

Taming the Two 800 Pound Gorillas in the Room

PRELIMINARY DRAFT:

NOT FOR QUOTATION WITHOUT WRITTEN PERMISSION

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1. Introduction

Earnest proclamations about systemic risk by politicians, regulators and academics have been de rigueur since the 2007-09 global financial crisis. In the United States, the 2010 Dodd-Frank Act created many new regulations and two new agencies to identify and act upon the alleged danger. The Office for Financial Research (OFR), housed at the U.S. Treasury, is supposed to collect and provide the data on potential systemic risks, and the Financial Stability Oversight Council (FSOC), chaired by the Secretary of the Treasury, is charged to act upon the information before they become a threat to financial stability. The European Commission established the European Systemic Risk Board (ESRB), chaired by Mario Draghi, to coordinate assessments of systemic threats and respond to them with appropriate regulatory actions. In 2009, the global Financial Stability Board (FSB), also chaired by Mr. Draghi, was established as the successor to the Financial Stability Forum, as a means of better promoting the reform and coordination of international financial regulation, again with a keen interest in systemic risk and its new cure: “macro-prudential regulation,” defined as regulations that focus not on the individual safety and soundness of institutions, but of the financial system as a whole. Since 2007, the International Monetary Fund (IMF) and Bank for International Settlements (BIS) have published numerous studies of systemic risk and macro-prudential regulation, as have all the world’s central banks.

What drives systemic risk, and what threats should be the primary concerns of macro-prudential regulation? How should macro-prudential regulation respond to those threats? In this paper, I do not attempt a comprehensive review of the theoretical and empirical literature on systemic risk and macro-prudential regulation. Rather than making lists of the items that track the complex discussions at the IMF, BIS, FSOC, ESRB and FSB, I ask which factors have proven to be the most important ones in causing actual banking systems to collapse over the past four decades.

My answer to this question is surprisingly simple, and quite different from the long list of potential contributors to systemic risk that appears in IMF, BIS, FSOC, ESRB and FSF documents, and in many refereed journal articles about systemic risk. There are two important systemic threats to financial stability: government policies that subsidize mortgage risk, and government policies that insure bank debts (and, more generally, that subsidize bank default risk through a variety of channels, including – but not limited to – “too-big-to-fail” protection). My discussion of these institutional threats to stability – which I label the “two gorillas” in the room during discussions of systemic risk and macro-prudential regulation – divides into four parts. First, in Section 2, I briefly review the evidence that these are the most important threats to systemic stability. As part of that discussion, I show that the two 800 pound gorillas are not really independent problems, but part of the same political equilibrium. The worldwide boom in the insurance of bank debt should be understood, in part, as a means for government to create off-budget rents that can be used, not only to prop up bank profits, but also to fund subsidies to certain classes of borrowers. Section 3 discusses the most obvious economic solutions to these problems (“just say no”), and discusses the less effective, partial solution to the problem that our policy making apparatus has identified (time-varying capital requirements, etc.). These policies

could be useful if they were credible, but regulatory policy is made within the same political system that created the two gorillas; the incentives of policy makers make it unlikely that the current prudential regulatory apparatus will produce systemic stability. Section 4 considers the incentive problems within economic research that have added to the problem by underplaying the importance of the two gorillas, and overplaying other more complicated, but less important, influences on systemic risk. In Section 5, I consider new approaches to regulatory design that try to reduce systemic risk while taking political constraints into account. Section 6 concludes.

2. What Drives Systemic Risk

One set of theories sees systemic risk as the result of complex counterparty risk dynamics, which can be magnified by certain financial market network structures to produce "domino effects" of institutional failure within the banking and broader financial systems.¹ For example, if losses lead banks to de-lever and sell off risky assets, the sudden dumping of these assets could cause their prices to fall, endangering the solvency of other institutions. Furthermore, if banks are linked to each other via interbank debts, interest rate swaps, and insurance contracts, then the failure of one institution can potentially bring down others as the failed institution is unable to make good on its contractual agreements. Networks can concentrate counterparty risk, sometimes unwittingly, if counterparties are unaware of their mutual exposures, which can magnify the consequences of the failure of one important nodal counterparty for the counterparty risks of other institutions.

¹ For convenience, I am lumping together into one group a vast and diverse body of research. I am also ignoring another body of research – often identified with Minsky (1975) – that sees banking crises as the inevitable consequence of irrational cycles of greed or fear. As Calomiris and Haber (2014) discuss, this class of explanations cannot account for the enormous variation over time and across countries in the propensity for banking crises.

There is some evidence (notably, from the non-representative case of the historical unit banking system of the United States) that fragile interbank networks can magnify counterparty risks and produce waves of financial distress and bank failures (see Mitchener and Richardson 2016, and Calomiris and Carlson 2016). Furthermore, the recent experience of the threat AIG's derivatives book posed to nodal counterparties, such as Goldman Sachs, provides at least a credible story of a potential threat under extreme circumstances.

But as much empirical research has shown, these sorts of concerns have not proved to be the main problem in recent decades.² Worldwide, two influences – both creatures of government policy – have proven to be the primary sources of trouble over the past forty years. First, the government insurance of the debts of banks (and other financial intermediaries, such as GSEs in the United States) has encouraged banks to increase their default risk substantially. Second, the subsidization of certain classes of targeted loans through various government policies has increased the riskiness of mortgages and increased the proportion of (highly correlated) risky mortgages in bank loan portfolios.

The reason it is so easy to have an opinion about what is important for banking stability today is that, unfortunately, econometricians have a lot of crisis cases to analyze. We are living through the worst pandemic of banking crises that the world has ever seen. Compared, for example, to the volatile four decades of 1874-1913, for example – a period that saw high and volatile levels of cross-border trade and financial flows, large amounts of bank credit relative to GDP, significant bouts of global deflation, widespread adherence to fixed exchange rates, and wild swings in terms of trade – the last forty years has seen about ten times as many major

² Demirguc-Kunt, Kane and Laeven (2008a), Calomiris and Haber (2014), Freixas, Laeven, and Peydro (2015), and Calomiris and Jaremski (2016a) collectively summarize much of the relevant research to which I refer.

banking crises worldwide (using the criteria of Laeven and Valencia 2012), and the average severity of those crises (measured by the negative net worth of failed banks as a fraction of their countries' GDP) is about five times as severe as during 1874-1913.³

It is obvious that the pandemic of banking crises cannot be explained as a consequence of the behavior of large, complex, systemically important banks, innovative derivative products, or risk-magnifying banking networks. Of the more than a hundred major banking crises over the past four decades, most have involved traditional banking activities of lending and deposit taking, and these crises have occurred in banking systems with dramatically different banking structures (such as the United States in 1980, and the United States in 2008). What common trends are visible around the world, which coincide with the run up in banking system fragility?

Jorda, Schularick and Taylor (2011) document the global rise in banks' exposures to default risk since the 1970s, reflecting the combination of leverage and increased risk-taking. Their study does not explain the pandemic of banking crises, but rather tracks the behavioral changes in risk management that have produced it. Two other recent studies by Jorda, Schularick and Taylor (2015a, 2015b) provide more of a causal hint: they show that the majority of banking crises in their sample of countries over the past several decades have reflected a combination of the high bank leverage and an increasing concentration in real estate lending (see Figure 2). It is not rocket science to understand that a financial system whose intermediaries use large proportions of short-term debt to finance risky real-estate assets -- assets with highly correlated

³ According to my calculations, from 1874 to 1913, banking crises that meet the Laeven and Valencia standard occurred ten times. Five of these were U.S. banking panics, none of which suffered negative net worth of banks greater than 0.1% of U.S. GDP. The other five (one in each of the following countries: Argentina, Australia, Brazil, Italy, and Norway) were more severe, averaging about 6% of GDP.

risks, that move in sync with the business cycle, and which are hard to liquidate during times when prices fall -- is especially vulnerable to systemic insolvency.

The Rise of Bank Protection

Why would the market let banks structure themselves this way? It wouldn't, if the market was deciding on their structure. In the United States, Fleitas, Fishback and Snowden (2015) and others show that prior to the establishment of a federal Savings and Loan charter and the insurance of short term S&L debts by the Federal Savings and Loan Insurance Corporation (FSLIC), residential mortgages were funded by a combination of long-term debt and equity, issued by Building and Loan Associations and Insurance Companies. Furthermore, mortgages tended to have low loan-to-value ratios, which meant that mortgage risk was borne primarily by the homeowner. Prior to 1913, national banks were prohibited from making any real estate loans, based on the conventional view in banking that short-term debt was an inappropriate means of funding real estate assets.

But the market is no longer in control of bank risk taking. When banks' liabilities are protected, the holders of bank debt cease to have an incentive to constrain bank risk taking. The United States was the first country to adopt bank liability insurance, beginning at the state level in the early 19th century. Despite repeated problems with these experiments, and despite opposition to liability insurance (including from President Roosevelt in 1933), proponents succeeded in passing federal deposit insurance as a "temporary" measure in 1933 (Calomiris and White 1994, Calomiris and Jaremski 2016a, 2016b). Deposit insurance coverage has become more generous over time in the United States, and now (as a consequence of CDARS regulatory arbitrage) covers virtually all deposits. Deposit insurance has spread (Figure 1) to other

countries, especially as a consequence of the active promotion of government insurance of banks in recent years by the World Bank, the IMF, and the EU. Ironically, the top banking researchers at the IMF and World Bank have been major contributors to the literature demonstrating the systemically destabilizing consequences of expanded insurance, but those researchers have had little role in shaping policy.

Calomiris and Jaremski (2016a) review the literature on liability insurance. That literature documents at great length the systemic risk-increasing role of liability insurance. Calomiris and Jaremski (2016a) argue that government insurance of banks should not be understood as an economic means of stabilizing banking systems, but rather as a political means of delivering subsidies to banks and certain targeted bank borrowers. Calomiris and Jaremski (2016b) provide one of the clearest examples of how deposit insurance removes risk-constraining market discipline and subsidizes bankers and their borrowers. They study the state-level U.S. deposit insurance systems created in the early 20th century. During the World War I agricultural boom, these banks expanded rapidly, and were able to divert funding from other unprotected banks that were not insured (e.g., national banks located in the states that adopted deposit insurance for their state-chartered banks). Insured depositors that had imposed rigid default-risk limits on state-chartered banks (and who continued to impose default risk limits on national banks) no longer enforced discipline on insured banks. Their default risks rose dramatically, as their loan-to-asset ratios and debt-to-asset ratios rose, and as they funded risky loans associated with the clearing of marginal lands in frontier areas. When agricultural prices fell (which should not be regarded as much of a surprise at the end of World War I), insured banks suffered heavy losses and failed in droves.

In countries with large, systemically important banks, liability insurance has been extended via “too-big-to-fail” protection to also prevent total losses for equity holders when losses materialize. Both these related subsidies boost bank profits by limiting the response of funding cost to risk, and thus, encourage banks to increase risk taking as a means of increasing their subsidies.

A necessary condition for the absence of market discipline to result in higher systemic risk is the failure of prudential regulation to limit risk or charge banks a proper risk-sensitive user fee for government protection. However, it is not always recognized that prudential regulatory failure may fail *on purpose*. Regulatory failure to limit risk may be part of a larger regulatory government strategy that seeks to fund bank risk taking outside the normal appropriation process of the government budget (via conveniently unmeasured government protection subsidies). In other words, if government seeks to create rents from subsidized risk taking, one would not expect it to then create a regulatory body that would prevent those rents from existing. A better model of regulation recognizes that the role of the regulators is to permit rent creation via risk subsidies while also directing a portion of the subsidies in part to targeted groups of borrowers through other financial regulations.

Subsidizing Real Estate Borrowers

In democracies, lending subsidies have largely been targeted to farmers and homeowners. The growth in regulatory subsidies for mortgages has occurred alongside the growth in protection of banks. In the United States, regulation initially favored agricultural mortgage borrowers, but in recent decades, and especially since the 1980s, it has focused on subsidizing urban residential mortgages (Calomiris and Haber 2014, Chapters 6-8). The prohibition on

national banks' real estate lending was relaxed in 1913 at the behest of agricultural borrowers who exacted this change as the price for their support of the Federal Reserve Act. Real estate lending subsidies were initially concentrated in the hands of agricultural borrowers (e.g., the Federal Land Banks were established in 1912). Over time, beginning in the 1930s with the creation of Fannie Mae, the Federal Housing Administration (FHA), and the Federal Home Loan Bank (FHLB) System, residential mortgages became the focus of regulatory subsidies. More recently, mortgage subsidies have also been targeted to inner-city and low-income borrowers via a combination of the Community Reinvestment Act (CRA) and the GSE Act of 1992 (Calomiris and Haber 2014, Chapters 7-8). For most commercial banks in the United States today, real estate loans now make up the vast majority of their on-balance sheet lending. Additionally, GSEs hold large portfolios of mortgages, and banks and GSEs fund mortgages with off-balance sheet mortgage securitizations.

Policies that target highly leveraged real estate funding and other policies that insulate bank and GSE debtholders from default risk work together to fund risky real estate. Debtholders are protected by deposit insurance, and by anticipated bailouts of large banks and GSEs, which removes the market discipline that would otherwise constrain systemic risk. The United States is only one example of this phenomenon. Government policies that protect banks and push them toward mortgage lending are visible throughout the world – for example, in India's public banks' commitment to funding mortgages (which accounts for the vast majority of mortgage credit), in Brazil's *Minha Casa, Minha Vida* program, in government-run Cajas' funding of the Spanish mortgage boom of the 2000s, and in the current U.K. "help-to-buy" program.⁴

⁴ Agricultural and residential mortgage borrowers are not the only classes of borrowers that are targeted for support by protected banks. In autocracies, where politicians are concerned with maintaining the economic health of their

Not only has risky mortgage lending produced instability around the world, it also has crowded out more productive uses of funds, with additional adverse consequences for economic growth. A recent OECD study by Cournede and Denk (2015) shows that in developed economies recent growth in bank credit has been associated with negative economic growth, a reversal of the typical positive link observed between bank credit and growth. The negative effect of credit in the OECD study is driven by the government subsidization of housing finance (largely mortgage finance), which not only has made financial systems vulnerable to collapse, it also crowds out the financing of other growth-producing investments.

Yes, Virginia, the Gorillas Are Married

Aside from the fact that the real estate lending share and government protection of banks have risen together over the past several decades, can one point to any other evidence showing that the two phenomena are connected? Calomiris and Chen (2016) study the relation between the expansion in government protection of bank deposits and the expansion in mortgage lending. They adopt the Demirguc-Kunt, Kane and Laeven (2008a, 2008b) model of the factors that determine the adoption and expansion of deposit insurance protection, and relate those influences to changes in subsequent bank behavior, including mortgage credit expansion.

The factors identified by Demirguc-Kunt, Kane and Laeven (2008a, 2008b) include external political influences, especially from the IMF, World Bank and EU. Those multilateral agency policies are exogenous with respect to individual country bank risk, and plausibly satisfy the exclusion restriction that they influence banking systems' risks only through the adoption of

crony network of industrialists and less constrained by populist pressures, industrialists are often the primary recipients of loan subsidies. Here, too, government protection of banks is a crucial means of creating the rents that are passed along to industrial borrowers, as in, for example, the case of Mexico (Haber 2005, 2008, Calomiris and Haber 2014).

deposit insurance policies. Calomiris and Chen (2016) use these external political influences as instruments for the adoption of insurance systems and the expansion of their generosity. They find that exogenous increases in deposit insurance protection result in higher loan-to-asset ratios, higher debt-to-asset ratios, and higher mortgage loan proportions for banks. The effects are statistically significant and economically important.

3. Why Is Policy So “Stupid”?

As one of Groucho Marx’s famous jokes goes, a patient says: “Doctor, it hurts when I do this (raising his arm).” To which the doctor replies: “Well, then, don’t do that!” In the same spirit, there is an obvious solution to the pandemic of systemic risk that afflicts banking systems around the world: Simply stop subsidizing bank risks and targeting subsidies to mortgage (and other politically favored) credit. Mortgage finance could be provided more efficiently and without generating systemic risk through insurance companies, real estate investment trusts, private securitization, and other intermediation techniques, funded by long-term debt and equity, as it was prior to the advent of targeted bank and GSE credit subsidies.⁵ Similarly, it would not be very challenging, as a matter of economics, to repeal deposit insurance and reinstate a proper lender-of-last-resort public policy regime that balances crisis prevention against the moral hazard of protection. Acharya and Thakor (2016) lay out the essential ingredients of such a system – intervening to assist banks during times of systemic threat, to avoid financial meltdowns, but otherwise permitting banks to fail and depositors to suffer losses – and Calomiris, Flandreau and

⁵ There is no reason to believe that short-term debt is necessary for funding real estate lending. In the models of Calomiris and Kahn (1991) and Calomiris, Heider and Hoerova (2015), where demandable debt is optimal, banks are making commercial loans, not mortgages. Commercial loans depend for their value on uncertain cash flows. Payoffs are hard to observe and may be subject to manipulation. Furthermore, there are many opportunities for observable risk shifting through changes in risk management by the banker. This model would not be appropriate to apply to the funding of mortgages, where the value of the loan is insensitive to such behavior so long as the loan-to-value ratio of the mortgage is kept reasonably low.

Laeven (2016) review the operation of this sort of lender-of-last-resort regime in many countries historically. As part of that arrangement, it would be desirable to strictly limit, rather than subsidize, banks' exposures to real estate lending, as a way to prevent banks from undertaking protected systemic risk.

The bad news is that such policy choices are simply not on the menu. Only an arrogant economist could attribute the colossal and persistent increase in systemic risk to the stupidity of policy makers. Politicians see the gorillas, they just pretend not to. The increase in risk is intentional and serves a purpose. It's not that politicians like risk or crises, per se, but they do like getting elected, and providing off-budget loan subsidies to constituents is a key means for their getting elected. Destabilizing subsidies are not just a means of ingratiating themselves to voters, they are a means of placating powerful, self-interested political intermediaries in the form of organized activist groups. Those groups help to organize and fund politicians' campaigns. The leaders of those groups accrue large benefits to themselves and their organizations by serving as conduits of loan subsidy programs (Calomiris and Haber 2014, Chapters 7-8). The problem is that the current pandemic of crises is part of a political *equilibrium*, and it may be a *stable* political equilibrium. Although crises give rise to angry protests against protecting bankers, it is interesting how rarely those protests focus attention on the two gorillas, much less make any progress in addressing these policy choices. Until and unless voters and powerful organized groups stop advocating bank protection and mortgage subsidies, there is little hope for deep reform.

Can prudential regulation provide a second-best solution to the abolition of deposit insurance and mortgage subsidies? Prudential regulatory tools clearly are sufficiently potent to

reduce mortgage lending, if policy makers wanted to use them for that purpose. Aiyar, Calomiris and Wieladek (2015) review the literature on the effects of capital requirements, and show that loan-supply elasticities in response to changes in capital requirements are large if the requirements are enforced (as in the United Kingdom, in the period 1998-2007). Similarly, Acharya, Ansari and Calomiris (2016) find that the macro-prudential regulation of real estate lending -- using changes in capital and provisioning requirements in India in the mid-2000s -- had economically significant effects on housing lending and commercial real estate lending.

But as many scholars have noted (Barth, Caprio and Levine 2006, 2012, Calomiris and Herring 2013, Calomiris and Haber 2014), more regulatory powers does not equate to the actual use of regulatory power. Regulators, after all, are part of the political regime, and as such they reflect the same allocation of political power that gives rise to deposit insurance protection and loan subsidies.

Regulatory errors in the United States in the years leading up to the crisis were too obvious to be accidents. Historically, U.S. money center banks had to hold 25% of their deposits in hard cash. This was meant not only to preserve the health of money center banks; requiring money center banks to have huge cash holdings was intended to stabilize other banks that relied on them for cash, and thereby bolster the system as a whole. But regulatory and market discipline on banks was put aside in recent decades in the interest of the political push for subsidized real estate credit (Calomiris 2009, Calomiris and Haber 2014, Chapters 7-8). Since the 1980s, as banks' holdings of real-estate loans and related securities grew dramatically, their cash assets (defined broadly as currency, reserves at the Fed, government bonds, and agency bonds) were permitted to fall dramatically. Broadly defined cash assets (cash plus Treasuries and agency

debts) for weekly reporting (large) Federal Reserve member banks fell from 20% of assets in 1987 to only 13.5% of assets by January 2008. Real-estate loans for these banks rose from 20% of assets to 33% over that same period, and that rising loan exposure does not take into account the enormous boom in banks' holdings of mortgage-backed securities, on or off their balance sheets, which played such an important role in the recent crisis.

Given that the United States has experienced two major real-estate-caused financial crises in the last three decades (the crisis involving banks and S&Ls in the 1980s, and the recent subprime crisis), and given that we have established a FSOC and OFR to identify systemic risks and prevent the recurrence of such crises, is it likely that regulators and politicians will now take the necessary actions to avoid another real estate-finance crisis in the future? Regulatory standards now require higher holdings of cash and reduced leverage, but if the riskiness of lending is sufficiently high, and if regulators fail to recognize losses in the economic (as opposed to book) capital of banks, then those safeguards will prove inadequate.

Most importantly, Dodd-Frank did little to roll back real estate finance subsidies or the government protection of banks and GSEs – indeed, GSE debts were exempted from its ban on bank proprietary trading, and Title II of Dodd-Frank institutionalized bailouts by writing a road map of how they will occur, and determining how they will be funded (by "fees," which are known to everyone outside of Washington as taxes), rather than preventing them. There has been no progress since then in winding down the GSEs or placing a credible ceiling on banks' credit risk exposures to real estate lending.

Furthermore, since Dodd-Frank, there has been visible *regress* already in government support of increasing mortgage risk. The Consumer Financial Protection Bureau (CFPB)

established by Dodd-Frank watered down the minimum quality standard for mortgages, permitting a maximum debt service-to-income ratio of 43% (Gordon and Rosenthal 2016), and using this criterion to define both the “QM” and “QRM” regulatory standards. These actions matter because the “qualified mortgage” (QM) and “qualified residential mortgage” (QRM) minimum standards provide, respectively, safe harbor against any liability of lenders for lending to borrowers that are unlikely to be able to repay their mortgages, and exception from the Dodd-Frank minimum five percent securitization retention standard. Another safe harbor from liability is provided by a mortgage’s eligibility for purchase by Fannie Mae or Freddie Mac. That safe harbor was substantially expanded by the recent debasement of GSE underwriting standards, which was accomplished by the Obama administration's appointment of Mel Watt to head the Federal Housing Finance Agency (FHFA). He immediately reduced the minimum down payment requirements for GSE mortgages from 5% to 3%, and also reduced FHA insurance premiums.

The result, measured by the American Enterprise Institute's Mortgage Risk Index, has been a rise in risky mortgages. Already, as of February 2016, 53.3% of the mortgages of first-time buyers (who account for 56.7% of mortgages) are "high-risk" mortgages. Over the past two years (since Mel Watt's relaxation of GSE lending standards), AEI's indices measuring their mortgage risk on first-time homebuyers' mortgages has risen from 14 to 15.8, an increase of 13 percent. Loose credit is helping to drive house prices higher, which is adding to the political pressures to further loosen mortgage underwriting standards. In addition to regulatory policy laxity, monetary policy is doing its utmost to promote short-term growth in housing, which is one of the few bright spots in the U.S. economy. Despite vast amounts of research demonstrating the potential perils to financial instability from monetary policy-induced bubbles in risky asset

prices, the Fed seems to look no further than the next quarter (or should I say, the next election?) in determining the stance of current U.S. monetary policy.

Needless to say, the FSOC and OFR - which are part of the same administration that appointed Mr. Watt and Ms. Yellen -- do not point to these developments as causes for concern. They are, however, busy checking all the new boxes created by the Dodd-Frank Act. The failure of the OFR, the FSOC, the Fed, and everyone else in official Washington to recognize that mortgage risk is rising again, or to try to do anything to limit it, is no surprise. Systemic risk from bank protection and real estate lending is the product of a political game that often produces bureaucracies whose job is either to magnify it or to create thousands of pages of reports and massive databases that unwittingly serve to distract attention from it. New prudential regulatory powers will not constrain systemic risk if they are vested in parties that don't even want to recognize the gorillas in the room, much less do anything to constrain them. This is not likely to end well.

4. *Conflicted Economists*

A part of the problem in focusing attention on the two gorillas is the relative dearth of interest among economists in pointing to them as key systemic threats. Although empirical research on deposit insurance has been uniformly negative in its conclusions about the relation between deposit insurance and systemic risk, few scholars discuss this problem in the context of recommending regulatory reform. Mortgage risk subsidies are widely recognized, and yet few economists write about the importance of repealing them (some exceptions include Rajan 2010, Acharya et al. 2011, Agarwal et al. 2012, Calomiris and Haber 2014).

Economists face incentive conflicts that are somewhat similar to those of regulators. It's not their money that is on the line as the result of systemic risk. Indeed, economists working on systemic risk face strong career incentives to focus on minor issues (e.g., network effects) and avoid the two gorillas.

Many of the research economists working on systemic risk are employed at central banks, or multilateral agencies. They are unlikely to put a thumb in their boss's eye, which would be a rather unwise career move.

Economists with university appointments working on systemic risk rely for a great deal of their funding and professional visibility on central banks and multilateral organizations. Those organizations control important conference agendas, data, attractive visiting appointments, and research grants. Writing papers that question the received wisdom promoted by these agencies will not earn you friends in high places. In contrast, cooperating with the status quo can be quite lucrative. Fannie Mae made a habit of giving generous research grants to scholars working on housing. When I was putting together a research project on GSEs' contributions to systemic risk in the 1990s, more than one professor declined to participate for fear of retaliation. In the early 2000s, Fannie Mae hired two former Chairs of the President's Council of Economic Advisers (one a Democrat, the other a Republican) to write white papers extolling the virtues of GSE involvement in the mortgage market and confidently predicting, in one case, that government implicit backing for GSE debt would never cost the taxpayers "a dime."

And there is more to the incentive conflict than rank careerism or venality. Economists enjoy writing about complicated things, and referees and editors at journals want to publish original contributions to knowledge. A complex mathematical treatment of network propagation

of crises, or of how derivatives counterparty risk should be modeled is likely to do much better at a top refereed journal than an article that reminds readers of the threats posed by transparently simple things like 100% deposit insurance, 97% loan-to-value limits on mortgages, or excessive mortgage exposure in the banking system. Important boring things just don't get as much attention from economists as unimportant interesting ones.

5. Making Policy Smarter

Once one takes account of the political economy of regulation and supervision, successful reform becomes much more challenging. But it is not impossible for a democracy in the current era to limit the subsidies for risky mortgage credit and banking. After all, some democracies (e.g., Canada) have never suffered a banking crisis, despite greater GDP volatility than the United States (which has suffered 17 major banking crises over the past 225 years). What can we learn from such success stories, and more broadly, how should we go about building a smarter regulatory apparatus in a manner that is mindful of the political constraints we face?

First, the bad news. Despite many similarities between the United States and Canada, it is very hard for countries like the United States to imitate Canadian regulatory policy. As Calomiris and Haber (2014, Chapter 6-9) show, Canada's banking stability is a consequence of its ability to prevent special interests from controlling regulatory outcomes. The constitutional differences between the two countries' political systems are surprisingly deep, owing to their fundamentally different political history. Canada's constitution was designed to limit the potential for populist forces to form coalitions to capture control of banking regulation (and other economic policies) for purposes contrary to the national interest. In contrast, the United States – a country formed in revolution – has been unusually prone to populist pressures in banking regulation.

One cause for optimism in the United States, however, is evidence that American voters (as distinct from organized groups) do not seem to be keen on rewarding politicians for *expansions* of mortgage credit. Antoniadis and Calomiris (2016) analyze the last two decades of U.S. Presidential elections and find that expansions in local credit supply (measured at the county level) do not favor incumbents with additional votes. In contrast, *contractions* in credit supply have major adverse consequences for votes received by the incumbent party. They infer that pressures from organized groups are mainly responsible for expansions of mortgage subsidies, although voters will punish withdrawals of subsidies.

This is cause for some optimism because it implies that reform undertaken early in the credit cycle (now, before a crash becomes inevitable) will not entail huge electoral consequences. So, politicians may be interested in reform, so long as organized groups do not oppose it. A potentially successful approach for reforming the system, therefore, must identify actions that reduces mortgage subsidies in a way that will not be torpedoed by important organized groups. Those groups include urban activist organizations and trade associations for builders and real estate brokers.

It would not be trivial to identify such a reform package, but neither is it inconceivable. For example, introducing a generous, means-tested down payment matching subsidy for low-income, first-time home buyers -- as a substitute for subsidizing leverage (via FHA, FHLBs, GSEs, and CRA) for virtually the entire housing market – would target assistance in a way that would have smaller undesirable consequences for boosting home prices and greater influence on home ownership by low-income families. It would also decrease leverage, thereby improving housing market stability and decreasing foreclosure risks for the poor. The main obstacle to this

plan, judging from my conversations with politicians, seems to be finding a way to make it hard to eliminate (by future coalitions of legislators) once it has been passed by the current coalition. In other words, something like giving downpayment matching “entitlement status” may be necessary to get the deal to happen. Would crucial interest groups oppose such an arrangement? Although urban activists groups may be tempted to oppose such an arrangement (precisely because it eliminates them as middlemen in delivering subsidies), it would be hard for them to oppose it publicly.

Reducing deposit insurance coverage will be challenging, too, but not impossible. For example, a politician might focus on how its current structure (especially CDARS) benefits the rich excessively. Rolling back coverage by eliminating CDARS (which allows millions of dollars of deposits to be covered using interbank swap contracts) might be relatively easy.

Assuming that the political ingredients could be identified to make reform possible, Calomiris (2011) describes the design aspects of regulatory reform that would be necessary to make it reliably successful in taming the two gorillas. Credible reform focuses on the incentives of the regulated and the regulators. That approach favors simple, transparent reforms that target market outcomes that measure stability (which bankers cannot easily game) and that make regulation and supervision accountable (which lessens the reliance on regulatory discretion). In part, that means moving away from complex Basel-style calculations that regulators and bankers control toward measures of achievement based on observable market measures.

For example, Calomiris (2011) and Calomiris and Herring (2013) propose a CoCos requirement that sets high market-based triggers for convertible debts that incentivize banks to maintain high ratios of the market value of equity relative to the market value of their assets.

Calomiris (2011) argues in favor of simpler cash reserve requirements, rather than the complex Basel liquidity requirements, partly for the sake of simplicity and transparency (and partly, on theoretical grounds, as argued in Calomiris, Heider and Hoerova 2015). Similarly, using all-in spreads charged on loans as a key means of measuring loan risk avoids the manipulated discretion of the Basel approach, and is likely to result in measures of loan risk that are more reliable. Making greater use of ratings of securities by Nationally Recognized Statistical Ratings Organizations (NRSROs) could take some of the pressure off of unreliable internal models of risk, so long as the reliability of ratings could be improved. One approach would be setting standards that objectify the meaning of ratings (BBB = a forecast of a 2% chance of default within five years of origination), alongside penalties on NRSROs for understating risks (e.g., six month sit outs from NRSRO status with respect to some class of securities if the moving average of actual defaults lies sufficiently above forecasted defaults).

Barth, Caprio and Levine (2012) argue for the potential advantages of creating a truly independent oversight group (the “Sentinel”), housed outside the regulatory agencies, that would identify systemic risks, including regulatory and supervisory shortcomings. A small and productive first step in that direction would be to remove the Office for Financial Research from the U.S. Treasury, which serves to undermine its ability to undertake truly independent assessments of systemic risk, and place it in a more neutral part of the Executive Branch (it was originally conceived to reside in the Commerce Department).

6. Conclusion

It is high time that economists and policy makers stopped ignoring the two 800 pound gorillas that drive systemic risk. The protection of bank deposits (and other sources of funding) and the

targeting of risk-promoting mortgage subsidies are the primary sources of systemic risk in banking systems around the world.

These two threats are related. Deposit insurance protection (without offsetting strict prudential regulation and supervision) creates rents outside the normal budgetary process that funds and encourages risk taking. Governments create rents from protection of banks not just to reward bankers, but also to target credit subsidies to preferred groups of borrowers. The same regulatory system that devises deposit insurance and prudential regulation typically also creates a host of influences that guide credit to preferred borrowers.

Tackling these twin problems with macro-prudential regulation is difficult because the agencies charged with regulatory oversight are subject to the political influences that give rise to these gorillas in the first place. Furthermore, the incentives of economists tend to make them accomplices in the drama that underestimates the importance of the primary threats to systemic stability, while overestimated less important influences, such as network effects.

What is necessary is a fundamental restructuring of the banking system that (1) reduces deposit insurance protection, (2) eliminates mortgage risk subsidization, (3) restores a robust lender of last resort to tackle systemic risk (in place of deposit insurance), and (4) places strict limits on the funding of real estate risk through the banking system.

Any strategy for reducing systemic risk must be informed by political reality. Economists should approach systemic risk as a bargaining problem in the field of political economy. The problem has two parts: identifying compromises that appeal to crucial blocking groups (logrolling) and constructing robust regulatory mechanisms that are designed to be able to

achieve their desired results. With respect to the latter goal, simple and transparent mechanisms that use market outcomes to set standards and measure compliance are likely to be much more successful than opaque approaches (such as Basel) that rely on the hidden actions of bankers and regulators.

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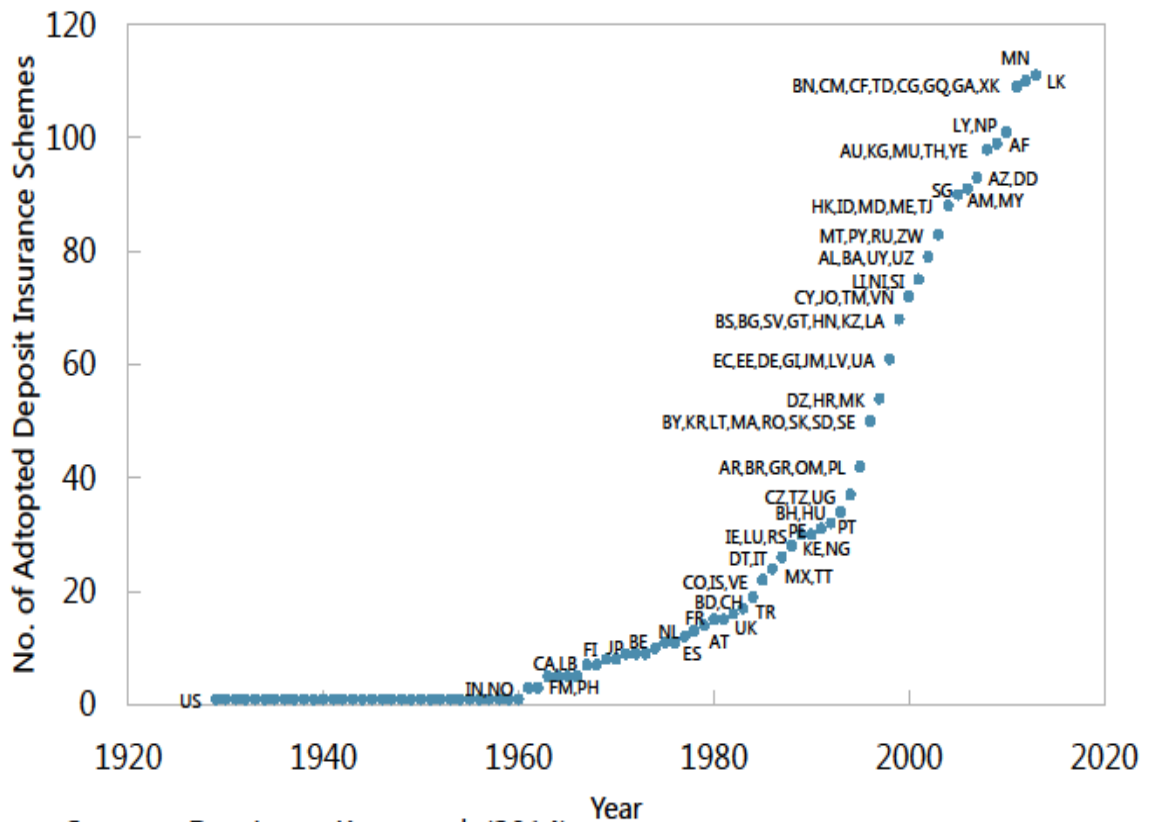
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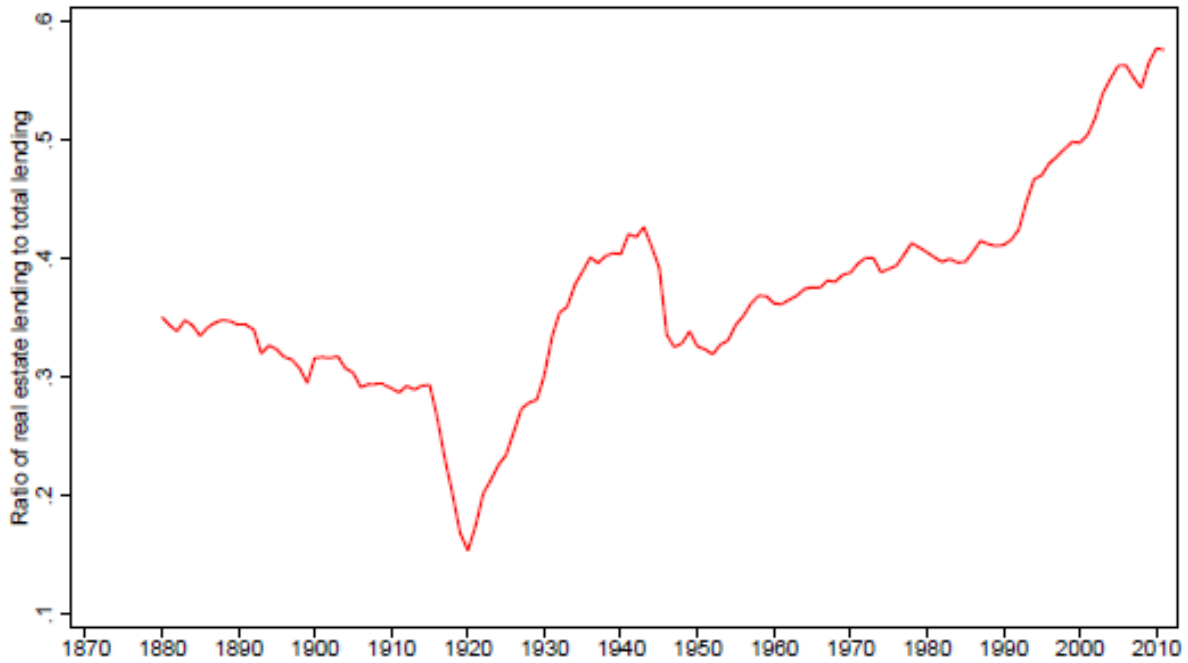
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Figure 1. Adoption of Deposit Insurance



Sources: Demirgüç-Kunt et al. (2014)

Figure 2: Real Estate Lending / Total Bank Lending



Notes: Share of real estate lending to total lending averaged across 17 countries. Before 1880 the sample size is too small for use. See text.

Source: Jorda, Schularick and Taylor (2016a).