such institutions can also be subject to runs and can be a major source of systemic risk. Financial instability would merely shift from banks to those “bank-like” institutions. In this context, it is useful to recall that Lehman Brothers was an investment bank, AIG was and is an insurance company and, in Europe, Dexia and Hypo Real Estate were in the covered-bond business; none of the institutions had any deposits.

Flawed Claim 27: The financial system would be safe if banks are subject to a 100% reserve requirement so they can take no risk with depositors’ money, while non-bank financial institutions are entirely prohibited from borrowing.⁷³

⁷² See, for example, the essays by Caminal et al., and Borges in Dermine (1990)

⁷³ See Kotlikoff (2010) and Cochrane (2014) for such proposals.

What is wrong with this claim? This claim ignores the benefits of using some debt to fund difficult-to-value investments such as loans. Moreover, having no debt in financial intermediation would not necessarily eliminate fragility and possible harm to small investors. Investors want much of their money to earn some interest and yet to be liquid so they can get it fairly reliably when they need it. If banks must operate as open-end mutual funds with no debt, investors who need cash would return (or sell) their shares and get whatever the shares were worth. Determining share values would be easy if the assets held by a fund (of the fund itself) were traded daily on a public exchange, but otherwise would be problematic, and the mutual fund could suffer something similar to runs if shareholders fear significant asset price declines returned their shares and the fund had to sell assets in a hurry.⁷⁴

Trading in stock markets exposes individuals who need to trade for liquidity reasons to losses from better-informed investors. The opacity of assets consisting of many mortgages and other loans would give rise incentives to those with access to better information to engage in such trading if the shares of banks with 100% equity were traded on stock exchanges. The information-insensitivity of banks' debt is valuable for liquidity provision and the idea of requiring significant equity (such as 30% or even more) but not as much as 100% is intended to preserve this function and strike a balance between liquidity provision and the stability of the banking system.

Flawed Claim 28: Tighter regulation of banks, and in particular higher equity requirements, are undesirable because they would cause activities to move to the unregulated shadow banking system.⁷⁵

What's wrong with this claim? As we discuss, particularly in Chapter 13, the development of the shadow banking system and the risks it poses point to the past weakness of enforcement. The most dangerous parts of the shadow banking system developed primarily to avoid existing regulation. Examples include the so called off-balance-sheet special purpose vehicles and money market funds, both of which played in infamous role in the 2007-2009 financial crisis. The lessons should be that we need better rules and better enforcement, not that we should give up on rules. Dealing with regulatory arbitrage is challenging, but the challenge can be met, and it must be met if the regulation is important and beneficial.⁷⁶

⁷⁴ Gordon and Gandia (2013), for example, show that money market funds with floating value were also quite unstable at the same time that those that promised fixed net asset value were experiencing runs in 2008. Because Germany has had such experiences with open-end mutual funds for real estate investments, the German Federal Ministry of Finance proposed in July 2012 to outlaw open-end mutual funds for real estate investments.

⁷⁵ See, for example Elliott, referenced in footnote 17.

⁷⁶ Levitin (2014, p. 2037) asserts that "Admati and Hellwig think that [dealing with the shadow banking system] is easy." In fact, we have not claimed it is easy to enforce the regulation effectively, only that it is important and possible. In "We are Still Hostages to the Big Banks," *New York Times*, August 26, 2013, Anat Admati summarized the response: past failures to make sure that banks could not hide risks using various tricks in opaque markets is hardly reason to give up on essential new regulations. We must face the challenge of drawing up appropriate rules and enforcing them, or pay dearly for failing to do so."

Flawed Claim 29: Since banking is a global business, it is important to maintain a “level playing field”. Therefore, banking regulation must be coordinated and harmonized worldwide.⁷⁷

What’s wrong with this claim? The claim, as discussed in Chapter 12, is false. If some countries foolishly allow their banks to pursue very risky strategies and to borrow excessively, this is not a reason why other countries should do the same. Each country should be concerned with how much of a risk from its banks it is willing to accept, just as each country has its own building codes, consumer safety standards, environmental regulation and energy policy. We would not allow chemical companies to pollute rivers and lakes simply because the industry maintains that somewhere in the world another country is allowing these things. The search for “level playing fields” in global competition is highly damaging if it leads to a race to the bottom, where each country ends up fighting stricter regulation on behalf of its members of the industry.⁷⁸ This problem is further discussed in the context of Claim 30.

Flawed Claim 30: Stricter national regulation would harm “our” banks; instead we should be supporting them in global competition.

What’s wrong with this claim? Like the preceding claim, this claim is false, as discussed in detail in Chapter 12.⁷⁹ The success of a nation’s banks in global competition is not an appropriate objective for policy. The global economy is not a sports event where a country might win medals in all disciplines. Rather, it is a system in which people and firms from different countries trade with each other, and a country necessarily “loses” in the markets for those goods which it imports. For the country, and for the people living in it, it is efficient to specialize on goods they are good at and to import the others. Government subsidies to banks, or indeed any firms, in international competition is undesirable; such subsidies create distortions in favor of these firms at the expense of others in the economy, and it may direct too many resources, including talent, inefficiently to one industry over others. Weak regulations that allow banks or other firms to take risks at the expense of others are also distorting. It is legitimate for national regulators to protect their citizens by regulating foreign banks’ subsidiaries if regulations in the banks’ home country are deemed to be insufficient or ineffective.

⁷⁷ This argument is made frequently. See, for example, The Clearing House, referenced in footnote 5, and S&P, referenced in footnote 18.

⁷⁸ See also Anat Admati and Martin Hellwig, “Global Level Playing Field Arguments are Invalid,” a version of which appeared as a comment in *Financial Times*, June 3, 2011. (The text is available at <http://www.gsb.stanford.edu/news/research/admati-battle-begun.html>) The Federal Reserve has effectively rejected this notion in other aspects of U.S. financial regulation by mandating the creation of intermediate holding companies to focus all the assets and liabilities of foreign banks operating in the United States to make it harder for these banks to evade national regulation. This model can be extended and applied to other aspects of international banking in a way to reduce the consequences of a failure of international financial regulatory harmony.

⁷⁹ See also the article referred to in the previous footnote.

Flawed Claim 31: The politics of banking makes effective regulation impossible, and therefore debating the merits of specific regulations such as equity requirement is “beside the point.”⁸⁰

What’s wrong with this claim? This claim, typically made without a suggestion as to how to overcome the political challenge, suggests that there is no choice but to allow flawed claims and dangerous policies to persist. The claim is analogous to saying that “politics makes corruption unavoidable; thus debating the merits of specific anti-corruption strategies is beside the point,” or: “the politics of organized crime makes effective criminal enforcement impossible; thus debating specific strategies for fighting organized crime is beside the point.” Whereas the politics of financial reform (including the outsized influence that banks have on the political process and the symbiotic relations of banks and governments) certainly makes quick progress unlikely, the eventual success of many reform movements has shown that change is possible. Reform, however, requires public awareness and debate, and sensible debate requires understanding of the issues. Clarifying the issues and empowering more people to participate can create public pressure on those who refuse to engage or to take action, and can eventually bring about the necessary political will for better regulation.⁸¹

In reviewing our book, Martin Wolf concluded that our views are not more widely accepted because “bankers are so influential and the economics are so widely misunderstood.” His final assessment is that: “we have failed to remove the cause of the crisis. Further such crises will come.”⁸² Because risk from banking is more abstract than risk from plane crashes or shoddy bridge construction, flawed claims about banking may have more staying power. However, the harm from a distorted and dangerous financial system is large and affects many people. The current regulations can be greatly improved, bringing large benefits to society. And understanding the issues does not require advanced training. If more people understand the issues, we have a chance of getting serious reform.

⁸⁰ This claim is made in Levitin (2014, p. 2067), who reviews our book together with others. A few of these books describe the writers’ experiences in politics and regulation. The books by Sheila Bair, Neil Barofsky and Jeff Connaughton, in particular, highlight the political challenge and aim to increase political pressure for reform, but they do not explain the underlying economics in as much detail as we do in our book.

⁸¹ We discuss the problem of willful blindness in the preface of the book and of the paperback edition, both of which are available on the book website.

⁸² See Martin Wolf, “Why Bankers are Intellectually Naked,” *Financial Times*, March 17, 2013.

References

- 1) Admati, Anat R. (2014a), “The Compelling Case for Stronger and More Effective Leverage Regulation in Banking,” *Journal of Legal Studies*, 531-561.
- 2) Admati, Anat R. (2014b), “Examining the GAO Report on Expectations of Government Support for Bank Holding Companies,” Testimony for hearing of Senate Committee on Banking, Housing and Urban Affairs Subcommittee on Financial Institutions and Consumer Protection, July 31.
- 3) Admati, Anat R. (2016), “The Missed Opportunity and Challenge of Capital Regulation,” *National Institute Economic Review*, Forthcoming, February.
- 4) Admati, Anat R., Peter M., DeMarzo, Martin F. Hellwig and Paul Pfleiderer (2013), “Fallacies, Irrelevant Facts, and Myths in the Discussion of Capital Regulation: Why Bank Equity is Not Socially Expensive,” Working paper (first draft August 2010).
- 5) Admati, Anat R., Peter M., DeMarzo, Martin F. Hellwig and Paul Pfleiderer (2015), “The Leverage Ratchet Effect,” Working paper (first draft March, 2011).
- 6) Admati, Anat R., and Martin F. Hellwig (2011), “Comments to the UK Independent Commission on Banking,” Submitted July 4.
- 7) Admati, Anat R., and Martin F. Hellwig (2013), “Does Debt Discipline Bankers? An Academic Myth about Bank Indebtedness,” Working paper.
- 8) Advisory Scientific Committee (2012), “Forbearance, Resolution, and Deposit Insurance”, Report 01 of the Advisory Scientific Committee of the European Systemic Risk Board, Frankfurt, July 2012.
- 9) Advisory Scientific Committee (2014), “Is Europe Overbanked?” Report 04 of the Advisory Scientific Committee of the European Systemic Risk Board, Frankfurt, June 2014.
- 10) Basel Committee on Bank Supervision (2015), “Regulatory Consistency Assessment Programme (RCAP) – Report on risk- weighted assets for counterparty credit risk (CCR),” October.
- 11) Behn, Markus, Rainer Haselmann, and Vikrant Vig (2014), “The Limits of Model-Based Regulation”, Institute for Monetary and Financial Stability, University of Frankfurt, Working Paper 82/2014.
- 12) Brandao, Luis Marques, Ricardo Correa, and Horacio Sapriza (2013), “International Evidence on Government Support and Risk Taking in the Banking Sector,” IMF Working Paper WP/13/94.
- 13) Brooke, Martin, Oliver Bush, Robert Edwards, Jas Ellis, Bill Francis, Rashmi Harimohan, Katharine Neiss and Caspar Siegert (2015), “Measuring the Macroeconomic Costs and Benefits of Higher UK Bank Capital Requirements,” Financial Stability Paper 35, Bank of England.
- 14) Bulow, Jeremy and Paul Klemperer (2013), “Market-Based Capital Regulation,” Working Paper.

- 15) Calomiris, Charles W. (2013), “Reforming Banks Without Destroying Their Productivity and Value,” *Journal of Applied Corporate Finance*, Vol. 25 (4), 14-20.
- 16) Cochrane, John H. (2014), “Towards a Run-Free Financial System,” working paper.
- 17) Cole, Rebel A. (2013), “How did the Financial Crisis Affect Business Lending in the U.S?” Working paper.
- 18) DeAngelo, Harry and René M. Stulz (2015), “Liquid-Debt Production, Risk Management, and Bank Capital Structure: Why High Leverage is Optimal for Banks,” *Journal of Financial Economics*, 216-236.
- 19) Dermine, Jean (ed.) (1990), *European Banking in the 1990s*, Blackwell, Oxford.
- 20) Dowd, Kevin (2015), “No Stress: The Flaws in the Bank of England’s Stress Testing Programme.” Working paper.
- 21) Elliott, Douglas (2013), “Higher Bank Capital Requirements Would Come at a Price,” Brookings paper, February.
- 22) FSA (Financial Services Authority) (2010), “The Prudential Regime for Trading Activities: A Fundamental Review, Discussion Paper 10/4, Financial Services Authority, London.
- 23) FSB (Financial Stability Board) (2015), “Principles on Loss-absorbing and Recapitalisation Capacity of G-SIBs in Resolution: Total Loss-absorbing Capacity (TLAC) Term Sheet,” November.
- 24) Galbraith, John K. (1954), *The Great Crash 1929*, Houghton Mifflin, Boston.
- 25) Gordon, Jeffery N. and Christopher Gandia (2013), “Money Market Funds Run Risk: Will Floating Net Asset Value Fix the Problem?” Working paper.
- 26) Gorton, Gary, and Andrew Metrick (2010), “Regulating the Shadow Banking System”, *Brookings Papers on Economic Activity* 41(2), 261–312.
- 27) Gorton, Gary (2012), *Misunderstanding Crises: Why We Don’t See them Coming*, Oxford University Press.
- 28) Gorton, Gary, and Andrew Winton (2014), “Liquidity Provision, Bank Capital, and the Macroeconomy,” Working paper.
- 29) Haldane, Andrew G. (2012) “The Dog and the Frisbee.” Speech delivered at the Federal Reserve Bank of Kansas City’s 366th economic policy symposium, Jackson Hole, Wyoming, August 31.
- 30) Haldane, Andrew G. (2013) “Constraining discretion in bank regulation,” speech at the Federal Reserve Bank of Atlanta Conference, April 9.
- 31) Hellwig, Martin F. (2014), “Yes, Virginia, There Is a European Banking Union! But It May Not Make Your Wishes Come True”, Preprint 2014/12, Max Planck Institute for Research on Collective Goods, Bonn.
- 32) Hoenig, Thomas (2013), “Basel III: A Well Intentioned Illusion,” Speech to Association of Deposit Insurers, April 9, Basel.

- 33) Jakab, Zoltan and Michael Kumhof (2015), “Banks Are Not Intermediaries of Loanable Funds – and Why this Matters”, Bank of England Working Paper No. 529, May.
- 34) Kapan, Tümer and Camelia Minoiu (2013), “Balance Sheet Strength and Bank Lending During the Global Financial Crisis,” IMF working paper 13/102.
- 35) Kerr, Gordon (2011), “The Law of Opposites: Illusionary Profits in the Financial Sector,” Working Paper.
- 36) King, Mervyn (2013), “A Governor looks back – and forward,” speech given at the Lord Mayor’s Banquet for Bankers and Merchants of the City of London, June 19.
- 37) Kotlikoff, Laurence J. (2010), *Jimmy Stewart Is Dead: Ending the World's Ongoing Financial Plague with Limited Purpose Banking*, Wiley.
- 38) Levitin, Adam J. (2014), “The Politics of Financial Regulation and the Regulation of Financial Politics: A Review Essay,” Harvard Law Review, 1991-2068.
- 39) Lewis, Michael (2014), “Flash Boys: A Wall Street Revolt, Norton.
- 40) McLeay, Michael, Amar Radia and Ryland Thomas (2014), “Money Creation in the Modern Economy”, Bank of England Quarterly Bulletin Q1, 14-27,
- 41) Pagano, Marco, and Roell, Ailsa (1990), “Trading Systems in European Stock Exchanges: Current Performance and Policy Options”, *Economic Policy* 5(No. 10), April 1990, 63 – 115.
- 42) Pagano, Marco, and Ailsa Roell (1993), “Front Running and Stock Market Liquidity”, in: Vittorio Conti and Rony Hainaut (eds.), *Financial Market Liberalization and the Role of Banks*, 178-199.
- 43) Persaud, Avinash D. (2014), “Why Bail-in Securities are Fool’s Gold,” Peterson Institute for International Economics, Policy Brief PB14-23
- 44) Pflleiderer, Paul (2015), “On the Relevancy of Modigliani and Miller to Banking: A Parable and Some Observations,” working paper.
- 45) Pflleiderer, Paul (2014), “Cameleons: The Misuse of Theoretical Models in Finance and Economics,” working paper.
- 46) Pozsar, Zoltan (2014), “Shadow Banking: The Money View,” Office of Financial Research, Working Paper 14-04, July 2004.
- 47) Roell, Ailsa (1990), “Dual-Capacity Trading and the Quality of the Market”, *Journal of Financial Intermediation* 1, 105-124.
- 48) Tobin, James (1967), “Commercial Banks as Creators of ‘Money’”, in: *Financial Markets and Economic Activity*, ed. Donald Hester and James Tobin, Cowles Foundation Monograph 21, Yale University Press, New Haven, CT.
- 49) Vestergaard, Jakob and María Retana (2013) “Behind Smoke and Mirrors: On the Alleged Recapitalization of Europe’s Banks,” DIIS Report.