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Kenneth W. Dam**

I. Introduction

The global subprime crisis that erupted in mid-2007 unleashed a torrent of analysis in the US.[1] Its impact in some other countries equaled or exceeded that

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* This paper reflects a number of informal talks and more formal lectures I gave in 2007 and 2008 in Frankfurt, Bonn, Berlin, Bamberg, Halle, Schloss Elmau (Bavaria), and Munich in connection with my work in Germany under the 2007–08 Raimar Lüst Prize awarded by the Humboldt and Thyssen Foundations. In the Autumn of 2008, the subprime crisis (which erupted just as I arrived in Germany in the summer of 2007) morphed into a full-scale credit crisis and then into a worldwide recession. Analyses appearing during those later periods, as well as in the run-up to the G20 summit conferences in April and September 2009, threw considerable light on the issues that had earlier been at the center of the discussion of the subprime crisis. I have therefore relied on those later publications and discussions in a number of US and international forums in considering proposed reforms.

I thank the two foundations listed above for their support and my three German host institutions (the Munich Intellectual Property Law Center, the Institute for Law and Finance in Frankfurt, and the Stiftung Wissenschaft und Politik in Berlin) for their hospitality, my fellow members of the Shadow Financial Regulatory Committee for ongoing discussions, as well as the following readers of prior drafts for their penetrating comments: George Kaufman, Roger Kubarych, Robert Litan, Vikram Mehta, Richard Posner, and Kenneth Scott.

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1 The subprime crisis is usually dated as arising in August 2007 because that is the month when commercial paper financing of the purchase of mortgage securities dried up. But, particularly in retrospect, it is possible to date it earlier in 2007. For example, in February 2007, New Century Financial, a large subprime mortgage originator, made headlines by going bankrupt. In July 2007, several Bear Stearns hedge funds collapsed. See *Fed Chairmen and Presidents: Roundtable with Roger Kubarych and Richard Whalen*, Inst Risk Analyst (Institutional Risk Analytics 2008), online at http://us1.institutionalriskanalytics.com/pub/IRAstory.asp?tag=320 (visited Nov 21, 2009) (relating remarks of Roger Kubarych, Chief US Economist of UniCredit Global Research, on the breakdown of the financial system). See also Edward Gramlich, *Subprime Mortgages: America's Latest*

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in the US, in part because financial institutions elsewhere in the world purchased securities issued by US-based financial institutions and secured by mortgages on US real estate.[2]

The spread of the subprime crisis abroad has several implications. The reach and impact of the "made in America" subprime crisis has generated an urgent international issue engaging many central banks and finance ministries, as well as a wide variety of international bodies, especially the Basel-based international institutions, such as the Financial Stability Forum (renamed the Financial Stability Board in 2009) and the Basel Committee on Banking Supervision. The purchasers of these US mortgage securities were not simply victims. Many of the world's most sophisticated banks bought these securities, usually without doing their own investigation and analysis and almost certainly without adequate due diligence. And they did so because, like many US purchasers, they sought higher returns than elsewhere available.

The underlying theme of this paper is thus that an analysis of the subprime crisis and proposed solutions is incomplete if international and comparative perspectives are not brought to bear. Contrary to popular impression, securitization (the pooling of loans, including mortgage loans, into securities) is common throughout the world.[3] In Germany, mortgage-backed securities have been common for at least 200 years.[4] In Asia, securitization markets are growing,

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Boom and Bust (Urban Institute 2007); Greg Ip, *Did Greenspan Add to Subprime Woes?*, Wall St J B1 (June 9, 2007). For a chronology of relevant events in the early months of 2007, see Claudio Barrio, *The Financial Turmoil of 2007–?: A Preliminary Assessment and Some Policy Considerations*, Bank for Intl Settlements Working Paper 251 at 26 (2008) (providing a chronology of key events between April 2, 2007 and February 28, 2008 relating to the financial crisis).

2 According to an April 2008 report of the International Monetary Fund ("IMF"), "subprime-related losses" reported as of March 2008 totaled $288 billion, of which $144 billion were incurred in the US and $123 billion in Europe. The IMF estimated that additional expected losses of $95 billion would be incurred, of which $49 billion would be incurred in the US and $43 billion in Europe. *Global Financial Stability Report: Containing Systemic Risks and Restoring Financial Soundness*, IMF World Econ & Fin Surveys 52 (Apr 2008). A later IMF report in October 2008 pointed to additional losses but on a non-comparable basis. *Global Financial Stability Report: Financial Stress and Deleveraging, Microfinancial Implications and Policy*, IMF World Econ & Fin Surveys 17, 67 (Oct 2008). With the advent of the full-scale credit crisis, losses multiplied and it was no longer meaningful to attempt to estimate what portion was attributable to subprime issuances and what proportion was attributable to broader causes. For information on overall credit losses (not limited to subprime securities or securitization) and on related economic losses, see Committee on Capital Markets Regulation ("CCMR"), *The Global Financial Crisis: A Plan for Regulatory Reform* 7–11 (May 26, 2009).

3 See Theodor Baums and Eddy Wymeersch, eds, *Asset-Backed Securitization in Europe* 3–7 (Kluwer 1996); Theodor Baums, *Asset Securitization in Europe* 3 (Forum Internationale 1994).

4 Baums and Wymeersch, *Asset-Backed Securitization in Europe* at 87–88 (cited in note 3).

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in part because of the underdeveloped state of Asian bond markets.[5] Indeed, US authorities have often looked to European precedents for reform. For example, a US Secretary of the Treasury called for adoption of the European institution of "covered bonds" for financing home mortgages.[6]

As C.A.E. Goodhart has pointed out, the crisis was "an accident waiting and ready to happen"[7] based on very low interest rates in the US, UK and the Eurozone; the "Great Moderation" (an unparalleled period of low and stable inflation); and the tendency of the Federal Reserve during the chairmanship of Alan Greenspan to increase liquidity and lower target interest rates promptly whenever financial markets weakened sharply, also known as the "Greenspan put."[8]

> In many respects, this crisis was foreseen in advance. Almost every central bank which published a Financial Stability Review, and international financial institutions, such as the BIS and IMF, which did the same, had been pointing for some time prior to the middle of 2007 to a serious under-pricing of risk. This was characterised by very low risk spreads, with differentials between risky assets and safe assets, having declined to historically low levels. Volatility was unusually low. Leverage was high, as financial institutions sought to add to yield, in the face of very low interest rates. Those same institutions were apparently prepared to move into increasingly risky assets in order to do so, often leveraging themselves several times in pursuit of that objective.[9]

The Goodhart analysis suggests that the subprime crisis would not have occurred if it had not been for very low interest rates, the Great Moderation, and the Greenspan put. But the crisis did occur and it centered on the subprime mortgage market. Perhaps that was because of a factor not discussed by Goodhart: the long period of steadily increasing US housing real estate values that led to a popular view that home prices would continue to appreciate and certainly would not fall. But prices did stop rising, and in fact fell with resulting widespread mortgage defaults.[10] But since Goodhart's three factors (minus

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5 Eiichi Sekine, Kei Kodachi, and Tetsuya Kamiyama, *The Development and Future of Securitization in Asia*, Draft for the 4th Annual Brookings-Tokyo Club Conference 3–4 (Oct 16, 2008), online at www.tcf.or.jp/data/20081016_Sekine_Kodachi_Kamiyama.pdf (visited Nov 21, 2009).

6 Covered bonds will be discussed later in this paper. See Section V.D.

7 C.A.E. Goodhart, *The Background to the 2007 Financial Crisis*, 4 J Intl Econ & Econ Policy 331, 340 (2008).

8 Id at 332–33.

9 Id at 331.

10 See David Rubenstein, *The Impact of the Financial Services Meltdown on the Global Economy and the Private Equity Industry*, Carlyle Group 7, 15 (Oct 15, 2008), online at http://wikileaks.org/leak/caryle-group-financial-crisis-2008.pdf (visited Nov 21, 2009). On the role of housing price increases, see Robert J. Shiller, *The Subprime Solution: How Today's Global Financial Crisis Happened and What to Do About It* 29–85 (Princeton 2008).

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arguably the Greenspan Put[11]), as well as steadily rising home prices were, until recently, common in many countries and particularly in Europe, a comparative country analysis of financial regulation is justified. This comparative approach is particularly appropriate in view of the fact that some of the weak aspects of US practice—notably off-balance sheet vehicles such as structured investment vehicles (SIVs) and conduits—were also found elsewhere, particularly in German banking.

A factor that became increasingly obvious as the 2007 subprime crisis evolved into the 2008 credit crisis was the excessive leverage in the economies and particularly in the banks of the US and Europe.[12] However, household leverage was greater in the US than in Europe, especially more than in Germany where household leverage has been relatively unpopular with most German families. Aggregate US household debt rose from approximately 50 percent of annual income in 1980 to roughly 100 percent in 2007.[13] This rise was associated not just with the housing boom and the refinancing of home mortgages to extract equity for personal consumption, but also with the popularity of credit cards as a way to boost personal consumption even for people without houses or other real estate. Data from the Organization for Economic Cooperation and Development (OECD) show that German personal savings rates have remained at or above the 10 percent level while US personal savings rates fell deeply into

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11 The European Central Bank has a mandate focused on fighting inflation, whereas the Federal Reserve has, by statute, a dual mandate of fighting inflation while also promoting growth and employment, leading to different policies. This statutory mandate long preceded Greenspan's tenure as Chairman of the Federal Reserve, and may be attributed to populist and/or political attitudes in the US Congress. As a result of its prime focus on inflation, the European Central Bank has, at least until quite recently, been less willing than the Federal Reserve to reduce interest rates in times of weak economic growth. On the other hand, there is good reason to believe that the Federal Reserve, which had lowered rates and increased the money supply to fight the short recession at the beginning of the decade, continued that policy for too long. See John B. Taylor, *Getting Off Track: How Government Actions and Interventions Caused, Prolonged and Worsened the Financial Crisis* 1–6 (Hoover Inst 2009).

12 Leverage in the financial sector rose in part because, taking the case of the US, the "share of lending by US banks to the US financial sector—instead of to the real economy—went from 60 per cent of the outstanding loan stock in 1980 . . . to more than 80 per cent in 2007." Dirk Bezemer, *Lending Must Support the Real Economy*, Fin Times (Nov 5, 2009), online at http://www.ft.com/cms/s/0/547d2fd8-c977-11de-a071-00144feabdc0.html (visited Nov 21, 2009).

13 See Financial Services Authority, *The Turner Review: A Regulatory Response to the Global Banking Crisis* ("Turner Review") 18, Exhibit 1.10 (2009), online at http://www.fsa.gov.uk/pubs/other/turner_review.pdf (visited Nov 21, 2009).

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single digits in this past decade, and even beyond into negative territory on occasion.[14]

In the financial sector, leverage was exploited more in Europe than in the US. European banks were leveraged to a far greater extent than US banks: "The dozen largest European banks have now on average an overall leverage ratio (shareholder equity to total assets) of 35, compared to less than 20 for the largest US banks."[15] In 2007, the leverage ratio (defined as total assets to equity) was 63.9 for UBS, 54.5 for Deutsche Bank, and 52.7 for Barclays Bank.[16] The extent of the leverage was not widely known at the time because regulatory authorities used measures such as "Tier 1 equity" and not the gross leverage measure of total assets to equity (that is, common stock only, not counting preferred stock or hybrid securities such as debt convertible into common stock). So, for example, Deutsche Bank's gross leverage grew from under thirty to well over fifty between 2003 and 2009, while its Tier 1 regulatory measure remained essentially flat.[17] According to one important study, banks in Germany used leverage to a greater extent than banks in any of the other eleven financially most significant countries in the world.[18] The problem of high European bank

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14 See Organization for Economic Cooperation and Development ("OECD"), *Household Net Saving Rates* (Apr 13, 2007), online at http://www.swivel.com/data_sets/spreadsheet/1004855 (visited Nov 21, 2009).

15 Daniel Gros and Stefano Micossi, *Gros and Micossi: The Beginning of the End Game . . .*, in Andrew Felton and Carmen M. Reinhart, eds, 2 *The First Global Financial Crisis of the 21st Century* 317, 319 (VoxEU.org 2009), online at http://www.voxeu.org/reports/reinhart_felton_vol2/First_Global_Crisis_Vol2.pdf (visited Nov 21, 2009). Consider *Global Financial Stability Report: Financial Stress* (cited in note 2). Even under a Basel I risk-weighted approach (as opposed to a pure leverage ratio, in which bank assets are not risk-weighted), US banks were considerably more conservative (that is, more highly capitalized) than EU banks. See Rym Ayadi, *Basel II Implementation in the Midst of Turbulence*, Centre for European Policy Studies Task Force Report 17 Table 1 (June 2008); Karel Lannoo, *Concrete Steps Towards More Integrated Financial Oversight: The EU's Policy Response to the Crisis*, Centre For European Policy Studies Task Force Report 10–11 (Dec 2008).

16 David Ladipo and Stilpon Nestor, *Bank Boards and the Financial Crisis: A Corporate Governance Study of the 25 Largest European Banks* 49 Exhibit 3.1 (Nestor Advisors 2009). Although these leverage ratios are revealing, the existence of huge off-balance sheet exposures makes it difficult to form judgments as to where the greatest degrees of leverage are to be found. Joseph Mason states that off-balance sheet exposures were over fifteen times greater for US banks than on-balance-sheet exposures. Joseph Mason, *Off-Balance Sheet Accounting and Monetary Policy Effectiveness*, RGE Monitor (Dec 17, 2008), online at http://www.rgemonitor.com/financemarkets-monitor/254797/off-balance_sheet_accounting_and_monetary_policy_ineffectiveness (visited Nov 21, 2009).

17 See Ladipo and Nestor, *Bank Boards and the Financial Crisis* at 54 Exhibit 3.7 (cited in note 16). This is an example of why many commentators and experts thought that most large banks were well capitalized until the subprime crisis led to a financial banking meltdown.

18 Elijah Brewer III, George G. Kaufman and Larry D. Wall, *Bank Capital Ratios Across Countries: Why Do They Vary?*, Paolo Baffi Centre Research Paper Series No 2008–28 (2008), online at

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leverage was compounded by the fact that more of the largest banks in the world were to be found in Europe than in the US. Similarly, as discussed in Section II.C.4, both German banks and US banks made use of off-balance-sheet vehicles for their transactions in subprime mortgage securities. The combination of the use, not just in the US but also in Germany and Europe as a whole, of off-balance sheet vehicles and excessive leverage will be revisited at various points in this paper.[19] Moreover, European banks have been far more exposed to borrowers in the emerging market countries than US banks,[20] a fact that became important in the precipitate decline of many emerging market stock markets and exchange rates in October 2008, particularly in Eastern European countries that had been favorite lending and investment destinations for European financial institutions.[21]

In order to illustrate parallels in the subprime crisis across countries, I begin in Section II by reviewing the structural and historical similarities between various financial institutions, using German and US banks as examples. Section II further discusses the fragmentation problem as it exists in the US (because of the many regulatory entities) and in Europe (because of separate regulation in each country) and the concerns raised by the so-called "shadow banking system." In Section III, I analyze the history behind the economic crisis and the securitization process itself to explain why bank regulation is necessary. Section IV further investigates the causes behind the regulatory failure, and Section V makes some recommendations, identifying specific areas for improvement.

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http://ssrn.com/abstract=1264914 (visited Nov 21, 2009). Leverage also tended to grow steadily after 2001; for the UK example, see *Global Financial Stability Report* at 9 Chart 1.9 (cited in note 2).

19 Indeed, the notion that the subprime crisis was a purely US phenomenon may hide the fact that the broader causes of the credit crisis of 2008 were much the same in Europe as in the US. According to Arnoud Boot, a professor of finance and banking at the University of Amsterdam, the "subprime loan crisis may have been the trigger . . . but dangers like too much leverage, too little oversight and an executive-bonus culture that encouraged risk-taking had been building for years in Europe, just as in the United States." Nelson D. Schwartz, *US Missteps Are Evident, But Europe Is Implicated*, NY Times B1 (Oct 13, 2008).

20 The exposure of European banks to emerging markets is roughly ten times greater than the exposure of US banks. Institute of International Finance, *Capital Markets Monitor* 7 Chart 3 (Nov 2008).

21 See David Oakley, *Fitch Downgrades Four Emerging Markets*, Fin Times (Nov 10, 2008), online at http://us.ft.com/ftgateway/superpage.ft?news_id=fto111020081156511280 (visited Nov 21, 2009); David Oakley, *Emerging Market Default Risk Grows*, Fin Times (Nov 5, 2008), online at http://www.ft.com/cms/s/0/7fba94ba-ab5f-11dd-b9e1-000077b07658.html?nclick_check=1 (visited Nov 21, 2009); Desmond Lachman, *Europe Catches Pneumonia*, Intl Econ Outlook No 2 at 4–5 (Nov 2008).

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II. FINANCIAL INSTITUTIONS IN EUROPE AND THE UNITED STATES

Finance in Europe remains, despite the efforts toward economic integration, a national industry from the standpoint of most European economic regulation, particularly bank supervision. As we shall see below, the role of the individual states in the US has diminished steadily, especially in the last half century. The EU has been more concerned with enabling banks from one member state to penetrate lending and other financial markets in other member states than it has been in bringing about an integrated system of EU-wide bank supervision or even in creating uniform bank supervisory practices across the EU. Thus, it is appropriate to look at a specific country when analyzing solutions to the problems highlighted by the subprime crisis. Germany serves as an ideal country for that purpose. Germany has the largest financial markets in Europe, next to the UK.[22] Germany was more dramatically impacted by the subprime crisis than other European countries. And Germany was historically a pioneer in the development of real estate finance through the institution of the Pfandbrief,[23] the original example of a covered bond.

A. Banks in Germany

When one thinks of financial services in Germany, one immediately thinks of the banks. In contrast, there have been, until recently, many large financial firms in the US that are not banks in the sense that they do not take consumer deposits. In the jargon of finance, they are not depository institutions. Goldman Sachs has been a world-famous example.[24]

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22 In one sense, the UK presents a special case in the EU because, like some other EU members (but unlike Germany), it is not in the Eurozone and therefore its banks are not directly affected by the European Central Bank, whereas the Eurozone national central banks, such as the German Bundesbank, have ceded important monetary roles to the European Central Bank (although, as we shall see, they may remain empowered in the area of bank supervision). In the particular case of Germany, as discussed below, the German Bundesbank has lost its lead role in bank supervision to a financial services authority-type institution that is responsible for securities, insurance and banking regulation. See Section II.A.

23 See Section V.D (describing the Pfandbrief as a type of covered bond).

24 On September 21, 2008, Goldman Sachs announced that it would become a bank holding company regulated by the Federal Reserve and would offer insured deposits (through a bank subsidiary). It is striking that Goldman Sachs was already so large that it thereby immediately became the fourth largest bank holding company in the US. See Goldman Sachs Press Release, *Goldman Sachs to Become the Fourth Largest Bank Holding Company* (Sept 21, 2008), online at http://www2.goldmansachs.com/our-firm/press/press-releases/archived/2008/bank-holding-co.html (visited Nov 21, 2009). Goldman Sachs already had two bank subsidiaries, "Goldman Sachs Bank USA and Goldman Sachs Bank Europe PLC—which, together, hold more than $20 billion in customer deposits." Id. On the same day, Morgan Stanley, another large investment

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Within Germany, the banking system involves three types of institutions: commercial banks, savings banks (including the Landesbanken), and cooperative banks.[25] Only the commercial banks are privately owned in a strict sense.[26] The fact that roughly half of bank deposits are not in truly private-sector institutions comparable to US private-sector banks might suggest to an American observer that privatization of publicly owned banks would greatly improve efficiency and hence contribute to economic growth.[27] But aside from the Postbank, there is very little movement toward privatization for the sensible reason that most non-private banks, especially the local savings banks, give good and low-cost service both to local depositors and to local borrowers.[28] Still, the removal earlier in this decade of the state guarantee from the Landesbanken (as a result of an EU decision that the German guarantee was an unlawful state aid under the EU treaty) was potentially a step toward partial privatization.[29] In any event, there are many fewer banks in Germany than in the US, even when adjusted for population.

B. Banks in the United States

The history of banking in the US is exceedingly complicated. At the beginning of the nineteenth century, the US had a dual banking system, in which

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bank, was granted permission to become a bank holding company. Today all of the large investment banks have been transformed into bank holding companies or have been acquired or have otherwise disappeared (with Lehman declaring bankruptcy).

25 Consider Allan Brunner, et al, *Germany's Three-Pillar Banking System* (IMF 2004). See also id at 5 ("Most cooperative banks concentrate (voluntarily) on their respective local markets and do not compete with one another . . . . Cooperative banks are owned by their fifteen million members, who are also their depositors"). They thus are not publicly owned, but also do not function like competing private sector banks. On the three-pillar system, see Andreas Hackethal, *German Banks and Banking Structure*, in Jan P. Krahnen and Reinhard H. Schmidt, eds, *The German Financial System* 71–101 (2004); Eric O. Smith, *The German Economy* 319–44 (Routledge 1994); Hans H. Bleuel, *The German Banking System and the Global Financial Crisis: Causes, Developments and Policy Responses*, Dusseldorf Working Papers in Applied Management and Economics at 10–12 (2009), online at http://ssrn.com/abstract=1365813 (visited Nov 21, 2009).

26 Savings banks (Sparkassen) are found in every Germany city and town, and most German citizens hold deposits in these savings banks. Alina Carare, et al, *Germany: Selected Issues*, IMF Country Report No 06/436, 76 n 70 (Dec 2006) ("Landesbanken are owned by the Länder government(s), Sparkassen (which are in turn owned by municipalities or their associations, and in some cases by other public sector bodies).").

27 The special structure of German banking created difficulties for banking reform, especially for reforms based on increased capital requirements because "co-operative and publicly-owned banks . . . are unlikely to be able to tap capital markets." James Wilson, *German Bankers Fear Impact of New Rules*, Fin Times 4 (Sept 21, 2009).

28 See Andy Mullineux and Eva Terberger, *The British Banking System: A Good Role Model for Germany?*, Anglo-German Foundation Report 18 (June 2006).

29 Carare, et al, IMF Country Report No 06/436 at 77 ¶ 129 (cited in note 26).

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both states and the national government could and did charter banks.[30] However, each state could essentially decide what kind of banking structure it wanted in its state, even with respect to nationally chartered banks. Many states had quite restrictive branching rules. To take an extreme example, Illinois permitted no branches whatsoever. Each Illinois bank could have only one office. Eventually, through state and federal legislation, this preposterous imitation of small town America gave way to economic reality. Today, thanks to the 1994 Riegle-Neal Act,[31] banks can merge and branch on a countrywide basis.[32] This legislation put an end to most state protectionism in banking.[33]

Consequently, the number of banks in the highly decentralized US system fell from over 14,000 to about 7,000 and continues to fall—though the increase in the number of bank branches has assured that bank buildings appear far more numerous than in the past.[34] An interesting example of the change is that the Bank of America, a historically renowned San Francisco bank now headquartered in North Carolina, now employs more than 200,000 people as a result of mergers over the last decade and has become the largest US bank.

Another major difference between Germany and the US is that "universal banking"[35] was not possible in the US until relatively recently. It is true that universal banking was common in the US prior to 1933, but it was then outlawed in the Glass-Steagall Act by Congress, which blamed universal banking for the Great Depression.[36] As a result, two separate financial services industries grew up: commercial banking for loans and investment banking for securities. However, the US gradually returned more or less to universal banking through a

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30 Consider Kenneth E. Scott, *The Patchwork Quilt: State and Federal Roles in Bank Regulation*, 32 Stan L Rev 687 (1979–1980).

31 Riegle-Neal Interstate Banking and Branching Efficiency Act, Pub L No 103-328, 108 Stat 2338 (1994), codified as amended in scattered sections of 12 USC (2006) (providing for US interstate banking and branching).

32 Id, pmbl, 108 Stat at 2338.

33 The Riegle-Neal Act did permit states to impose certain narrow limitations on branching and acquisitions. See William A. Lovett, *Banking and Financial Institutions Law in a Nutshell* 193–94 (Thompson West 6th ed 2005).

34 The number of US banks (state and nationally chartered) was once much larger, reaching over 31,000 in 1921, then dropping into the "teens" during the Great Depression of the 1930s and then leveling off in the 14,000s during 1941 and for some decades thereafter. US Dept of Commerce, *Historical Statistics of the United States, Colonial Times to 1970, Part 2*, Series 580–587 (1975).

35 "Universal Banking," as it is known in Germany, refers to a system where a bank can engage in all kinds of lending and securities businesses.

36 See Glass-Steagall Act, Pub L No 73-66, 48 Stat 162 (1933). See Peter J. Wallison, *Deregulation and the Financial Crisis: Another Urban Myth* 3 (Oct 2009), online at http://www.aei.org/docLib/10-FSO-October-g.pdf (visited Nov 21, 2009).

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series of interpretations that allowed commercial banks to do more and more in the securities field and then through repeal of two provisions of the Glass-Steagall Act in the Gramm-Leach-Bliley Financial Services Modernization Act of 1999.[37] Today Citibank is an enterprise organized as a "bank holding company" that owns not only a huge commercial bank subsidiary but also another subsidiary that is one of the largest underwriters of securities in the US. And though most large bank enterprises are in the securities business, they have to separate their commercial banking business, which is entitled to accept deposits insured by the Federal Deposit Insurance Corporation (FDIC) and thereby enjoys what is often called "safety net" protection from their securities business. The technique used is to create a bank holding company, which owns a commercial bank subsidiary accepting insured deposits and one or more other subsidiaries engaged in other businesses, such as a subsidiary that underwrites and deals in securities.[38] In the case of bank holding company insurance activities, the insurance subsidiary would be regulated by the insurance commissioner of the state where the insurance business is conducted.[39] In fact, insurance as an industry can in general only be regulated by the states under existing law.[40]

C. Banking regulation

Although under the US dual banking system, state-chartered banks are governed by state banking law, a state bank of any size will nevertheless be regulated by a national regulatory agency. The details are of interest only to banking lawyers, though they bear on an important characteristic—indeed, an important weakness—of US banking regulation: namely, a multiplicity of banking regulators and a resulting dispersion of authority. From a German and

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37 Gramm-Leach-Bliley Act, § 101(a), Pub L No 106-102, 113 Stat 1338 (1999), codified at 12 USCS § 1811. This Act repealed the sections of the Glass-Steagall Act of 1933 that had prohibited a bank from being affiliated with firms that are primarily involved in underwriting or dealing in securities. See Wallison, *Deregulation and the Financial Crisis* at 3 (cited in note 36).

38 Wallison, *Deregulation and the Financial Crisis* at 3–4 (cited in note 36); Hal S. Scott, *International Finance: Transactions, Policy, and Regulation* 168–71 (Foundation 16th ed 2009). On the concept and history of the safety net, see Charles W. Calomiris, *The Postmodern Bank Safety Net* 1–18 (AEI 1997), online at http://www.aei.org/docLib/20040218_book192.pdf (visited Nov 21, 2009).

39 Robert H. Jerry, II and Douglas R. Richmond, *Understanding Insurance Law* § 13C[b] at 56 (LexisNexis 4th ed 2007).

40 See Richard S. Carnell, Jonathan R. Macey, and Geoffrey P. Miller, *The Law of Banking and Financial Institutions* 539–43 (Aspen 4th ed 2009) (reviewing the development of insurance regulation in the US and noting that early case law precluded federal regulation for long periods in US history). Furthermore, with quite limited exceptions, banks cannot be owned by non-financial corporations (but that is true in Germany as well).

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EU point of view, this "fragmentation" of US regulation has serious consequences for global financial governance.[41]

1. Safety and Soundness Regulation

In the US the most important kind of regulation has to do with what Americans call "safety and soundness." It is so called because it is designed to prevent banks from taking excessive risks, thereby harming depositors and the economy. A more internationally used term is capital adequacy regulation, and today it covers much the same ground as the Basel I and Basel II agreements. Banking regulation is often referred to by the term "banking supervision" to stress the close relationship and working arrangements between individual banks and their regulators. Some analysts make a distinction between regulation and supervision of banks to stress the difference between rules of general applicability and the discretionary roles of the regulating agency, particularly as it deals with individual banks.[42] Indeed, in the US, the FDIC has the power to look in great detail at the internal records of a bank and to close the bank if it fails to take prompt corrective action to rectify certain regulatory violations.[43]

Today the federal government of the US has five bank regulatory agencies, all performing similar functions, but with different kinds of banks:

1. The Office of the Comptroller of the Currency (OCC) for nationally chartered banks.
2. The Federal Reserve (Fed) for state-chartered banks that are members of the Federal Reserve system. The Fed also regulates "bank holding companies," a category of financial institutions that played a role in the crisis and in proposals for legislative change with respect to systemic risk.

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41 See Donato Masciandaro, *Divide et Impera: Financial Supervision Unification and Central Market Fragmentation Effect*, 23 Euro J Pol Econ 285, 295–307 (2007).

42 The Chairman of the Board of Governors of the Federal Reserve System Ben S. Bernanke expressed the distinction this way in passing in a recent speech: "Let me turn from regulation (the development of rules and standards that govern banks' practices) to supervision (ongoing oversight and enforcement to ensure that the rules are being followed)." Ben Bernanke, *Financial Supervision after the Crisis: The Role of the Federal Reserve*, Federal Reserve Bank of Boston 54th Economic Conference (Oct 23, 2009), online at http://www.federalreserve.gov/newsevents/speech/bernanke20091023a.htm (visited Nov 21, 2009).

43 FDIC Improvement Act of 1991, Pub L No 102–242, 105 Stat 2236 (1991), codified at 12 USC § 1811. See Lovett, *Banking and Financial Institutions Law* at 134–35 (cited in note 33) (discussing FDIC guidelines for closing banks if they fall below "critical capital levels"). Consider George G. Kaufman, *Prompt Corrective Action in Banking: 10 Years Later*, 14 Res in Fin Services (Elsevier Science 2002); George G. Kaufman, *Bank Failures, Systemic Risk and Bank Regulation*, 16 Cato J 17 (1996) (describing prompt corrective action and related doctrines developed in the US in the 1990s).

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3. The FDIC for state-chartered banks that are *not* members of the Fed system.[44]
4. The Office of Thrift Supervision (OTS) for so-called "thrifts," which used to be called savings and loan associations. Thrifts correspond more or less to German Sparkassen, though in the US they are now privately owned. Not all thrifts, however, are small or local. Washington Mutual, the largest thrift, was the fifth largest bank in the country measured by deposits until it encountered problems in the subprime crisis. After the FDIC intervened (under its safety net powers) to put it in receivership, Washington Mutual was acquired by JP Morgan Chase.[45]
5. The National Credit Union Administration (NCUA) for credit unions, which are small local banks that usually service only employees of a single employer or members of a union.

In addition, there are firms usually not thought of as banks that offer checking accounts and money transfer services—for example, brokerage firms acting as agents for the purchase and sale of securities for their customers—and their regulation is entirely different. Then there are investment banks such as Goldman Sachs, which for large business customers are much like a bank, but are not usually thought of as a "bank" in the commercial banking sense of the word because they do not take consumer deposits.[46] To the extent that brokerage firms and investment banks are subject to capital adequacy regulation at all, it is normally through the Financial Industry Regulatory Authority (FINRA) as overseen by the Securities and Exchange Commission (SEC) because of the firms' and banks' brokerage activities.[47] But recent events,

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[44] Beyond its regulatory role, the FDIC administers the deposit insurance system applicable to all depository institutions, including those regulated by the other federal supervisory institutions.

[45] See Robin Sidel, David Enrich, and Dan Fitzpatrick, *WaMu Is Seized, Sold Off to JP Morgan, in Largest Failure in US Banking History*, Wall St J A1 (Sept 26, 2008); FDIC, *JPMorgan Chase Acquires Banking Operations of Washington Mutual* (Sept 25, 2008), online at http://www.fdic.gov/news/news/press/2008/pr08085.html (visited Nov 21, 2009).

[46] As discussed elsewhere in this Article, in the midst of the credit crisis, Goldman Sachs, in order to become a bank holding company, acquired a commercial bank, which it operated as a subsidiary. Still another kind of financial institution that is much like a bank but may be owned by commercial firms is an industrial loan company. See US Department of the Treasury, *The Department of the Treasury Blueprint for a Modernized Financial Regulatory Structure* ("Bush Treasury Blueprint") 39 (Mar 2008). The September 2008 decision of Goldman Sachs and Morgan Stanley, the two largest non-depository investment banks, to become bank holding companies reduced the number of such investment banks and sharply changed the face of US banking decisively in the direction of universal banking.

[47] For a discussion of SEC Rule 15c3 (Net Capital Rule), see Financial Industry Regulatory Authority, *If a Brokerage Firm Closes its Doors* (FINRA 2009), online at http://www.finra.org/investors/protectyourself/investor alerts/p116996 (visited Nov 21, 2009)

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especially the 2008 "bailout" of Bear Stearns through actions of the Fed,[48] have raised questions on whether any financial entity that enjoys even tacit guarantees from the US government should not be subject to some aspects of bank-like regulation.[49]

In the home mortgage arena, there are a large number of firms that merely originate mortgage loans, often selling them to other financial institutions. Many of these mortgage companies are quite small, perhaps having only a single storefront in a small town or suburb, even on a neighborhood shopping street in a city. Their mortgage origination underwriting standards—sometimes rather low to say the least—have played a role in the present crisis. Putting aside questions of fraud by originators, which have figured prominently in the press, there is little doubt that underwriting standards declined greatly during the subprime period. For example, between 2001 and 2006, the average loan to value percentage on home mortgages rose from 79.8 percent to 89.1 percent, the share of mortgage loans that involved 100 percent financing rose from 3 percent to 33 percent, the share of limited documentation loans (so-called "liars' loans")

(On SEC regulation of investment banks, see *Chairman Cox Announces End of Consolidated Supervised Entities Program*, SEC Press Release 2008-230 (Sept 26, 2008), online at http://www.sec.gov/news/press/2008/2008-230.htm (visited Nov 21, 2009); Stephen Labaton, *SEC Concedes Oversight Flaws Fueled Collapse*, NY Times A1 (Sept 27, 2008); Cecilia Kang, *Report Says SEC Failed in Oversight of Bear Stearns*, Wash Post D01 (Sept 27, 2008).

48 The Bear Stearns investment bank was "bailed out" in early 2008, largely on the ground that it was too interconnected with counterparty financial firms to fail (rather than that it was too big to fail). Since Bear Stearns was not a depository bank, it was not subject to the normal FDIC process for a failing bank. Its bailout has raised the question of whether all financial institutions that receive tacit safety-net protection should not be subject to regulation by analogy to depository institutions that do receive explicit regulation and potential bailout protection from the FDIC. Consider Peter J. Wallison, *Bear Facts: The Flawed Case for Tighter Regulation of Securities Firms*, AEI Financial Services Outlook 3–6 (Apr 2008), online at http://www.aei.org/docLib/20080411_22974FSOApril_g.pdf (visited Nov 21, 2009). On the interconnectedness aspect and other aspects of the basis for the Bear Stearns bailout, see *Caveat Counterparty: Derivatives*, The Economist 86 (Mar 22, 2008); Jonathan Macey, *Brave New Fed*, Wall St J A19 (Mar 31, 2008). For a more technical review of the sequence of events and the role of the Federal Reserve in providing the financing for the bailout, see Actions by the New York Fed in Response to Liquidity Pressures in Financial Markets, Hearing before the Senate Committee on Banking, Housing, and Urban Affairs, 110th Cong, 2d Sess (Apr 3, 2008) (testimony of Timothy F Geithner, President and CEO of Federal Reserve Bank of NY), online at http://www.newyorkfed.org/newsevents/speeches/2008/gei080403.html (visited Nov 21, 2009). On the role of the SEC vis-à-vis the Federal Reserve, see Kara Scannell, *SEC, Fed Stake Turf on Oversight: Both Regulators Want to Expand Wall Street Role*, Wall St J C3 (July 25, 2008).

49 For a discussion of various related issues, consider *The Regulation of Investment Banking*, Shadow Financial Regulatory Committee Statement No 263 (Sept 14, 2008). Even before the Bear Stearns bailout, the US Treasury took the position that even financial institutions that did not accept deposits should be subject to "macro-prudential . . . market stability" regulation, and proposed the Federal Reserve for that regulatory role. See *Bush Treasury Blueprint* at 146–58 (cited in note 46).

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rose from 27 percent to 44 percent.[50] Yet non-bank mortgage companies are even now essentially unregulated.[51]

Another set of companies, usually referred to as "government-sponsored enterprises" (GSEs), namely Fannie Mae and Freddie Mac, has played a huge role in the home mortgage field.[52] In fact, well over half of all new securitized mortgages were guaranteed by these GSEs.[53] In addition, GSEs held large volumes of home mortgages on their books for investment purposes. By March 2008, the GSEs had issued so much debt (counting guarantees) that their outstanding debt was roughly equal to the publicly held debt of the US in its governmental capacity.[54] Especially relevant to the subprime crisis was the extraordinary shift in 2005 of GSE activity away from traditional conventional prime mortgages to a program of buying and guaranteeing subprime mortgages.[55] By 2007, some one-third of the GSE's business involved subprime mortgages.[56] Moreover, between 2005 and 2007, the great majority of Freddie Mac's mortgage activity involved mortgage loans that were quite different from traditional mortgage loans of the early days of the GSEs: "90 percent were interest-only mortgages [that is, no amortization of principal]; 72 percent were negative amortization loans [that is, interest was not paid but rather added to principal]; . . . and 58 percent had original loan-to-value ratios greater than 90

50 T2 Partners LLC, *Why We Are Still in the Early Innings of the Bursting of the Housing and Credit Bubbles—and the Implications for MBIA and AMBAC* 4 (Mar 16, 2008). Indeed, the share of home mortgage loans that involved both 100 percent financing and limited documentation rose during the 2001–2006 period from 1 percent to 15 percent. Id at 4.

51 An issue that emerged after the subprime crisis evolved into the credit crisis was how the mortgage origination process might be regulated.

52 On the GSEs prior to the subprime crisis, see W. Scott Frame and Lawrence J. White, *Fussing and Fuming over Fannie and Freddie: How Much Smoke, How Much Fire?*, 19 J Econ Perspectives 159, 160–61 (2005) (giving an overview of the history of Fannie Mae and Freddie Mac).

53 In 2007 and early 2008 the GSEs guaranteed a much larger share of mortgage-backed securities issuance (over 80 percent at times). See James B. Lockhart III, *Lessons Learned from Mortgage Market Turmoil*, Office of Federal Housing and Enterprise Oversight 44th Annual Conference on Bank Structure and Competition Chart 4 (May 16, 2008); *An Open Letter to President-Elect Obama*, Shadow Financial Regulatory Committee Statement No 264, 2 (Dec 8, 2008) (noting with concern that Freddie and Fannie hold half of the total amount of US subprime and Alt-A mortgage debt).

54 Lockhart, *Lessons Learned from Mortgage Market Turmoil* at Chart 4 (cited in note 53).

55 See Charles Duhigg, *Pressured to Take More Risk, Fannie Reached Tipping Point*, NY Times A1 (Oct 5, 2008) (noting that this change came because Congress was pressuring Fannie Mae to help "steer more loans to low-income borrowers" and lenders were threatening to sell directly to Wall Street if Fannie didn't invest in riskier loans).

56 Peter J. Wallison and Charles W. Calomiris, *The Last Trillion-Dollar Commitment: The Destruction of Fannie Mae and Freddie Mac*, AEI Financial Services Outlook 8 (Sept 2008), quoting Zachary A. Goldfarb, *Affordable-Housing Goals Scaled Back*, Wash Post A11 (Sept 24, 2008).

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percent."[57] Fannie Mae and Freddie Mac "ended up holding more than half of the AAA-rated subprime securitizations."[58]

The GSEs operated as corporations with private shareholders, but they long benefited from a number of special privileges that caused commentators to refer to them as having "tacit" guarantees from the US government leading to their ability to borrow at below commercial rates while lending at market rates. Legislation in the summer of 2008 considerably strengthened the GSEs' regulator and changed its name to the Federal Housing and Finance Administration (FHFA).[59] Finally, in September 2008 the federal government asserted direct control, through the FHFA, over the GSEs and effectively mooted the question of how the GSEs fit into the Federal regulatory complex.

The big five bank regulators—the OCC, the Fed, the FDIC, the OTS and the NCUA—are so-called independent agencies. The OCC, for example, may be in, or a part of, the Department of the Treasury, but that is a statement essentially about real estate. By legislation, the Secretary of the Treasury has no authority over the Comptroller's policies and decisions.[60] Coordination among these five bank regulators is normally at arms' length and is entirely voluntary.

What's wrong with this pluralistic and decentralized system, since decentralization of power is normally thought to be a good thing? First, the decentralization of regulation exists only because the statutory mandate of each

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57 Wallison and Calomiris, *The Last Trillion-Dollar Commitment* at 7 (cited in note 56). In addition, 57.5 percent involved so-called FICO scores at a level indicating that they were subprime loans. Id.

58 Joint Statement of the Shadow Financial Regulatory Committees of Asia, Australia-New Zealand, Europe, Japan, Latin America, and the US, *Making Securitization Work for Financial Stability and Economic Growth* (Aug 17, 2009), online at http://www.aei.org/docLib/081709%20Joint%20Statement%20-%20Chile.pdf (visited Nov 21, 2009).

59 On September 7, 2008, the Secretary of the Treasury announced that the FHFA was placing the GSEs in "conservatorship," a step complemented by the purchase by the Treasury of preferred stock in the GSEs and the creation of a special lending facility. See Henry M. Paulson, Jr., *Statement by Henry M. Paulson, Jr. on Treasury and Housing Finance Agency Action to Protect Financial Markets and Taxpayers*, US Treasury Press Release (Sept 7, 2008) online at http://www.ustreas.gov/press/releases/hp1129.htm (visited Nov 21, 2009); see also *Questions and Answers on Conservatorship*, Federal Housing Finance Agency (Sept 7, 2008), online at http://www.treas.gov/press/releases/reports/fhfa_consrv_faq_090708hp1128.pdf (visited Nov 21, 2009). The effect was to replace existing directors and top management and to subordinate the rights of existing shareholders, while assuring holders of GSE debt that their rights would remain valid.

60 Carnell, Macey, and Miller, *The Law of Banking and Financial Institutions* 61–62 (cited in note 40). Similarly, the OCC does not have to clear legislative proposals through the Office of Management and Budget, as would an agency that is clearly part of the Executive Branch. See id (observing that the OCC does not have to turn to congressional appropriations for funding because it can fund itself through fees from national banks); see also id at 61–64 (discussing generally the independence of the OCC, Fed, FDIC, OTS, and NCUA).

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regulatory agency is different, the differences being mostly accidents of history. Second, each bank can choose its own regulator to expand its business and/or increase its profitability, just by switching from federal to state charter (or vice versa), by becoming a member of the Fed or dropping Fed membership, or through other relatively minor changes. This process, where the regulated party's action changes which regulation applies, is often called "regulatory arbitrage."

Choice is often a good thing, and so may be "regulatory arbitrage." But the motivations for regulatory arbitrage in bank regulation often have nothing to do with safety and soundness or even with competition. Rather, the motivation is achieving financial advantage by, for example, avoiding the fees by which the OCC must fund itself,[61] and hence regulatory arbitrage may not make a positive contribution to regulatory policy. Safety and soundness regulation, with legions of bank examiners pouring over bank accounting documents, is expensive. The Fed and the FDIC, which have independent sources of funds, pick up the check for their own regulation of *state* banks. For example, the Fed spends (just on safety and soundness regulation alone) about one billion dollars a year of its own money, which it makes essentially by creating money as part of its monetary responsibilities. But the OCC, unlike the FDIC and the Fed, has no independent way of generating money, so it has to charge its banks, the *national* banks, assessments to help pay for the regulation.[62] So the national banks had, at times, a powerful financial incentive to switch their charters to state charters, just to avoid the fee assessments. More recently, OCC regulation has become more popular with banks because of the frequency with which courts have held that national banking law preempts state laws with regard to certain operational issues involving national banks.[63]

Similarly, some banks have changed from being regulated by the OCC to being regulated by the OTS. The objective of such banks appears to be to lighten the constraints on the banks' operations. The OTS has a reputation for being a more pliable regulator. In the case of IndyMac, a bank that failed in 2008, a report by the Treasury Inspector General indicates that an OTS official bent the rules to allow IndyMac to appear better capitalized than would have

61 Id at 62.

62 Office of the Comptroller of the Currency, *Frequently Asked Questions about the Assessment Process*, online at http://www.occ.treas.gov/faqassessments.htm (visited Nov 21, 2009).

63 See, for example, *Watters v Wachovia Bank, NA*, 550 US 1, 7 (2007) (holding that "Wachovia's mortgage business . . . is subject to OCC's superintendence, and not to licensing, reporting, and visitorial regimes of the several States in which the subsidiary operates"). See Office of the Comptroller of the Currency, *Annual Report: Fiscal Year 2007*, 21–22 (2007) ("[S]tate laws must treat operating subsidiaries as if they were the national banks themselves.").

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been the case under a more literal application of the applicable rules.[64] Countrywide Financial, a leading firm promoting subprime mortgages and which later had to be saved by its acquisition by Bank of America, also switched to OTS, again apparently in search of more lenient regulation.[65]

Bailey, Elmendorf and Litan have criticized the idea of merging these regulatory agencies as changing boxes in a governmental organization chart rather than changing what happens in each.[66] That would be true if marrying those five organizations together were merely a marriage of convenience. But regulatory arbitrage is often a problem.[67] It is worsened by the fact that each of the five regulators has its own private sector constituency and in turn, its own supporters within the legislative process, as vested private interests compete for favorable legislation. Regulatory arbitrage is particularly unfortunate where the jurisdiction of different regulators overlaps so that different regulatory agencies can exert authority over hybrid products, as is the case for derivative products subject to the jurisdiction of both the SEC and the Commodities Futures Trading Commission (CFTC).[68]

Also, under the economic structure that has evolved in the last decade, a conglomerate banking institution can lend to borrowers from its commercial

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64 Under the OTS-approved approach, IndyMac was able to maintain its "well-capitalized" status less than four months before it failed. See Eric M. Thorson, *Letter to Senator Charles Grassley* (Dec 22, 2008), online at http://online.wsj.com/public/resources/documents/IndyMac12-208-EricThorsonsletter.pdf (visited Nov 21, 2009). See also Binyamin Appelbaum and Ellis Nakashima, *Banking Regulator Played Advocate Over Enforcer*, Wash Post A01 (Nov 23, 2008) ("In the parade of regulators that missed signals or made decisions they came to regret on the road to the current financial crisis, the Office of Thrift Supervision stands out.").

65 Daniel Hemel, *How to Hold Bank Regulators Accountable*, Forbes.com (Dec 18, 2008), online at http://www.forbes.com/2008/12/18/sec-fdic-regulation-oped-cx_dh_1218hemel_print.html (visited Nov 21, 2009) ("[I]n early 2007 Countrywide Financial Corp. re-chartered, ditched its old regulator (the Comptroller) and switched to a new regulator (the notoriously-lenient OTS).")

66 Martin Neil Baily, Douglas W. Elmendorf and Robert E. Litan, *The Great Credit Squeeze: How it Happened, How to Prevent Another*, Econ Studies at Brookings Disc Paper at 9 (May 21, 2008), online at http://www.brookings.edu/~/media/Files/rc/papers/2008/0516_credit_squeeze/0516_credit_squeeze.pdf (visited Nov 21, 2009). The authors concede that they are "hardly enthusiastic about the existing hodgepodge of regulation. Restructuring of responsibilities among regulatory agencies would contribute to better oversight of the financial system." Id.

67 Regulatory arbitrage can, of course, discourage overregulation or the use by private institutions of regulation as a means of price-fixing and exclusion of competition.

68 Peter J. Wallison concludes that, in the financial services field, regulatory jurisdiction overlap with respect to hybrid products "will create great distractions for the regulators and chaotic regulatory policies for the financial services industry. In addition, with regulators employing disparate policies, the door will be open to regulatory arbitrage—that is, products will be designed to avoid regulation." Peter J. Wallison, *Thinking Ahead: Treasury Prepares to Lay Down a Marker for the Future (Part I)*, AEI Financial Services Outlook 2 (Oct 2007).

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bank subsidiary, its investment banking subsidiary or its brokerage subsidiary. The regulation can be different for each part of the conglomerate bank. Moreover, these big complex conglomerate financial corporations engage not just in lending but also in other activities such as investment banking, merchant banking (including private equity), over-the-counter derivatives, asset management, and brokerage just like any European universal bank. Although the Fed has some statutory oversight responsibility over bank holding companies, no single agency can regulate, or even understand, the whole enterprise. The fact that a holding company may be required to create a subsidiary for a particular field deals with only some of the risks. Certainly, a regulatory agency that can deal with only one part of the enterprise cannot fully discharge its responsibilities.

2. A Better Way to Regulate?

Isn't there a better way? The UK in 1997 moved to establish a single financial regulatory agency, the Financial Services Authority (FSA).[69] The institution became a model for many other countries.[70] In 2002, the Bundesanstalt für Finanzdienstleistungsarbeit (BaFin) became the single regulator for banking, securities and insurance in Germany.[71] The FSA model contrasts with a "twin peaks" model of regulation, which organizes regulators by the purpose of the regulation, placing prudential regulation in a different agency from business conduct regulation. But both the FSA model and the "twin peaks" model are paragons of simplicity compared with the complexity of the US regulatory model.[72]

The FSA model provides a single regulator for banks and other deposit-taking institutions. But perhaps even more important, the FSA model regulates the issuance of securities (which is done by a separate agency in the US, the SEC). The FSA model also regulates derivatives, which in the US is done by still another agency, the CFTC, so named because it got its start regulating futures

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69 Consider C.A.E. Goodhart, *The Organisational Structure of Banking Supervision*, Financial Stability Inst Occasional Papers No 1 (Oct 25, 2000) (analyzing the benefits and drawbacks to the UK regulatory scheme). For a history of the choice of a single regulator in the UK, see Eilís Ferran, *Examining the United Kingdom's Experience in Adopting the Single Financial Regulatory Model*, 57 Brooklyn J of Intl L 257, 260–273 (2002–2003).

70 For a survey of various national organizational approaches to bank regulation, consider Financial Services Institute, *Institutional Arrangements for Financial Sector Supervision: Results of the 2006 FSI Survey,* Financial Services Institute Occasional Paper No 7 (2007).

71 See Martin Schuler, *Integrated Financial Supervision in Germany*, Center for Euro Econ Research Discussion Paper No 04-35 at 2 (2004).

72 For a comprehensive review of different models, consider Group of Thirty, *The Structure of Financial Supervision: Approaches and Challenges in a Global Marketplace* (Group of Thirty 2008) (describing four approaches of regulation—institutional, functional, integrated, and twin peaks).

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contracts for agricultural commodities. In contrast to the UK, Germany, and many other countries that have adopted the FSA model, the US (with its five banking agencies, an SEC and a CFTC) has a dysfunctional regulatory structure. The current crisis in the securitization of mortgages, since it involves both banking and securities, has exposed to public attention the weaknesses of such a fragmented structure.

In the US, banking regulatory agencies are not involved in the enforcement of the securities laws, but the fact that securitization involves both loans and securities suggests that it may be advantageous for the US to consolidate the regulation of the two areas, following the example of the British FSA, the German BaFin, and similar consolidated agencies in other countries. Since the various US regulatory agencies are "independent" and not required to take direction from the US Treasury, the Treasury has awakened to the fact that when everyone is in control of some small piece of a problem, nobody is really in control of the entire problem. The US Treasury announced in the autumn of 2007 that it would undertake a review of the US regulatory structure and, in the words of a Treasury Undersecretary, the review would "take into account all financial services industry participants including insurance, securities, and futures firms, in addition to depository institutions, upon which most past Treasury Department studies have focused."[73] That review was accelerated in view of the worldwide financial crisis, and in March 2008, the Treasury released a 218-page "Blueprint" for regulatory reorganization.[74]

Despite the ambition of the Treasury Blueprint, there are historical grounds for doubting whether such a consolidation will ever occur.[75] President Clinton's first Secretary of the Treasury, Lloyd Bentsen, a former Senator and hence supposedly an expert on legislative politics, tried to convince President Clinton to endorse such a consolidation. But nobody listened. President George W. Bush's first Secretary of the Treasury, Paul O'Neill, also proposed such a consolidation, but the White House told him that it was politically impossible. Even if a reorganization of the scope proposed in the Bush Treasury Blueprint were eventually adopted, the Blueprint's release during an election year made action unlikely until a new administration had time to review the recommendations and both houses of Congress had time to hold

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73 Robert K. Steel, *Remarks before the American Enterprise Institute*, US Department of the Treasury Press Release (Nov 13, 2007), online at http://www.ustreas.gov/press/releases/hp677.htm (visited Nov 21, 2009).

74 Consider *Bush Treasury Blueprint* (cited in note 46).

75 For suggestions as to how consolidation might best be undertaken, consider Howell E. Jackson, *A Pragmatic Approach to the Phased Consolidation of Financial Regulation in the United States*, Harv L School Pub Law & Legal Theory Working Paper Series No 09-19 (2008), online at http://ssrn.com/abstract=1300431 (visited Nov 21, 2009).

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extensive hearings. Such hearings, in view of the extent to which powerful interest groups could be expected to oppose certain aspects of the legislation and to push their own complicating add-on proposals, would always be contentious and lead to public controversy.[76]

Change in US government organization rarely happens except in the wake of a scandal (or other extraordinary circumstances), but the subprime crisis—especially with the follow-on credit crisis—certainly rises to that standard. Most of the current bank regulatory agencies listed above were created because of extraordinary circumstances. The OCC was created in the 1860s because of the financial difficulties of subduing the South in the Civil War.[77] The FDIC was created at the time of widespread bank failures in the Great Depression.[78] And one could add other historical events driving regulatory changes.

Even in the unlikely event that consolidation occurs, there are historical reasons for doubting the quality of the results. For a recent example, the creation of the Department of Homeland Security in the wake of the terrorist attacks of September 11, 2001 has hardly brought a major improvement in the government's capacity to deal with terrorism in the US. The tough problem of terrorism aside, a financial regulatory consolidation faces obstacles. The regulatory agencies themselves include many people who will resist—for well-known bureaucratic reasons.[79] And the companies being regulated will find self-serving reasons for keeping the present decentralized system. Finally, members of Congress seem far more interested in posturing as protectors of millions of defaulting homeowners than in trying to work on more systemic financial system problems.

Of course, reorganization does not guarantee improved results,[80] and this is particularly the case when the subject matter goes beyond regulation. For a recent and highly relevant example, the British FSA, together with the British

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76 For suggestions as to how a consolidation of banking regulatory agencies might be undertaken, consider id.

77 Comptroller of the Currency, *About the OCC*, online at http://www.occ.treas.gov/aboutocc.htm (visited Nov 21, 2009).

78 Federal Deposit Insurance Corporation, *The First Fifty Years: A History of the FDIC 1933–1983*, iii (FDIC 1984), online at http://www.fdic.gov/bank/analytical/firstfifty/prologue.pdf (visited Nov 21, 2009).

79 For examples of conflict between the Treasury and the Administration, on the one hand, and the financial regulatory agencies, on the other hand, with regard to regulatory reform, see Damian Paletta and Deborah Solomon, *Geithner Vents at Regulators as Overhaul Stumbles*, Wall St J (Aug 4, 2009), online at http://online.wsj.com/article/SB124934399007303077.html (visited Nov 21, 2009); Stephen Labaton, *FDIC Chief Criticizes Reform Plan*, NY Times (Oct 30, 2009), online at http://www.nytimes.com/2009/10/30/business/30regulate.html (visited Nov 21, 2009).

80 See *Who Regulates the Regulators?: Northern Rock*, The Economist (Mar 29, 2008), for a discussion of the British FSA's failure to pay adequate attention to the Northern Rock matter.

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Treasury and the Bank of England, faced major problems in coordinating a response among themselves in connection with the Northern Rock bank collapse in the summer of 2007.[81] In the end, Northern Rock had to be nationalized.[82] More generally, the role of the central bank in regulating banks vis-à-vis the role of an agency with more specific statutory responsibility for bank regulation raises difficult and complex "fragmentation" questions in many European countries.[83] But even the FSA itself later admitted that it performed poorly in its own supervisory role with respect to Northern Rock.[84]

In any event, there is little or no support in the US, even within the US Treasury, for doing what the FSA model presupposes, namely, bring banking, securities and insurance regulation into a single agency.[85] Certainly, the Treasury in both the Bush and Obama administrations has assumed that each of these three financial sectors would continue to be separately regulated. Under the Bush administration Treasury Blueprint, the regulation of securities would have been consolidated with the regulation of derivatives.[86] And under the Blueprint, insurance would have continued to be regulated separately by the fifty states, though an optional national charter would be created, which many large insurance companies would presumably choose to adopt if the national charter would include significant preemption of state regulation.[87] Furthermore, under

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81 See Goodhart, *The Background to the 2007 Financial Crisis* at 345 (cited in note 7). The disarray among the three British bodies led to the publication of a Command Paper, *Financial Stability and Depositor Protection: Strengthening the Framework*, HM Treasury Command Paper 7308 (2008), proposing a host of changes.

82 Lionel Laurent, *Northern Rock Nationalized*, Forbes.com (Feb 17, 2008), online at http://www.forbes.com/2008/02/17/northern-nationalize-bank-markets-cx_ll_0217northernrock.html (visited Nov 21, 2009). For a discussion of how a US FSA might coordinate with the Federal Reserve in the case of larger financial institutions deemed to be "systemically important," see CCMR, *The Global Financial Crisis: A Plan for Regulatory Reform* at 207–210 (cited in note 2).

83 Masciandaro, 23 Euro J Pol Econ at 295–307 (cited in note 41).

84 Financial Services Administration, *FSA Moves to Enhance Supervision in Wake of Northern Rock* (Mar 26, 2008); *Who Regulates the Regulators?* (cited in note 80).

85 For a consideration of the differences, and the reasons therefore, between the US dispersed regulatory structure and the UK organizational structure, consider Howell E. Jackson, *An American Perspective on the UK Financial Services Authority: Politics, Goals & Regulatory Intensity*, Harv L School Olin Discussion Paper No 522 (2005), online at http://ssrn.com/abstract=839284 (visited Nov 21, 2009).

86 See *Bush Treasury Blueprint* at 106 (cited in note 46) ("Treasury recommends a merger of the Commodity Futures Trading Commission [which handles derivatives] and the Securities and Exchange Commission [which handles securities].").

87 Id at 126–29. In June 2009 the US Treasury proposed (as part of the Obama Administration's financial regulatory reform plan) the creation of an Office of National Insurance within the Treasury Department and the development of a national "regulatory framework for insurance." US Department of the Treasury, *Financial Regulatory Reform: A New Foundation, Rebuilding Financial*

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the Bush administration position, banking regulation would be consolidated in one agency subject to a residual role for the Fed over bank holding companies.

The Obama Treasury has been even more modest. Its June 2009 proposal, while decrying regulatory fragmentation, proposed simply consolidating the OTS and the OCC,[88] leaving federal regulation of state banks with the FDIC and the Fed. Indeed, Scott has argued that the Obama Treasury proposal actually makes fragmentation worse by creating four additional agencies to deal with the financial meltdown that followed the subprime phase of the crisis and by "doing away with federal preemption for national banks and failing to endorse the optional federal charter proposal for insurance companies."[89]

The Treasury's modesty with regard to overall consolidation of financial regulation reflects political reality in view of the long history of the US federal structure. The Bush Treasury Blueprint did not eliminate state chartering of banks, and it clearly contemplated some continued state consumer protection legislation of banks. Yet insurance is a single industry today, unlike the situation decades ago when there were many local insurance companies and insurance cooperatives. So eventually, the absurdity of fifty states regulating companies operating nationwide, indeed worldwide, may perhaps give way to reason. The need for a federal bailout of American International Group (AIG), one of the world's largest insurance enterprises, in which $85 billion was made available to

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Supervision ("Obama Treasury Proposal") 39–41 (2009), online at http://financialstability.gov/docs/regs/FinalReport_web.pdf (visited Nov 21, 2009). Two of the motivating factors were that the "United States is the only country in the International Association of Insurance Supervisors (IAIS—whose membership includes insurance regulators and supervisors of over 190 jurisdictions that is not represented by a federal insurance regulatory entity able to speak with one voice . . .)" and that "the European Union has recently passed legislation that will require a foreign insurance company operating in its member states to be subject to supervision in the company's home country comparable to the supervision required in the EU." Id at 40.

88 *Obama Treasury Proposal* at 32 (cited in note 87) (proposing creation of the National Bank Supervisor, which would "inherit the OCC's and OTS's authorities" while "the [Fed] and the FDIC would maintain their respective roles in the supervision and regulation of state-chartered banks").

89 Hal S. Scott, *The Global Financial Crisis* 165 (Foundation 2009). However, Senator Dodd, Chairman of the Senate Banking Committee, introduced legislation in early November 2009 that would consolidate existing bank agencies (reducing the Federal Reserve's regulatory authority). Stephen Labaton, *Senate Plan Would Expand Regulation of Risky Lending*, New York Times (Nov 10, 2009), online at http://www.nytimes.com/2009/11/11/business/11regulate.html (visited Nov 21, 2009); Michael Crittenden and Jessica Holzer, *Dodd Unveils Financial-Overhaul Measure*, Wall St J (Nov 10, 2009). The Dodd bill would thus reduce regulatory fragmentation, if it were to become law. However, the Obama administration has sharply criticized the Dodd bill, albeit largely on the ground that it would reduce the regulatory role of the Federal Reserve. Tom Braithwaite, *Government Officials Rebuff Plan to Strip Fed's Bank Supervisory Powers*, Fin Times (London) 1 (Nov 14, 2009).

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AIG by the Fed in a revolving credit facility and the US Treasury took just under 80 percent of the shareholder voting power, raises serious questions about state-only insurance regulation.[90] That is particularly the case because the crisis leading to the bailout was AIG's massive solvency-threatening issuance of credit default swaps, a form of derivative that is not even insurance in the strict legal sense.[91] In any event, fifty-state regulation means de facto regulation by the state of New York, which is the site of the headquarters of many of the large insurance companies. Only New York seems to have the capacity and the interest to do a serious regulatory job.

3. European Fragmentation

I started my analysis by describing the fragmented US system of bank regulation and the further fragmentation that arises from separate regulation of banks, securities, and insurance. I contrasted the European unification of these sectors in some, but by no means all, EU countries through consolidation under FSAs.

However, the EU suffers from a different kind of fragmentation. The regulation of new instruments like subprime securities and of securitization generally is a question for the member states, and the European Central Bank has little to say about regulatory, as opposed to monetary, issues. The European Central Bank is a creature of the Eurozone, the area of the EU in which the Euro is the currency. A substantial number of EU countries still use their own national currencies, mainly in the newer eastern European members, but the most important financial capital in the EU itself is London, which is not in the Eurozone and therefore has the British pound as a home currency. The EU rarely concerned itself with bank regulation except insofar as such regulation might interfere with a major EU goal—the increase of cross-border banking as a way of speeding the creation of a single European financial market.[92] The EU

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90 See AIG, *AIG Notice* (Sept 26, 2008), online at http://ir.aigcorporate.com/phoenix.zhtml?c=76115&p=irol-newsArticle&ID=1202814&highlight= (visited Nov 21, 2009). The Financial Times called the transactions a "de facto nationalization" of AIG. Francesco Guerrera, et al, *AIG's Complexity Blamed for Fall*, Fin Times 19 (Oct 7, 2008).

91 Actually, AIG was subject to some federal regulation by the OTS because it owned one savings bank. The OTS was supposedly AIG's "consolidated supervisor" for its non-insurance activities, but when the crisis hit it was the Treasury and the Federal Reserve that took charge because of the systemic risk arising from AIG's credit default swap activity, which appears to have been directed by a London-based office. See Guerrera, et al, *AIG's Complexity Blamed for Fall* at 19 (cited in note 90).

92 Centre for European Policy Studies, *Concrete Steps towards More Integrated Financial Oversight* 17–21, 28–30 (Dec 1, 2008), online at http://www.ceps.eu/ceps/download/1585 (visited Nov 21, 2009). For the history of a failed attempt to give the European Central Bank a mandate in financial supervision, see id at 35–36. Consider Gerard Hertig, Ruben Lee and Joseph A. McCahery,

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had not, until very recently, been involved in financial stability issues.[93] In the US, in contrast to the EU, there is some limited regulation of state banks by state agencies, but all important and systemic issues concerning banking (as opposed to insurance) are questions for federal regulators.

The issue of a Eurozone-wide single financial regulator surfaces from time to time. An early French proposal for an EU-wide regulator was resoundingly rejected. But the large bank losses stemming from the subprime crisis and the failure of Northern Rock in the UK stimulated interest in supplementing the European Central Bank monetary policy authority over the Eurozone with some kind of corresponding competence in financial regulation. To achieve that end, it was necessary to use the EU, in view of the lack of competence of the European Central Bank to exercise jurisdiction outside the Eurozone.

A report to the European authorities in Brussels by Jacques de Larosière, chair of an EU High Level Group, helped galvanize attention toward the cause.[94] The EU Commission subsequently built on an existing set of EU "third level" coordinating committees[95] in the member states to create a program for enhancing and harmonizing EU member state banking regulation. The Commission created a structure for doing so, but it remains to be seen whether this structure will be effective enough to overcome European fragmentation.

4. The Shadow Banking System

The Treasury Blueprint's proposal to merge banking regulators obscured part of the complex reality that came into view during the subprime crisis and the ensuing credit crisis. First, not all of the institutions that lend or otherwise provide capital are banks. The additional non-depositary institutions, which

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Empowering the ECB to Supervise Banks: A Choice-Based Approach, European Corporate Governance Institute Finance Working Paper No 262/2009 (Aug 2009), online at http://ssrn.com/abstract=1327824 (visited Nov 21, 2009).

93 For proposals as to how the EU might proceed, consider Deutsche Bank Research, *Towards a New Structure for EU Financial Supervision* (Aug 22, 2007), online at http://www.dbresearch.com/PROD/DBR_INTERNET_DE-PROD/PROD0000000000214976.pdf (visited Nov 21, 2009). Even the new interest is primarily directed at the relative competence of home and host governments and the allocation of responsibilities with regard to bank insolvency.

94 De Larosière Group, Report of the High-Level Group on Financial Supervision in the EU (Feb 25, 2009), online at http://ec.europa.eu/internal_market/finances/docs/de_larosiere_report_en.pdf (visited Nov 21, 2009).

95 On the third-level coordinating committees, see id, ¶¶ 190–214; European Commission, Financial Services Supervision and Committee Architecture, online at http://ec.europa.eu/internal_market/finances/committees/index_en.htm (visited Nov 21, 2009). See also Financial Services: Commission Adopts Additional Legislative Proposals to Strengthen Financial Supervision in Europe (EU Commission Press Release, October 26, 2009), online at http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1582&format=HTML&aged=0 (visited Nov 21, 2009).

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journalists sometimes collectively call the "shadow banking system,"[96] include broker-dealers, hedge funds and private equity firms. None of them was regulated as a bank, though in 2008 most remaining large broker-dealers that engaged in investment banking activities chose to become bank holding companies regulated under the Fed in order to be able to qualify for financial assistance on much the same basis as commercial banks. In addition, the "shadow banking system" included unregulated legal entities created as part of the securitization process, notably structured investment vehicles (SIVs). SIV assets were frequently absorbed back into the banking system by sponsoring banks because of the reputation risk to those banks of not standing behind those vehicles. Far from being a mere tail on the formal banking system, these "off-balance sheet vehicles" were a huge proportion of the overall financial system. "By 2007 the New York Fed calculated that the combined assets of all the SIVs and similar vehicles came to $2.2 trillion, while hedge funds controlled another $1.8 trillion, and the five [largest investment banks] had $4 trillion on their balance sheets . . . [whereas] banks as a whole had $10 trillion in assets."[97]

At the other end of the subprime mortgage securities assembly line were the mortgage brokers that played a crucial role in creating the subprime crisis by selling mortgage loans to home borrowers who could not qualify for prime borrower status. In many cases, these borrowers did not have sufficient income to make their mortgage payments, even at the time they borrowed and certainly not later as the economy softened. As time has passed, the view has gradually become more dominant that mortgage lending practices were most at fault for producing the subprime mortgage crisis and therefore most in need of some kind of regulation, albeit not necessarily by banking regulators. Thus, even though the Treasury Blueprint was regarded by many observers as impossibly ambitious at the time of its release in early 2007, it can be seen as perhaps not ambitious enough to deal with the subprime crisis and the ensuing credit crisis, particularly at the initial lender-borrower end of the securitization chain where the initial individual mortgage loan transaction occurs. These transactions, especially for subprime loans, are largely unregulated and too often characterized

96 See Gillian Tett and Paul J. Davies, *Out of the Shadow: How Banking's Secret System Broke Down*, Fin Times (Dec 16, 2007), online at http://www.ft.com/cms/s/0/42827c50-abfd-11dc-82f0-0000779fd2ac.html (visited Nov 21, 2009); Alistair Barr, *Big Brokers Threatened by Crackdown on Shadow Banking System*, MarketWatch (June 20, 2008), online at http://www.marketwatch.com/story/big-brokers-threatened-by-crackdown-on-shadow-banking-system (visited Nov 21, 2009); Nouriel Roubini, *The Shadow Banking System Is Unravelling*, Fin Times 9 (Sept 22, 2008).

97 Gillian Tett, *Fool's Gold: How the Bold Dream of a Small Tribe at J.P. Morgan Was Corrupted by Wall Street Greed and Unleashed a Catastrophe* 225 (Free Press 2009). See Timothy F. Geithner, *Reducing Systemic Risk in a Dynamic Financial System*, Remarks at the Economic Club of New York (June 9, 2008), online at http://www.newyorkfed.org/newsevents/speeches/2008/tfg080609.html (visited Nov 21, 2009).

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by borrower ignorance and lender deception as to terms and conditions. It is for this reason that the Obama administration proposed the creation of a Consumer Financial Protection Agency (CFPA).[98] The CFPA proposal has been harshly criticized, to take the language of one critic, as reflecting "elitist protection concerns that consumers don't need."[99] But the proposal has also been supported in principle on the straightforward ground that these local transactions can be made fairer and more efficient for the national economy if better and simpler information for consumers is mandated as part of each transaction.[100]

III. THE ROLE AND CHALLENGES OF REGULATION: WHY REGULATE BANKS AT ALL?

One of the fears raised by the fierce public reaction to the present international financial crisis is that any new regulation introduced will do more harm than good. In order to assess proposals for change, it is therefore useful to consider the reasons that have led all countries to regulate banks. The regulation of banks has many objectives. Aside from concerns about fraud and consumer protection, the principal justification for regulation of the banking sector involves the confluence of a few main factors.

First, a healthy financial sector is crucial to the stability and growth of the entire economy of a country.

Second, the banking part of the financial sector is peculiarly prone to crises.[101] Every decade the banking sector experiences a crisis in one or more major countries. In the past quarter century we have seen the savings and loan crisis in the US, the Asian financial crisis, and the long-lasting Japanese non-

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98 US Treasury, *Financial Regulatory Reform* at 55 (cited in note 87). The Treasury proposal would exempt "investment products and services already regulated by the SEC or the CFTC." Id at 55–56.

99 Peter J. Wallison, *Elitist Protection That Consumers Don't Need*, Wash Post (July 13, 2009), online at http://www.washingtonpost.com/wp-dyn/content/article/2009/07/12/AR2009071201663.html (visited Nov 21, 2009).

100 See, for example, Shadow Financial Regulatory Committee, *A New Consumer Financial Protection Agency*, Statement No 278 at 2 (Sept 14, 2009), online at http://www.aei.org/docLib/Statement%20No%20278.pdf (visited Nov 21, 2009).

101 Carmen M. Reinhart and Kenneth S. Rogoff have counted five big and a much larger number of smaller "bank-centered financial crises" since 1945. See Carmen M. Reinhart and Kenneth S. Rogoff, *Is the 2007 U.S. Sub-Prime Financial Crisis so Different? An International Historical Comparison*, NBER Working Paper 13761 at 4–5 (2008), online at http:www.nber.org/papers/w13761 (visited Nov 21, 2009). On banking crises, consider Carmin M. Reihart and Kenneth S. Rogoff, *This Time is Different* (Princeton 2009). For an analytical approach to the persistence of crises, consider Charles Calomiris, *Banking Crises and the Rules of the Game*, NBER Working Paper No 15403 (Oct 2009), online at http://www.nber.org/papers/w15403 (visited Nov 21, 2009).

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performing loan problem, as well as severe country-specific crises in Sweden (1991), Finland (1991), and Norway (1987) and lesser financial crises in Australia (1989), Canada (1983), Denmark (1987), Greece (1991), Iceland (1985), Italy (1990), New Zealand (1987), and the UK (1991).[102] By 2009, the world's financial headlines were filled with the worldwide ramifications of the subprime mortgage crisis, which had rapidly turned into a worldwide financial crisis because so many financial institutions in so many countries had invested in securities that were simply packages of US subprime home mortgage loans.

A third factor, having to do with the operations of banks, is that banks are thinly capitalized compared to other kinds of corporations. Specifically, banks are particularly highly leveraged compared to many types of financial institutions, although normally less so than many hedge funds.[103]

Fourth, banking profitability tends to depend on borrowing short and lending long. Clearly, this strategy enhances profitability, since in normal times the interest rate curve slopes upward, with short-term rates being lower than long-term rates. But sometimes the curve is flat or even inverted, and then banks face financial difficulties. In economic downturns, the default rate of bank borrowers rises. As a result, lending banks, as they become perceived as riskier, may face rising funding costs in their short-term borrowing.[104]

This fourth factor goes to the heart of the special economic nature of banking. Thin capitalization and a "borrow-short, lend-long strategy," seem

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102 Reinhart and Rogoff, *Is the 2007 U.S. Sub-Prime Financial Crisis so Different?* at 4–5 (cited in note 101). Crises limited to one bank (a 1994 crisis in France and a 1995 crisis in the UK) have been omitted from the Reinhart-Rogoff list. More recently, in 2008, Iceland once again plunged into a severe financial crisis. See David Ibison, *Iceland's Rescue Package Flounders*, Fin Times 8 (Nov 12, 2008).

103 A characteristic witticism runs, "What is the difference between banks and hedge funds?" Answer: "Banks are more highly leveraged." David Wessel, *Magnifying the Credit Fallout*, Wall St J A2 (Mar 6, 2008) (noting that banks are so highly leveraged that for every $1 they lose in capital, they will lend out $10 less). The witticism may not be literally correct for the US. For example, one prominent hedge fund, Carlyle Capital, maintained leverage of over thirty to one. Tom Bawden, *Stunning Collapse of Bond Fund Leaves Carlyle Down, Not Out*, Times OnLine (Mar 8, 2008), online at http://www.timesonline.co.uk/tol/money/funds/article3508170.ece (visited Nov 21, 2009).

104 Not only do banks have a mismatch in maturities between their assets and their liabilities, but their assets tend to be illiquid compared with their liabilities. See Nouriel Roubini, *Ten Fundamental Issues in Reforming Financial Regulation and Supervision in a World of Financial Innovation and Globalization*, RGE Monitor (Mar 31, 2008), online at http://media.rgemonitor.com/papers/0/Nouriel-RegulationSupervisionMarch08.pdf (visited Nov 21, 2009). That is, borrowers from banks do not have to repay until the due date, but banks cannot count on always being able to roll over their short-term borrowings funding those loans, as the experience of bank-sponsored SIVs showed. See discussion in text above.

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necessary for a bank's profitability,[105] or at least it was necessary when banks depended on interest payments on their loan portfolio, as opposed to fee income for various financial services. In order to assure that banks did not become insolvent and hence default on their obligations to their depositors, capital adequacy became a principal form of bank regulation. Capital had to be adequate to assure that a bank could pay off its creditors—principally its consumer depositors—at all times. And since government deposit insurance often involves a separate fund (such as that maintained in the US by the FDIC), regulators have a special, separate incentive to protect that fund through capital adequacy requirements.

A further purpose of bank regulation—and the main focus of this Article—is to prevent financial instability. By financial instability, I mean the collapse or weakness of one bank leading to the collapse or weakness of other banks—in short, systemic failure of the banking system. From the standpoint of the world economy, the purpose of international agreement on capital adequacy regulation is not so much to protect the creditors of a particular bank or to protect the banking system of any particular country but to prevent a bank failure from leading to failures of many banks and hence to financial instability across countries. Various popular terms are used to describe the instability problem that capital adequacy regulation addresses. Americans talk about the domino effect. The British call it "knock-on" effects. Whatever one calls it, a normal goal of bank regulators is to reduce these collective effects. This regulatory goal is often called the objective of *financial stability*.

A. The Subprime Issue in Europe

The subprime crisis led to severe effects in a number of countries. A leading illustration involves effects on banks in Germany. The spread of the subprime mortgage problem from the US to Germany is a good illustration of the domino effect in which financial instability can spread not just from one bank to another but from one country to another.

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105 In addition to these risks, Phillip R. Wood mentions a number of other factors that cause banks to be risky. Philip R. Wood, *Regulation of International Finance* 1-015–1-019 (Sweet & Maxwell 2007). One of these factors is that regulators are (or should be) particularly conscious that what differentiates banking from nearly all other industries is that there "is a higher degree of interconnectiveness between banks and other participants in financial markets, so that a default of one can compact like dominoes on the others. Thus banks are linked in payment systems and in interbank deposit markets where they borrow heavily from each other over the short term." Id at 1-017. This interconnectiveness is often referred to as "counterparty risk," since one bank may have a credit balance with another bank (the counterparty), or have a credit default swap agreement with that counterparty, and if the counterparty becomes insolvent, the first bank may experience a loss.

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Though the problem originated in the US, the resulting weakness and even failure in Germany of several Landesbanken (masked, to be sure, in part by forced mergers of Landesbanken),[106] the quadruple bailout of IKB (a leading lender to mid-sized, or "Mittelstand" industry),[107] and the big losses of private sector banks—even Deutsche Bank, which initially appeared to have avoided the exposure to subprime mortgages[108]—have captured public attention. These events illustrate that in the present globalized financial world, worldwide financial stability must be a cooperative effort by national regulatory bodies, involving both buyers and sellers of securitized products. German banks bought the subprime mortgage securities apparently without knowing, or perhaps without caring, exactly what they were buying.[109] They did so because the prospective returns were relatively high compared with their other investment opportunities.

The Sachsen Landesbank, which later had to be merged with another Landesbank, went so far as to create a special unit in Dublin to carry out trading in subprime mortgage securities.[110] Moreover, it is useful, in considering recommendations concerning off-balance sheet entities such as SIVs and conduits, to consider that such entities have been used by investing banks, and not just by originating and securitizing banks. As C.A.E. Goodhart has pointed out:

> German landesbanken, IKB and Sachsen . . . had conduits . . . [that] were many times the size of their own available capital stock. With the decline of the value of assets in their conduits, in effect these landesbanken were

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106 See Hugh Williamson, *Saxony Premier Resigns after Subprime Losses*, Fin Times (Apr 14, 2008), online at http://www.ft.com/cms/s/756fa926-0a17-11dd-b5b1-0000779fd2ac.html (visited Nov 21, 2009); James Wilson, *Put Logic Before Size, Urges Landesbank*, Fin Times 18 (Aug 4, 2008).

107 James Wilson and Andrew Bounds, *Commission to Investigate Bail-Outs of German Banks*, Fin Times 2 (Feb 28, 2008). In a final ironic twist, the IKB, which had been portrayed as a victim of the US subprime crisis, was finally sold by a German firm (KfW), which held a majority interest in IKB, to a US private equity firm, Lone Star. See Carter Dougherty, *Lone Star Buys IKB at a Major Discount*, Intl Herald Trib 11 (Aug 22, 2008).

108 James Wilson, *Deutsche Bank Profits Hit by €2.3bn Writedown*, Fin Times 22 (Aug 1, 2008).

109 Ottmar Issing, a well-known German central banker, has stated that "[i]n Germany . . . the most affected banks obviously had no understanding of the assets they had on their balance sheets." Ottmar Issing, *A TIE Exclusive Intervew with Otmar Issing*, 22 Intl Economy 49 (Summer 2008). For a description of IKB's willingness to buy offerings of US subprime mortgage securitized offerings "on a regular basis", see Peter Gumbel, *Subprime on the Rhine*, 156–5 Fortune 71 (Sept 3, 2007).

110 Readers with an interest in the role of the Landesbanken, which have had about 20 percent of the total banking assets in the German banking system, should consult Carare, et al, IMF Country Report No 06/436 at 76–97 (cited in note 26). The IMF report is unremittingly critical of the Landesbanken, stating for example, "[a]rguments for public ownership of the LBs are hard to come by . . . . At the same time, they create potential for distortions, including those from (admittedly waning) arbitrage opportunities, and from conflicting roles of the government as owner and supervisor . . . . It is unclear what market failure LBs attempt to remedy." Id at 76–78.

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> suffering a severe reduction in their own capital, and they had to be . . . bail[ed out] by their respective regional governments.[111]

In fact, the Sachsen Landesbank had conduits with assets equal to 30 percent of its total assets and hence, as a typically leveraged bank, many times its capital.[112] Similarly, IKB's "conduit- and SIV-financed assets" were equal to nearly five times their equity and over 20 percent of their on-balance sheet assets, and hence when they could no longer roll over the short-term financing of those off-balance sheet items in the commercial paper market, IKB had to meet its "contractual obligation" to finance these assets, much of which were presumably subprime mortgage-backed securities. "[B]y March 2008, the estimated rescue costs mounted to almost €8 billion, exceeding the bank's equity about fivefold."[113]

Moreover, in the case of IKB, it was not American banks or their off-balance sheet vehicles that sold subprime securities to IKB, but rather Deutsche Bank, Germany's largest privately owned bank.[114] IKB bought the subprime securities through its own special purpose vehicle, Rhineland Funding, which was able to fund itself in short-term money markets in part thanks to credit guarantees provided by Deutsche Bank.[115] Although Rhineland Funding was IKB's special purpose vehicle, Deutsche Bank provided the administrative services for Rhineland Funding, including acting as custodian and trustee.[116] This German example illustrates the more general phenomenon that at least some European banks seized the opportunity to sell subprime securities backed by US mortgage loans and that European financial institutions used SIVs and conduits in much the same manner as American financial institutions. Thus, it would be wrong to assume that regulatory reform is primarily about changes required in

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111 Goodhart, *The Background to the 2007 Financial Crisis* at 343 (cited in note 7).

112 Nicholas Veron, *No Hope in a Storm: Why Europe is Unprepared for the Next Banking Crisis*, 22 Intl Economy 53, 54 (Summer 2008) (noting that this high percentage technically still complied with capital adequacy requirements). German Landesbanken set up "off-balance sheet 'conduits' and grant[ed] them overly generous credit lines—of which Sachsen LB's €17.3bn was the largest." See Ivar Simensen and Ralph Atkins, *'Not Uncritical' Subprime Exposure Drags Down German Banks*, Fin Times 9 (Aug 22, 2007).

113 Jurgen Odenius, *Germany: Policy Lessons from Financial Market Turbulence*, IMF Survey Magazine 77–78 (2008), online at http://www.imf.org/external/pubs/ft/survey/so/2008/CAR042308A.htm (visited Nov 21, 2009).

114 See *German Government Won't Sue Deutsche Bank over IKB*, Reuters (Mar 11, 2008), online at http://uk.reuters.com/article/idUKL1188043420080311 (visited Nov 21, 2009).

115 Id.

116 Id. Well over half of IKB's operating profit came from "structured finance" and "securitization." For more such detail on IKB, Rhineland Funding, Deutsche Bank and subprime mortgages, consider Carrick Mollenkamp, Edward Taylor, and Ian McDonald, *Global Scale: Impact of Mortgage Crisis Spreads—How Subprime Mess Ensnared German Bank: IKB Gets a Bailout*, Wall St J A1 (Aug 10, 2007).

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US law or that these changes would affect operations of only US banks. The use of off-balance sheet entities should be regarded not just as a securitization problem, but a worldwide banking regulation issue.

Subprime problems in Europe arose heavily from the purchase of US-origin securitized mortgage loan products, but a substantial proportion of European problems arose from the use by German banks of the same originate-to-distribute securitization as practiced in the US. Although Germany largely escaped these kinds of problems by use of covered bonds, as described above, the UK, Spain and the Netherlands suffered substantially from the sale of securitized mortgage products.[117] According to a European Central Bank study, securitization was little used in Europe prior to the adoption of the euro as the common currency of the Eurozone, but thereafter there was a "spectacular increase in securitisation activity in the euro area."[118] Nevertheless, though securitization has been used in Germany for German residential real estate financing, the specific types of problems plaguing the US with regard to subprime mortgages apparently have not arisen in the case of German real estate because of the special type of securitization utilized—the Pfandbrief, referred to in the United States as a covered bond.[119]

B. The Securitization Process And the Subprime Crisis

Let us look in greater detail at what these securitized transactions were. Once upon a time, banks lent money to homebuyers, and the banks took mortgages as collateral for the loans. The banks then held these mortgage-backed loans to maturity, making their profit on the interest payments.

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117 John Kiff, Paul Mills, and Carolyne Spackman, *European Securitsation and the Possible Revival of Financial Innovation*, VoxEU (Oct 28, 2008), online at http://www.voxeu.org/index.php?q=node/2494 (visited Nov 21, 2009). See ESF Securitisation Data Report 3 (2003), online at http://www.securitization.net/pdf/esf_report_082903.pdf (visited Nov 21, 2009) (reporting country-by-country data of European securitization). With regard to the UK, see *Turner Review* at 15–17 (cited in note 13). On the adoption in much of Europe of the "originate to distribute" model, see Deutsche Bank Research, *European Banks: The Silent (R)evolution* 24 (April 22, 2008), online at http://www.dbresearch.de/PROD/DBR_INTERNET_EN-PROD/PROD0000000000224371.pdf (visited Nov 21, 2009).

118 Yener Alunbas, Leonardo Gambacorta, and David Marquës, *Securitisation and the Bank Lending Channel*, European Central Bank Working Paper Series No 838 at 7 (Dec.2007), online at http://www.ecb.eu/pub/pdf/scpwps/ecbwp838.pdf (visited Nov 21, 2009).

119 Louis Hagen, *A Safe Haven From the Subprime Crisis*, Atlantic Times (Jan 2008), online at www.atlantic-times.com/archive_detail.php?recordID=1148 (visited Nov 21, 2009); Verband Deuscher Pfandbriefbanken, *The Pfandbrief—A Premium Product* (2002), online at http://www.pfandbrief.org/d/internet.nsf/0/346DAA456C29D09AC125741F00254245/$FILE/PfandbriefPremiumProduct.pdf (visited Nov 21, 2009). Consider Verband Deutscher Pfandbriefbanken, *Annual Report* (2008), http://www.pfandbrief.de/d/bcenter.nsf/0/99A93B50A14C60E2C12575B70046D779/$FILE/EN_vdp-JB2008.pdf (visited Nov 21, 2009).

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Today US banks find that method of operation too old-fashioned. What they want is fee income, and they want it up front rather than spread over many years. By fees, I simply mean charges of any kind as opposed to interest income. In lending with houses as security, US banks often make (or buy) a large number of such mortgage loans, and then package them together in securities, using the underlying packaged mortgages as collateral for these securities. The securities are appropriately called mortgage-backed securities (MBSs).[120] The process of securitization results in the bank being able to charge a fee for securitization (or sell the securities for more than the amount of the underlying principal of the mortgage loans), and thus translate long-term interest income into immediate income. Thus, income is accelerated and, more importantly, no reserves need be held under capital adequacy regulation, including Basel I.[121] Even the newer Basel II does not automatically lead to higher required bank reserves.[122] Although it would be too simple to say that Basel I led to securitization, there is little doubt that Basel I made securitization more attractive. Securitization helped to avoid Basel I capital adequacy requirements, most simply because as soon as assets are securitized, no assets remain on the balance sheet of the originating banks.[123] According to one assessment, "securitization has rendered the 1988 [Basel] Accord's minimum capital requirements ineffective as a tool to maintain adequate regulatory capital against the real risk taken."[124]

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[120] A more general term is asset-backed securities ("ABS"). In the original language of securitization, MBS was a subset of ABS but today the terms are typically used to describe two kinds of asset-backed securities. ABS is discussed below in the special context where MBS securities are themselves used as collateral for asset-backed commercial paper.

[121] A further weakness of the Basel agreement, unrelated to securitization, is that it treated real estate mortgage loans as only half as risky as other loans to nongovernmental borrowers and, though this was the result of an essentially political decision (analogous to many other US government policies favoring home loans), experience in the subprime crisis demonstrates that many types of home loans were especially risky).

[122] See Ayadi, *Basel II Implementation* at 23–27, 49–61 (cited in note 15) See Barry Eichengreen, *Ten Questions About the Subprime Crisis*, Banque de Fr, Financial Stability Rev Special Issue on Liquidity No 11, 21 (Feb 2008) ("Under Basel II, regulators will take into account the riskiness of a bank's overall portfolio . . . when establishing capital requirements."); Scott, *International Finance: Transactions, Policy, and Regulation* 592–94 (describing the operational requirements for transferring assets from the originating bank's books, which permits originating banks not to hold capital against such assets) (cited in note 38). Pillar II of Basel II enables national regulators to exercise discretion when requiring higher capital in the case of securitization. See id at 375.

[123] This discussion ignores possible legal complications under Basel I coming from liquidity facilities involving a promise to provide funding to special purpose vehicles—SIVs and conduits—that became unable to fund themselves in the short-term money markets. See *Would Basel II Have Helped Prevent the Subprime Turmoil*, Statement of the Shadow Regulatory Committee No 253 (Dec 10, 2007) (pointing out that Basel II imposes a capital charge on short-term lines of credit to SIVs sponsored by a bank).

[124] Ayadi, *Basel II Implementation* at 19 (cited in note 15).

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This new strategy of banks, particularly US banks, is known as the "originate to distribute" model, as distinguished from the old-fashioned "originate to hold" model. The term "subprime" has been defined in various ways, but in its broader meaning with regard to mortgages it refers to mortgages of less than investment grade.

When one turns to securitization, however, the use of tranches creates a new framework for the usage of the term "subprime." The securities are sold in tranches. The highest tranche is normally rated AAA, the highest rating, but lower tranches have lesser and lesser ratings, let us say AA, A, BBB, and so on with some of such letter ratings being defined as prime and lower ones as subprime. The rating received by individual tranches has little and sometimes nothing to do with the quality and safety of the mortgages underlying the issuance as a whole. It is important to note that there is just one pool backing the issuance as a whole rather than a separate pool for each tranche. Indeed, through the alchemy of securitization, a tranche of securities may be rated AAA even though none of the underlying mortgage loans are of prime grade.[125] How is this possible?

The AAA-outcome depends on the concept of credit enhancement. In addition to guarantees from monoline insurers,[126] a principal way of achieving this enhancement is to use the loans in lower tranches as security.[127] This is

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125 For a description of the use of tranches to achieve desired ratings, see Efraim Benmelech and Jennifer Dlugosz, *The Alchemy of CDO Credit Ratings*, NBER Working Paper No w14878 at 21 (April 2009); Adam B. Ashcraft and Til Schuermann, *Understanding the Securitization of Subprime Mortgage Credit*, 2 Found & Trends Fin 191–309 (2008). The alchemy of securitization, in which the use of tranches and associated mechanisms (as described below) leads to purchases of securitized products that are not based on an examination by either buyers or, in many cases, by credit rating agencies of the underlying individual mortgage loans. Thus far, US government and international organization reform proposals do not require disclosure of detailed loan level data. However, requiring disclosure of such loan level data warrants consideration. See CCMR, *The Global Financial Crisis: A Plan for Regulatory Reform* at 143–145 (cited in note 2). Although there may have been little demand for such disclosure during the pre-crisis boom, it is difficult to see how mortgage loan securitization can regain its former position in real estate finance without such disclosure and a willingness of the buy side to analyze such data as part of due diligence.

126 A monoline insurer is an insurer that has only one line of insurance (in this case, the monoline insurers only guarantee securities). According to the Association of Financial Guaranty Insurers ("AFGI"), the advantage to specializing in one line of insurance is that the insurer can build expertise in detecting problems specifically in their field. See AFGI, *Advantages of the Monoline Structure*, online at http://www.afgi.org/monoline.htm (visited Nov 21, 2009). Yet the monoline insurance companies suffered greatly from their insurance of subprime securities. See Baily, Elmendorf and Litan, *The Great Credit Squeeze* at 34–35 (cited in note 66).

127 "A central insight of structured finance is that by using a larger number of securities in the underlying pool, a progressively larger fraction of the issued tranches can end up with higher credit ratings than the average rating of the underlying pool of assets." Joshua D. Coval, Jakub

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possible through application of the "waterfall" principle. All of the interest receipts for all of the tranches are collected, and then are transferred to the highest tranche investors first to the extent needed to satisfy their contractual claims to principal and interest. Only when all of the highest tranche investors are paid is any of the interest income received on behalf of the next highest tranche. This procedure is then followed on down the tranches—hence, the analogy to waterfalls.[128] The middle tranches are commonly called "mezzanine tranches" and the lowest tranches "equity tranches," the latter by analogy to equity investors who receive dividends only when all creditors' claims are satisfied.[129]

Beyond the use of lower tranches as security for higher tranches, the principal tools for according a large percentage of an offering an AAA rating are: (1) overcollateralization, where the face value of the mortgages loans backing a security add up to more, sometimes considerably more, than the face value of the securities;[130] (2) insurance, usually offered by so-called monoline insurers whose business primarily involves insuring securities; and (3) the credit rating process itself.[131]

Jurek and Erik Stafford, *The Economics of Structured Finance*, Harv Bus S Working Paper 09-060 at 7 (2008), online at http://ssrn.com/abstract=1287363 (visited Nov 21, 2009).

128 The success of the tranche system depends crucially on the assumption that the risks of different assets in the pool are uncorrelated. So if, for example, all of the assets in a particular securitization were residential mortgage loans, it is much less likely that a AAA rating for a top tranche would be justified if the underlying mortgages were from a limited number of localities, especially if those localities were "hot" real estate markets. Yet it is unclear (indeed unlikely) that the tranche and overcollateralization approach used in rating residential mortgage securities involves actual examination of the underlying mortgage loans backing a particular issuance to test these more sophisticated statistical issues. That is one reason why some critics advocate sufficient disclosure with regard to individual underlying mortgages loans so that the purchaser of the securities could make an independent judgment.

129 Some securitized offerings involved several AAA tranches. In such cases, the top tranche was commonly called the "supersenior" tranche because it received income even before other AAA tranches. It is characteristic of the current turmoil that some banking institutions attempted to protect themselves by buying only supersenior tranches (some originating banks retained the supersenior tranche on their own books). But these supersenior tranches also experienced losses under mark-to-market accounting as investors sought to flee the entire residential mortgage sector or were forced to sell in order to avoid liquidity problems. See Tett, *Fool's Gold* at 203–08 (cited in note 97).

130 Coval, Jurek and Stafford, *The Economics of Structured Finance* at 6–7 (cited in note 127).

131 On the process, including examples, of using financial engineering to manufacture high ratings on tranched products (that is, not just mortgage-backed securities but Collateralized Debt Obligations ("CDOs") and similar pooling of assets), consider Efraim Benmelech and Jennifer Dlugosz, *The Alchemy of CDO Credit Ratings*, NBER Working Paper 14878 (2009), online at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1391825 (visited Nov 21, 2009). The authors find that in a large set of Collateralized Loan Obligations ("CLOs"), a majority of

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The securities created in this securitization process were sold not just in the US but throughout the world. And many of the investors were banks. According to press reports, the Bank of China held nine billion dollars' worth of securities backed by US subprime mortgages when the crisis erupted in the summer of 2007.[132]

The resulting securities were especially hard for purchasers to evaluate, hence the tendency to rely on credit rating agencies—one reason that the securities were much more complex than the "plain vanilla" securities described above. John B. Taylor and Kenneth E. Scott describe the stunning complexities of some securitized mortgage-backed offerings:

> Some of the tranches from one mortgage pool were combined with tranches from other mortgage pools, resulting in Collateralized Mortgage Obligations (CMO). Other tranches were combined with tranches from completely different types of pools, based on commercial mortgages, auto loans, student loans, credit card receivables, small business loans, and even corporate loans that had been combined into Collateralized Loan Obligations (CLO). The result was a highly heterogeneous mixture of debt securities called Collateralized Debt Obligations (CDO). The tranches of the CDOs could then be combined with other CDOs, resulting in CDO2. ["CDO squared"]
>
> Each time these tranches were mixed together with other tranches in a new pool, the securities became more complex. Assume a hypothetical CDO2 held 100 CLOs, each holding 250 corporate loans -- then we would need information on 25,000 underlying loans to determine the value of the security. But assume the CDO2 held 100 CDOs each holding 100 RMBS comprising a mere 2,000 mortgages—the number now rises to 20 million![133]

As a strategy, the securitization of mortgage loans can be quite profitable, but it is vulnerable to crisis, especially because institutional purchasers of the securities borrow to finance the purchase (using the increased leverage to increase yield from the investment). At least three generic mishaps can occur: the costs of borrowing can go up, access to borrowing can dry up, or the assets bought with borrowed money can fall in value. Since these three occurrences all happened in

tranches received AAA ratings while the average credit rating of the collateral was below investment grade.

132 See Bloomberg News, *Chinese Bank has $9 Billion in Subprime-Backed Securities*, NY Times C7 (Aug 24, 2007); Ian McConnell, *Bank of China Reassures Over Debt Exposure*, Herald Scotland (Feb 19, 2008), online at http://www.heraldscotland.com/bank-of-china-reassures-over-debt-exposure-1.874938 (visited Nov 21, 2009).

133 Kenneth E. Scott and John B. Taylor, *Why Toxic Assets Are So Hard to Clean Up*, Wall St J A13 (July 20, 2009).

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this crisis,[134] the capital adequacy approach enshrined in Basel I and carried over, with modifications, into Basel II needs to be reexamined.

Quite aside from any imperfections in Basel I and II, the capital adequacy approach to bank regulation cannot deal adequately with the problem. First, on the originating side, it is important to observe that many, if not most, of the institutions that make the mortgage loans are not banks in the regulatory sense and are not subject to bank regulation. Rather, a great many are mortgage companies (usually referred to as mortgage brokers) that originate mortgage loans but usually do not hold mortgages to maturity. In the past, especially beginning in the 1980s, these mortgage brokers originated the mortgage loans and sold them to GSEs, which packaged them in MBSs, which were then sold to investors. Later many commercial and investment banks chose to take on a securitizing role. These securitized offerings began to be referred to as private label MBSs to differentiate them from GSE-securitized offerings. An advantage to the banks through securitization was that as soon as the mortgage loans were securitized and the securities were sold, there was nothing left on the banks' books and so there was nothing to which capital adequacy regulation would apply; and yet the bank had made money on the transaction.[135]

Nonetheless, capital adequacy regulation applies to banks that buy MBSs. The buying banks obviously are subject to bank regulation, and many other buyers, such as insurance companies, are also regulated. Under capital adequacy regulation, whether or not of the kind found in Basel I and II, capital would need to be maintained with respect to such purchased assets. Not to worry! The buying banks could place these securities off the balance sheet in SIVs. Alternatively, buying banks could buy directly from SIVs sponsored by the originating bank. Most banking authorities did not attempt to exercise jurisdiction directly over SIVs, on the theory that the SIVs were not banks (even

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[134] In addition, in the residential mortgage-backed securities field, the owners of the homes in question often were facing increased interest rates on their adjustable rate loans due to "reset" provisions that called for the loans' interest rates to rise to market rates after an initial low-interest period. And in the subset of mortgage-backed securities involving subprime mortgages, the creditworthiness of the borrowers tended to decline with the deterioration in economic conditions, even assuming that the borrowers could afford the home at the outset. And, of course, with the fall of house prices in recent years, the value of the collateral fell, and many homeowners decided simply to mail in their keys to the lender and abandon their homes.

[135] For the history of securitization summarized in this paragraph, consider Christopher L. Peterson, *Predatory Structured Finance*, 28 Cardozo L Rev 2185 (2006–07), and authorities cited therein. See also Vinod Kothari, *Securitization: The Financial Instrument of the Future* 108–86 (John Wiley & Sons 2d ed 2006).

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though they were bank-sponsored) and the securities were just investments by a non-bank.[136]

The SIVs, in the minds of the banks, were primarily a funding vehicle.[137] The SIVs issued commercial paper sold directly to institutional investors such as money market funds.[138] The SIVs used the proceeds of the commercial paper (and sometimes junior notes) in order to buy US-origin MBSs. In order to sell the commercial paper at a reasonable price, the SIVs pledged the MBSs they were in the process of purchasing as collateral for the commercial paper they were selling to pay for those securities. This SIV-issued commercial paper was therefore referred to as asset-backed commercial paper or, more precisely, mortgage-backed commercial paper.

Numerous reports by the IMF, the FDIC, and other bodies raised warning flags in the spring of 2007.[139] Despite the regulatory concern, no public worries were yet evident about the ballooning volume of purchases by banks and other institutions throughout the world of securitized products that included subprime mortgages. Worries did not arise publicly until, suddenly, some purchasers of the mortgage-backed commercial paper from the SIVs refused to roll over the commercial paper. They were concerned about buying the commercial paper from faceless SIVs in view of the growing doubts of informed observers about the value of the collateral.[140] To the extent the collateral for the commercial paper consisted of securities based on mortgages, the commercial paper became regarded as less than safe, however high the rating accorded by the rating

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136 For more detail on SIVs and their history, consider Joseph R. Mason, *Structuring for Leverage: CPDOs, SIVs and ARSs*, Brookings-Tokyo Club-Wharton Conference Paper (Nov 17, 2008), online at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1288051 (visited Nov 21, 2009).

137 Special purpose vehicles ("SPVs"), which are simply a broader concept than SIVs, are used for other purposes, including securitization of assets other than mortgages. In discussing SIVs in the text, I have chosen to use the past tense only because the use of SIVs has fallen out of fashion with the financial crisis, but SIVs could well return to fashion, depending on the nature of reforms now under consideration.

138 Under US practice, the term "commercial paper" refers to debt obligations sold to institutions, usually of a maturity of less than 270 days to avoid certain SEC regulatory provisions.

139 A quick Google search will lead to numerous reports in prior months by the IMF, the FDIC, and other bodies raising warning flags. In considering why it took so long for the problem to reach the attention of the supervisory authorities, it is important to understand how rapidly the market for securitized mortgage loans, particularly subprime loans, grew: "[I]n 2001, just 46 percent of subprime and Alt-A [another form of non-traditional real estate loans] mortgages were securitized; by 2007 that figure had reached 93 percent." Scott, *The Global Financial Crisis* at 3 (cited in note 89). Moreover, it appears that the percentage of total US mortgage loans that were subprime was growing rapidly as well.

140 Since the mortgage-backed securities were long-term and commercial paper is by definition quite short-term, the collapse of the SIVs is a good illustration of the danger of lending long and borrowing short. See Geithner, *Reducing Systemic Risk* (cited in note 97).

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agencies. The rating agencies had issued their ratings based on whether interest and principal on the MBSs would be paid when due. In issuing their ratings, these agencies were not offering a judgment on whether the SIVs would be able to roll over the short-term commercial paper with which they financed their holdings while seeking to sell those holdings to ultimate investors. Once the commercial paper market began to refuse to roll the commercial paper over, the SIVs had no alternative but to sell at whatever price available the MBSs they had bought with the expiring commercial paper. Since the SIVs were simply vehicles without their own resources, continuing to hold the securities was not a realistic option. The result of those sales was that as the commercial paper markets began to seize up, the prices of even highly rated MBSs began to plunge. A cycle followed in which the process fed on itself. Investing banks and other institutions had to announce write-offs of their existing holdings of MBSs under accounting rules that required them to "mark to market"[141] their securities.

The result was the full-blown crisis that first erupted in the summer of 2007 and which continued for many months. The press tended to focus on problems of various institutions that had invested in large amounts of MBSs distributed through the securitization process.[142] But more bad news was to come. Some of the originating banks (not just investing institutions) began to experience problems. Some of those originating banks had undertaken to take back securities that had fallen significantly in ratings or values. Other originating banks had undertaken (as a "liquidity facility") to provide their SIVs (or other intermediary purchasers) with additional funds when commercial paper financing became unavailable. Others took the securities back for reputational reasons: they wanted to be seen as standing behind their deals. Many banks were both issuers of MBSs and also investors in such securities. Indeed, many were forced investors simply because they were "warehousing"[143] the securities. Increasingly, banks were forced to warehouse MBSs simply because they were hard to sell when market demand became surfeited and ultimate buyers were

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141 "Mark to market" simply refers to rules requiring use of current market prices, rather than historical cost or alternative methods, in valuing assets.

142 See, for example, Rupini Bergstrom, *Moving the Market: Bear Stearns to Cut 650 Jobs, In Its Third Round of Layoffs*, Wall St J (Nov 29, 2007), online at http://online.wsj.com/article/SB119627127466406726.html (visited Nov 21, 2009); Alan S. Blinder, *Six Fingers of Blame in the Mortgage Mess*, NY Times (Sept 30, 2007), online at http://www.nytimes.com/2007/09/30/business/30view.html (visited Nov 21, 2009) (explaining the securitization process in layman's terms and launching a criticism specifically about the way mortgage-backed securities were handled); Floyd Norris, *In This Mess, Finger Pointing is in Style*, NY Times (July 27, 2007), online at http://query.nytimes.com/gst/fullpage.html?res=9503E5DE173CF934A15754C0A9619C8B63 (visited Nov 21, 2009).

143 "Warehousing" refers to accumulating pools of mortgage loans pending securitization and holding the resulting securities in inventory pending their sale.

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plagued by emerging doubts. When banks found it necessary to reduce their warehoused inventory, the result was that market prices began to fall. The process quickly turned into a crisis—the subprime crisis—that became front-page news.[144]

IV. A Summary of the Causes Behind the Regulatory Failure

In the US, the 2008 presidential election was deeply affected by political attitudes toward the housing market and the role of financial institutions in financing that market. As the result of competition for votes, most of the public attention was paid to the plight of the homeowners who were losing their homes. But throughout the world and in the US, regulatory officials, scholars and financial experts have continued to question what should be done in financial regulation in the downstream markets for mortgage loans securities. One regulatory issue involved the rating agencies (especially Moody's, Standard and Poor's, and Fitch) that had given AAA ratings to the top tranches[145] of the securitizations. Another involved the application of capital adequacy rules to various aspects of the securitization process. There are many other specific regulatory issues, the most important of which are discussed in the remainder of this article.

The initial problem with the securities was, however, not regarded as a rating agency problem nor as a capital adequacy problem, but rather as a liquidity problem in credit markets.[146] Capital adequacy regulations and the Basel agreements have little to say on the subject of liquidity. Of course, market risk is considered in Basel II.[147] And to the extent that Basel II deals with risk management within banks, it also appears to deal with these kinds of problems. But a fair assessment of the problems indicates that bank regulatory agencies had taken a narrow view of their responsibilities—narrow at least given the state

144 For a description of the main events in the crisis, see International Monetary Fund, *Financial Stress and Deleveraging*, Global Financial Stability Report 5–20 (Oct 2008); Scott, *The Global Financial Crisis* 1–10 (cited in note 89); Scott, *International Finance* at 597–653 (cited in note 38).

145 A frequent occurrence was that even above the AAA tranche was to be found a "supersenior" AAA tranche. See Tett, *Fool's Gold* at 204 (cited in note 97).

146 For a discussion of the misunderstanding of the concept of liquidity in the early stages of the crisis, and even today, see Tobias Adrian and Hun Song Shin, *The Shadow Banking System: Implications for Financial Regulation* 10, Fed Reserve Bank of NY Staff Rep 382 (2009).

147 Market risk was first incorporated in Basel I in a 1996 amendment. See Daniel K. Tarullo, *Banking on Basel: The Future of International Financial Regulation* 61 (Peterson Inst 2008) (noting that this incorporation "foreshadowed Basel II").

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of globalization and financial engineering.[148] The financial engineering involved in mortgage securitization was initially praised when it was seen as diversifying risks away from mortgage lenders. The problem was that hardly any regulators apparently knew, or perhaps even worried about to whom the risks actually were diversified. Nor did regulators at first consider whether some or all of the risk was actually retained de facto through liquidity commitments to sponsored SIVs or because of the securitizing bank's need to provide liquidity to the off-balance sheet SIVs in order to protect the bank's commercial reputation. Indeed, originating banks, in their rush to book higher and higher bank revenues, ignored the possibility that their financial engineering (that is, the practice of securitizing mortgages into SIVs or other off-balance sheet entities) would lead to losses in the long run.[149]

In view of the decentralization of international financial regulation to individual countries, it is fair to say that US regulators were not particularly worried about non-US purchasers of the securities. Indeed, they probably had no jurisdiction to investigate foreign purchasers' behavior. If the securities themselves were a problem, they apparently raised no securities regulation issues for the SEC in the US or in other countries where the securities were sold.[150] And, of course, when the commercial paper market froze up, the Fed had no choice but to throw money at the problem by providing more liquidity to money markets and to move to head off any resulting recession by driving interest rates lower (while subordinating concerns about future inflation).[151] However, the resulting credit crunch, bailouts, and recession are beyond the scope of this study, which focuses on financial regulation issues.

V. RECOMMENDATIONS

The subprime crisis and the ensuing financial meltdown unleashed a remarkable degree of careful study of proposed regulatory responses by

148 By "financial engineering," I mean the process by which financial institutions seek to enhance profits and gain customers for their financial products and services by devising ways to avoid existing rules that would otherwise constrain them.

149 Consider Tett, *Fool's Gold* at 167–254 (cited in note 97); see also *Turner Review* at 15–17 (cited in note 13).

150 Of course, in the wake of the crisis, extensive private litigation challenging the adequacy or truth of the disclosures made by the issuers of mortgage-backed securities has already begun. On the other hand, anecdotal evidence suggests that that the disclosures made with respect to particular issuances were often necessarily so long and complex that purchasers made little use of the disclosures in making their decisions or indeed may not even have bothered to read the disclosure documents, especially where the securities were rated AAA by the rating agencies.

151 The many steps taken in that direction by the US Treasury and the Federal Reserve in connection with the subprime crisis and the ensuing credit crisis are beyond the scope of this paper.

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academics, voluntary groups, governments, international institutions and Basel institutions such as the Financial Stability Board and the Basel Committee on Banking Supervision. On the basis of this advance work, the US Treasury issued its conclusions in its June 2009 *Financial Regulatory Reform: A New Foundation*[152] as to what reforms should be enacted by the US Congress. Some proposed reforms were already watered down to meet known or predicted Congressional objections. Nevertheless, since the publication of the US Treasury's proposed reforms, the Congressional process has already demonstrated a tendency—under the combined influences of heavy lobbying, interest group politics, and Congressional reactions to the changing themes and revelations of the twenty-four hour news cycle—to remove many of the proposals advanced for reform, including some that survived the G20 international process.[153] As Mervyn King, governor of the Bank of England, put it, "To paraphrase a great wartime leader, never in the field of financial endeavour has so much money been owed by so few to so many [and] *so far with so little real reform*."[154]

Reports available at this writing include publications by several Basel institutions (the Financial Stability Board as well as the Banking Committee on Banking Supervision),[155] three leading private sector groups (Group of Thirty,[156]

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152 Consider US Department of the Treasury, *Financial Regulatory Reform: A New Foundation* (June 2008), online at http://financialstability.gov/docs/regs/FinalReport_web.pdf (visited Nov 21, 2009).

153 Tom Braithwaite and Francesca Guerrera, *Financial Regulators Strain to Come Up with US Reform Plan*, Fin Times 6 (Oct 27, 2009); Brooke Masters, *Long Road to Regulation* (Oct 23, 2009), online at http://www.ft.com/cms/s/0/73f55fde-bf6d-11de-a696-00144feab49a,dwp_uuid=a947959a-ba4e-11de-9dd7-00144feab49a.html (visited Nov 21, 2009); Martin Wolf, *How to Manage the Gigantic Financial Cuckoo in Our Nest* (Oct 21, 2009), online at http://www.ft.com/cms/s/0/97e0f540-bda9-11de-9f6a-00144feab49a.html (visited Nov 21, 2009) ; Gretchen Morgenson, *Don't Let Exceptions Kill the Rule*, NY Times (Oct 17, 2009), online at http://www.nytimes.com/2009/10/18/business/economy/18gret.html (visited Nov 21, 2009). On the congressional realities of financial regulatory reform, consider Tom Braithwaite, *Financial Bills Take Stumbling Steps*, Fin Times (Oct 15, 2009), online at http://www.ft.com/cms/s/0/8c8437e2-b918-11de-98ee-00144feab49a.html (visited Nov 21, 2009); Simon Johnson and James Kwak, *It's Crunch Time: The Fight to Fix the Financial System Comes Down to This*, Wash Post (Sept 29, 2009), online at http://www.washingtonpost.com/wp-dyn/content/article/2009/09/29/AR2009092900006.html (visited Nov 21, 2009).

154 *Mervyn King on Banks: The Key Quotes from His October 20 Speech*, The Telegraph (UK) (Oct 21, 2009), online at http://www.telegraph.co.uk/finance/economics/6394077/Mervyn-King-on-banks-the-key-quotes-from-his-October-20-speech.html (visited Nov 21, 2009) (emphasis added).

155 The Basel Committee on Banking Committee on Banking Supervision has released a stream of reports, which are available at http://www.bis.org/list/bcbs/index.htm. Publications of the Financial Stability Board are available at http://www.financialstabilityboard.org/list/fsb_publications/index.htm. For an informal, but insightful, review of the work of the Basel institutions, see Daniel K. Tarullo, *International Cooperation to Modernize Financial Regulation*, Hearing before the Subcommittee on Security and International Trade and Finance, Committee on Banking, Housing, and Urban Affairs, *International Cooperation to Modernize Financial Regulation* (Sept

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Institute of International Finance,[157] and Committee on Capital Markets Regulation), and to a limited extent the US Treasury, in its previously discussed Blueprint[158] and its proposal on behalf of the Obama administration to the US Congress.[159] In the UK, the Financial Services Authority (FSA) published a report to the Chancellor of the Exchequer by the FSA's Chairman, Lord Turner.[160] The European Commission published a report of its High Level Group on Financial Supervision in the EU, referred to generally as the de Larosière Report after the Group's chairman, Jacques de Larosière.[161] Many of the proposals of these groups are discussed below,[162] but at the outset it is worth expressing some skepticism about broad arguments against the entire process of securitization that are sometimes expressed.

A. Securitization

Any sensible reform of securitization requires recognition of the value of securitization. This financial innovation has been an important technique for financing enterprise in the US since at least 1980. It is heavily used by US business for financing current operations (for example, securitizing accounts receivable in order to improve cash flow).[163] The use of securitization for

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30, 2009), online at http://www.federalreserve.gov/newsevents/testimony/tarullo20090930a.htm (visited Nov 21, 2009). Consider Bank for International Settlements, *BCBS Joint Forum Report on Special Purpose Entities* (Sept 2009), online at http://www.iaisweb.org/__temp/Joint_Forum_Report_on_Special_Purpose_Entities__29_September_2009.pdf (visited Nov 21, 2009) (providing eight recommendations for the regulation of special purpose entities).

156 Consider Group of Thirty, Financial Reform: A Framework for Financial Stability (Jan 15, 2009), online at http://www.group30.org/pubs/recommendations.pdf (visited Nov 21, 2009).

157 Consider Institute of International Finance ("IIF"), Interim Report of the IIF Committee on Market Best Practices (Apr 2008). The IIF is an association of major international banks throughout the world; its chairman at the time of the report was Josef Ackermann of Deutsche Bank. The IIF report is not primarily concerned with bank regulation but rather with "best practices" to be followed by banks.

158 A Group of Thirty report covers much the same ground as the *Bush Treasury Blueprint*. Consider Group of Thirty, *The Structure of Financial Supervision* (cited in note 72).

159 Consider *Obama Treasury Proposal* (cited in note 87).

160 Consider *Turner Review* (cited in note 13).

161 Report of the High Level Group on Financial Supervision in the EU (Feb 25, 2009), online at http://ec.europa.eu/internal_market/finances/docs/de_larosiere_report_en.pdf (visited Nov 21, 2009).

162 An important subject on the current regulatory reform agenda involves credit default swaps ("CDSs"). However, it is not addressed in this paper because the relation of the CDS problem to the subprime crisis is tangential. For an overview of CDS issues, see CCMR, *The Global Financial Crisis: A Plan for Regulatory Reform* at 33–57 (cited in note 2).

163 For a demonstration of the benefits of credit card securitization, see Charles W. Calomiris and Joseph R. Mason, *Credit Card Securitization and Regulatory Arbitrage*, FRB of Philadelphia Working

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financing home mortgages seems to some commentators to be a relatively recent innovation. But it has been used by government-sponsored enterprises such as Fannie Mae and Freddie Mac for many years.[164] The positive results of securitization included not merely diversification of risks beyond the banking sector but also increased availability of funds for housing, lower costs and more efficient use of capital—at least until securitization contributed to the present international financial crisis. Moreover, as the IMF emphasized in its September 2009 Global Financial Stability Report, a recovery in loan securitization markets, which had collapsed in the recent financial crisis, is "critical" to economic recovery.[165]

B. Securitization in Housing

Not only is securitization in general a useful financial technique, but it is a particularly useful financing technique in the real estate sector and therefore should not be prohibited. Putting aside for one moment the subprime problem, securitization has been an important and highly desirable innovation in the use of capital markets to finance purchases of homes. Some decades ago virtually all financing of individual home purchases in the US was provided from within the local community.[166] Not only was that an inefficient arrangement, but it was also unfair because poor people in lower income areas found home financing hard to obtain and unduly expensive. This condition in turn led to a rapid growth of securitization of home mortgage loans, in part due to inefficient government subsidy and guarantee programs.[167] It also led to the rise of large, implicitly

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Paper No 03-7 at 10–24 (April 2003) (using empirical analysis to demonstrate that credit card securitization is efficient contracting and not an abuse).

164 See David Reiss, *The Federal Government's Implied Guarantee of Fannie Mae and Freddie Mac's Obligations: Uncle Sam Will Pick Up the Tab*, 42 Ga L Rev 1019, 1030 (2008) (explaining that securitization of mortgages has been taking place for over three decades).

165 International Monetary Fund, *Global Financial Stability Report: Navigating the Financial Challenges Ahead* 77 (Oct 2009), online at http://www.imf.org/External/Pubs/FT/GFSR/2009/02/pdf/text.pdf (visited Nov 21, 2009). For more detail, consider id at 1–74, 78; Chris Giles, *IMF Fears Rules Will Kill Off Securitisation*, Fin Times 9 (Sept 22, 2009), online at http://www.ft.com/cms/s/0/54d5c1c8-a70f-11de-bd14-00144feabdc0.html?nclick_check=1 (visited Nov 21, 2009).

166 See Frame and White, 19 J of Econ Perspectives at 159–61 (cited in note 52) (explaining that the GSEs were able to have national scope in an era where most lending happened locally); see also Reiss, 42 Ga L Rev at 1030 (cited in note 164).

167 For information on the growth of securitization of home mortgage loans and the growth of subprime loans as a proportion of total mortgage loans in the US, see CCMR, *The Global Financial Crisis: A Plan for Regulatory Reform* at 12–15, 19–20 (cited in note 2).

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subsidized but privately owned GSEs, such as Fannie Mae and Freddie Mac.[168] These enterprises popularized securitization of home mortgages. Indeed, until relatively recently these GSEs were expanding their capacity to guarantee and securitize mortgages to much larger levels, presumably in order to deal with the impact of the subprime problem on the housing industry but also in order to increase the volume of their business.[169] The IMF has made a strong case that recovery of securitization markets, especially in the US, is "critical to limiting the real sector fallout from the credit crisis amid financial sector deleveraging pressures."[170] Thus, as suggested below, the challenge is to make regulatory changes to prohibit or discourage the abuses that led to the subprime crisis.

C. Off-Balance Sheet Entities

The feature of securitization that has received the most criticism is the use of off-balance sheet entities, referred to as Special Purpose Vehicles (SPVs), such as SIVs and conduits.[171] SIVs, which play a key role in the subprime meltdown, are by design poorly capitalized and often highly leveraged.[172] But it

168 Christopher L. Peterson, *Over-Indebtedness, Predatory Lending, and the International Political Economy of Residential House Securitization: Comparing the United States' Subprime Home Mortgage Lending Crisis to Home Finance in the United Kingdom, Germany, and Japan*, University of Utah, S.J. Quinney College of Law Working Paper at 4–6 (2008), online at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1083184 (visited Nov 21, 2009) (tracking the nature of GSEs and their complex structure).

169 See Peter J. Wallison and Charles W. Calomiris, *The Last Trillion Dollar Commitment: The Destruction of Fannie Mae and Freddie Mac* 1–8 (Sept 2008), online at http://www.aei.org/docLib/20080930_Binder1.pdf (visited Nov 21, 2009); Scott, *Global Financial Crisis* at 3 (cited in note 89); Scott, *International Finance* at 598 (cited in note 38). For example, one change partially lifted a cap imposed by their regulator, the Office of Federal Housing Enterprise Oversight (OFHEO), on their total authority to buy and guarantee mortgages by $200 billion. Saskia Scholtes, *Fannie and Freddie to Boost Mortgage Market*, Fin Times 2 (Mar 20, 2008) (reporting this was done by reducing their capital requirements from 30 percent to 20 percent).

170 International Monetary Fund, *Global Financial Stability Report* at 77 (October 2009) (cited in note 165). The case for restarting securitization markets is laid out in Chapter 1 of this IMF Financial Stability Report and summarized in Chapter 2, Box 2.1 thereof.

171 "Conduits" are entities sponsored but not owned by the originating banks and other originating financial entities.

172 A study of Special Purpose Vehicles, of which SIVs are only one example, found that they "typically" are "thinly capitalized," "have no independent management or employees," have "[t]heir administration functions performed by a trustee who follows prespecified rules with regard to the receipt and distributions of cash," take "no other decisions," "are serviced via a servicing arrangement," and "are structured so that they cannot become bankrupt as a practical matter." Gary Gorton and Nicholas S. Souleles, *Special Purpose Vehicles and Securitization*, NBER Working Paper 11190 at 1–2 (2005), online at http://ssrn.com/abstract=713782 (visited Nov 21, 2009).

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would be a mistake to prohibit their use.[173] The press has popularized the notion that these entities function as part of a "shadow financial system,"[174] but that is a distortion of reality. In truth, everyone in the financial world either knows or can easily determine the sponsoring bank for any SIV.[175] An SIVs purpose is to create a bankruptcy firewall between the mortgage loan originator and the investor, so that an investor cannot bring an action against the originator for nonpayment of principal and interest by the original mortgagor. In the jargon of finance, SIVs are "bankruptcy remote."

The elimination of off-balance sheet entities would likely put an end to securitization even for uncontroversial uses because the securitization technique depends upon creation of a bankruptcy-remote SPV. Perhaps a bankruptcy firewall seems unfair to the investors, but investors who did any "due diligence" would be well aware of the firewall when they bought the securities. Indeed, even assuming that securitization could occur without the bankruptcy firewall feature, the return to the investor would likely have to be lower to compensate the originator for the greater risk incurred. Certainly, it is a financial truism that on average the higher the return, the higher the risk. Investors, both in the US and Europe and even in China, were attracted by the higher return but chose to ignore that higher risk until they suddenly found the prices of their securitized mortgage investments falling. In view of the widespread use of securitization in financing a wide variety of "automobile loans, credit card receivables, trade

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173 A possible compromise would be to allow use of off-balance sheet entities, but to require that some portion of a securitized offering by banks remain on the bank's books to insure that the bank had some "skin in the game." This reform, usually called "retention," has been advocated in many studies and reports. The principal advantage would presumably be an improvement in the originating bank's accountability. See *Fear and Loathing, and a Hint of Hope—Securitisation*, The Economist (Feb 16, 2008). But, of course, to the extent that securitization has an economic rationale, some of the economic advantages would be dissipated. A retention requirement would seem to be a less direct way of discouraging improper or misleading originating bank behavior than would be a requirement of fuller or better disclosure of all aspects of the particular securitization. In short, where securities are concerned, disclosure usually beats mandatory rules. Nonetheless, retention may be more effective because it requires the securitizing bank to bear some of the losses. Ironically, as the subprime meltdown progressed, it became clear that some of the largest financial losses were incurred by originating banks that had subprime securities warehoused on their own books. This was either because they had not yet been able to sell them or because they had chosen to take the securities back onto their own books when their sponsored SIVs were unable to roll over their short-term commercial paper financing of the SIVs' holdings of those securities.

174 See, for example, Robert Lenzner, *Look Out Below*, Forbes (Feb 2, 2009), online at http://www.forbes.com/forbes/2008/0225/036a.html (visited Nov 21, 2009).

175 For a more nuanced treatment of what is involved in an SIV, consider Basel Committee on Banking Supervision, *Report on Special Purpose Entities* (2009), online at http://www.bis.org/publ/joint23.pdf (visited Nov 21, 2009). (An SIV is just one form of "special purpose entity.")

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receivables, home equity loans, leases of real property or equipment (e.g., airplanes), education loans, junk bonds, boat loans, and even oil or gas reserves,"[176] it would be unwise to take steps to undermine the securitization technique merely to deal with problems arising in the mortgage loan market. Rather, it would be wiser to deal directly with the abuses that have arisen, for example, in the subprime mortgage field and/or the consumer mortgage origination field.

D. Covered Bonds

An alternative to securitization of the type that led to the subprime crisis is the covered bond. The covered bond certainly has been a success in some other countries. This financial instrument, which is the principal way in many countries (such as in Germany) to raise money in order to fund mortgage loans for housing, involves keeping the loans on the bank's books, rather than selling the loans. This financial instrument, referred to in Germany where it is today most widely used as a Pfandbrief and more generically in the US as a covered bond, has a history going back several centuries. It is in effect an MBS. However, it is also an obligation of the originating bank, which keeps the assets on its books and therefore does not shed its liability for principal and interest, as in the case of securitization. Because the holder has a priority claim to the entire assets of the bank as well as to the cash flow of the mortgage loans, it is a highly rated instrument on which defaults are rare. It has become so popular in Germany that it constitutes 25 percent of the entire fixed income market in that country.[177]

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176 Scott, *International Finance* at 569 (cited in note 38).

177 Verband Deutsche Pfandbriefbanken, *The Pfandbrief—A Premium Product* (Feb 26, 2008), online at http://www.pfandbrief.org/d/internet.nsf/0/346DAA456C29D09AC125741F00254245/$FILE/PfandbriefPremiumProduct.pdf (visited Nov 21, 2009) (describing the Pfandbrief, how it is regulated, and comparing it to other financial instruments); Stefan Schäfer, *Integration of EU Mortgage Markets: It's the Funding, Commissioner!*, 38 EU Monitor 1, 8 (Oct 19, 2006), online at http://www.dbresearch.com/PROD/DBR_INTERNET_DE-PROD/PROD0000000000203497.pdf (visited Nov 21, 2009); Fitch Ratings, *ABCs of US Covered Bonds* (2008) (explaining the concept of a covered bond and reviewing the pros and cons); Frank Packer, Ryan Stever and Christian Upper, *The Covered Bond Market*, BIS Q Rev 43, 45–51 (Sept 2007). The pledge of the assets to the individual covered bond is designed to survive the insolvency of the bank. Vinod Kothari, *The Name is Bond. Covered Bond* (Sept 5, 2008), online at www.vinodkothari.com/covered%20bonds%20article%20by%20vinod%20kothari.pdf (visited Nov 21, 2009). The underlying German legislation provides that the amount of the individual real estate loans involved cannot exceed 60 percent of the value of the property. Two US banks, namely Bank of America and Washington Mutual, have sold covered bonds. Karey Wutkowski, *Regulators OK guidance on covered bonds, capital*, Reuters (July 15, 2008), online at http://uk.reuters.com/article/idUKN1535012420080715 (visited Nov 21, 2009).

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Both the Treasury and the FDIC sought to promote the covered bond as a substitute for securitization in the last year of the Bush administration.[178] But the covered bond seems to have fallen off the Treasury agenda in the Obama administration, though it remains popular in Europe and in Canada.[179] The FDIC in its role of deposit insurer has thus far limited its approval of covered bonds by insured banks to 4 percent of bank assets, no doubt because the priority accorded covered bondholders necessarily reduces the availability of assets of insolvent banks for payment of insured deposits in the event of insolvency.[180]

E. Capital Requirements

The key issue for capital adequacy regulation with regard to securitization is whether banks maintained sufficient capital for off-balance-sheet exposures, whether contractual or implicit. By "implicit" exposures, I refer to the fact that a number of banks took SIV assets back onto their own balance sheets for reputational reasons. In the international regulatory reform process, countries quickly converged on the idea that off-balance sheet exposures should be treated the same as on-balance-sheet exposures with regard to the amount of capital required. Achieving this consensus was not a major point of contention, since securitization of mortgage loans came nearly to a standstill during the worldwide financial meltdown and therefore the question of the consolidation of on- and off-balance sheet exposures would have little immediate consequence.

However, that consensus has not yet been translated into law and regulations in most countries. Since the subject is capital adequacy regulation, an

178 US Treasury, *Best Practices for Residential Covered Bonds* 6 (July 28, 2008), online at http://www.treas.gov/press/releases/reports/USCoveredBondBestPractices.pdf (visited Nov 21, 2009); Fitch Ratings, *ABCs of US Covered Bonds* at 2 (cited in note 177). For a critique, see Bert Ely, *We Need Fundamental Mortgage Reform*, Wall St J A19 (Sept 8, 2008). And for a discussion of the impact of covered bonds on the FDIC and the safety net, see Richard Rosen, *What Are Covered Bonds?*, Chicago Fed Letter, Federal Reserve Bank of Chicago (Dec 2008), online at http://www.chicagofed.org/publications/fedletter/cfldecember2008_257.pdf (visited Nov 21, 2009).

179 See, for example, Caroline Hyde and Paul Armstrong, *RMB Issues C$750 Million of Five-Year Covered Bonds (Update 1)*, Bloomberg.com (Oct 30, 2009), online at http://www.bloomberg.com/apps/news?pid=20601082&sid=a4FcCm6HQ5jc (visited Nov 21, 2009); Roman Kessler, *ECB: Total of Settled Covered Bond Buys Hit EUR19.748 Bln*, Dow Jones Newswire (Oct 26, 2009), online at http://online.wsj.com/article/BT-CO-20091026-702250.html (visited Nov 21, 2009).

180 See Bob Eisenbeis, *Sliced Bread or Double Dipping? More on Covered Bonds*, Cumberland Advisors Market Commentary (July 30, 2008), online at http://www.cumber.com/commentary.aspx?file=073008.asp&n=l_mc (visited Nov 21, 2009). The covered bond, unlike securitization, cannot be used to escape capital adequacy regulation. This appears to be the case even when the covered bonds are issued through an SPV since the very nature of a covered bond is that the bank remains fully liable. See Fitch Ratings, *ABCs of US Covered Bonds* at 6–7 (cited in note 177).

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amendment to the Basel agreements will be required. Coming up with a Basel III or a substitute for such an agreement can be expected to be contentious and time-consuming. Indeed, many issues that would have to be resolved, even in the US, could delay the resolution of many capital adequacy issues for some time.[181] Therefore, from the standpoint of the issues that arose in the initial subprime crisis, it is important to nail down in law and regulation the proposition with regard to equal treatment of on- and off-balance sheet exposures, at least for securitization. Both US political parties seem to be in agreement on that principle. The Bush-period President's Working Group, in its interim report in early 2008, recommended that regulators "adopt policies that provide incentives for financial institutions to hold capital and liquidity cushions commensurate with firm-wide exposures (both on and off-balance sheet) to severe adverse market events."[182] The Obama administration has adopted a similar approach, emphasizing the central importance of capital adequacy requirements.[183]

With regard to this issue, of whether the capital requirements for a bank should be any different just because a bank puts assets in an off-balance sheet entity, it is important to understand that it was precisely the advantage of securitization from the standpoint of the banks under the Basel approach (specifically, Pillar I of Basel II) that banks could hold less capital through the use of off-balance sheet vehicles even though they sponsored the off-balance sheet entities. Under Basel II, a new Pillar II (complementing Pillar I on capital adequacy) gave national supervisory agencies discretion to increase capital requirements of particular banks, but those regulatory agencies generally failed to use the discretion afforded by Pillar II. Indeed, the US has not even formally signed onto Basel II.

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181 For a review of capital adequacy reform issues that have developed over the period of the credit crisis and the ensuing recession, which do not relate directly to the subprime crisis or securitization, see CCMR, *The Global Financial Crisis: A Plan for Regulatory Reform* at 57–82 (cited in note 2).

182 President's Working Group on Financial Markets, *Policy Statement on Financial Market Developments* 5 (March 2008), online at http://www.ustreas.gov/press/releases/reports/pwgpolicystatemktturmoil_03122008.pdf (visited Nov 21, 2009).

183 US Treasury, *Principles for Reforming the US and International Regulatory Capital Framework for Banking Firms* (Sept 3, 2009), online at http://www.treas.gov/press/releases/docs/capital-statement_090309.pdf (visited Nov 21, 2009) (emphasizing that capital requirements should be a principal regulatory tool for banking regulators); Timothy Geithner, *Financial Stability Depends on More Capital*, Fin Times 7 (Sept 3, 2009), online at http://www.ft.com/cms/s/0/638b9eb2-98ba-11de-aa1b-00144feabdc0.html (visited Nov 21, 2009) (emphasizing that new capital standards should be the core of the reform and they should be designed so that the system is ensured stability, "not just the solvency of individual institutions").

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The fact that negotiating a successor agreement to Basel II will be time-consuming and doubtless difficult suggests that it would be wise, at least for the US, to put into place definitive rules establishing the capital adequacy parity of on- and off-balance sheet exposures in securitizations. Securitization has a number of attributes, including bankruptcy remoteness that should be sufficient to help securitization markets rebuild as the major economies recover from the present recession.[184]

F. Transparency

Whatever the best answer to accounting for off-balance sheet entities may be from the standpoint of bank regulation, securitizations necessarily involve securities and therefore the question of transparency for the benefit of investors should be faced. One issue with regard to the subprime crisis is whether the relationship between the originating financial institutions and the off-balance sheet vehicles was sufficiently disclosed to investors.[185] The European banks that bought the subprime securities surely knew quite well in general what was involved. If the bankers involved are to be faulted, it is for greed or obliviousness to risk, not for stupidity or for ignorance in the use of SIVs and conduits. Without focusing on the incentives of the individuals involved, it is difficult to understand the carelessness toward risk seen in many of the purchasing banks, especially those that later had to be bailed out or merged or

184 A more general question is whether the substantive rules on capital adequacy should be amended. This question breaks down into several narrower ones: First, whether a risk-weighted approach (under Basel) is superior to a leverage ratio—that is, a simple ratio of assets to capital. It is today widely accepted that a simple leverage ratio that does not attempt to give different risk weightings to different types of assets has actually done a better job than the supposedly highly sophisticated Basel system of assigning different weights to different kinds of assets. This counterintuitive result can be explained by the fact that politics has played a larger role than either economic analysis or analysis of different default rates in assigning the weights. So, for example, home mortgages lending was favored with reduced risk weightings compared to business loans (the former required only 50 percent as much capital as the latter). Hence, risk weightings suffered from the same enthusiasm for home ownership that pervaded much of US government policy, such as the special status of the GSEs, even after the GSEs started loading up on subprime mortgage loans. Current policy discussions of the risk-weighting issue favor retaining the risk-weighted approach of the Basel agreements while establishing a simple leverage ratio as an independent capital adequacy requirement; in short, a bank would have to meet both tests.

185 One possibility is that there was so much disclosure that the incentive to read the disclosure documents was reduced by the time and boredom cost of doing so. A Financial Times columnist reported that, with respect to CDO prospectuses, "[o]ne executive, the most 'sophisticated' investor I know, told me it took him two days to read one cover to cover." Aline van Duyn, *Information Is Not Always of Value—Ask the Usual Suspects*, Fin Times 22 (Aug 1, 2008).

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given massive infusions of capital.[186] Nevertheless, securities laws require certain disclosures, and I am confident that there will be litigation under the securities laws, at least in the US, based on nondisclosure or fraudulent disclosure with regard to subprime securities.[187]

One transparency question is raised by the possibility that some originating banks entered into undisclosed contractual guarantees of securitized mortgage loan issues. The failure to disclose these contractual guarantees did not hurt the investors in the securities directly, though it did mislead and often hurt investors in the securitizing banks. But such cases do illustrate the possibility that the use of off-balance sheet vehicles coupled with undisclosed contractual guarantees was more a matter of form than economic substance, and should be a concern of bank regulators (because of the enhanced risk to the banks) and perhaps a concern of securities regulators as well. One obvious recommendation is that originating banks should be required to consolidate off-balance sheet entities for reporting purposes (and not just for calculation of capital adequacy).[188]

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186 Executive compensation, particularly bonus arrangements, explains some risky behavior on the part of selling banks, even if not also on the part of buying banks. Hence, it is popular with politicians to propose regulation of bankers' compensation. The French government has been particularly strong in the G20 process in supporting strong caps on bankers' bonuses. *G20 Rift Opens on Banking Reform*, Fin Times 1 (Sept 5, 2009). In my opinion, direct regulation of compensation is likely to have unintended consequences (such as in the US where an earlier legislative limit on cash compensation led to more extravagant stock option grants in lieu of greater cash compensation). A better approach would be to strengthen corporate governance to assure that the financial executive's compensation plans provided incentives that were better aligned with shareholders' interests. The Obama administration has supported a requirement that firms should be required to submit compensation practices for shareholder approval. Timothy Geithner, Secretary of the Treasury, Statement at the G20 Meeting of Finance Ministers and Central Bank Governors (Sept 5, 2009), online at http://www.ustreas.gov/press/releases/tg277.htm (visited Nov 21, 2009) (commenting that the House has passed legislation requiring firms to submit compensation practices for shareholder approval, with the Fed given the power to enforce heightened standards through the supervisory process). The fact that bonuses earned in one year never had to be paid back if the activities that earned the bonus led to losses in future years has given rise to proposals to measure entitlement to bonuses over a multi-year period. Certainly, measurements of profits over longer terms than a year should be used for bonuses. See *An Open Letter to President-Elect Obama* at 7 (cited in note 53) (last paragraph).

187 See Joanna Chung, *Subprime Crisis Spurs Private Lawsuits*, Fin Times 6 (Sept 11, 2008) (counting 607 civil cases in the US federal courts related to the meltdown in the subprime mortgage market during the eighteen months prior to the end of June 2008). It is, however, not clear how many of those cases involved disclosure issues. On the issues that arise in litigation involving the subprime crisis, consider Jennifer E. Bethel, Allen Ferrell, and Gung Hu, *Legal and Economic Issues in Litigation Arising from the 2007–2008 Credit Crisis*, Harvard L School Olin Disc Paper No 612 (Oct 2008), online at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1096582 (visited Nov 21, 2009).

188 For a discussion of consolidation issues, see Scott, *The Global Financial Crisis* at 143–49 (cited in note 89).

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G. Credit Rating Agencies

Perhaps the feature of securitization that has received the most public attention in the US is the granting of AAA (triple A) ratings by the rating agencies, such as Standard and Poor's, Moody's and Fitch.[189] These ratings turned out to be wildly optimistic in a large number of subprime mortgage loan securitizations,[190] and the ratings of these agencies are often considered a major causal factor in the subprime crisis.[191] Hence, the credit rating agencies are a key focus of many proposals for reform.

A number of regulatory issues are involved here.[192] For example, charges have been made of conflict of interest because it is the issuer, not the investor

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189 The many AAA ratings given to tranches in securitized offerings have also generated extensive legislation: "The largest pension fund in the US, the California Public Employees' Retirement System (Calpers) has filed a suit against the three leading rating agencies over potential losses of more than $1bn over what it says are 'wildly inaccurate' triple A ratings. That is just one of many [cases]. S&P currently faces around four dozen separate law suits from investors and institution." Aline van Duyn and Joanna Chung, *Ratings Agency Model Left Largely Intact*, Fin Times 23 (July 22, 2009).

190 Rating agencies may have been overly optimistic with regard to securities in general. For example, the top three agencies continued to give Lehman strong ratings until the day it filed for bankruptcy. Beat Balzlie and Frank Hornig, *The Power of Rating Agencies*, Spiegel Online International (May 6, 2009), online at http://www.spiegel.de/international/business/0,1518,623197,00.html (visited Nov 21, 2009). But especially in the case of mortgage-backed securities, the rating agencies implicitly acknowledged their over-optimism by belatedly downgrading substantial percentages of residential mortgage-backed securities, including tranches that had originally been rated AAA.

191 On the role of the credit rating agencies in the crisis, see Scott, *The Global Financial Crisis* at 122–26 (cited in note 89) (discussing the conflicts of interest of the CRAs and the tendency of investors to over-rely on the ratings); consider Frank Partnoy, *Overdependence on Credit Rating Was a Primary Cause of the Crisis*, 27 Nota di Lavoro (Fondazione ENI Enrico Mattei 2009). For a critique of the methods of credit rating agencies and resulting inflated and low-quality ratings, see Charles W. Calomiris, *The Debasement of Ratings: What's Wrong and How We Can Fix It* (2009), online at http://www.economics21.org/content/2the-debasement-ratings-whats-wrong-and-how-we-can-fix-it (visited Nov 21, 2009). Calomiris points to studies emphasizing the error in assuming that housing prices would not fall and in overreliance on FICO scores in no-doc and low-doc mortgage loans (that is, mortgage loans made with no or low documentation provided by the borrower to the lender about the borrower's income and employment). He points to studies emphasizing the error in assuming that housing prices would not fall and in overreliance on FICO scores in such no-doc and low-doc mortgage loans (that is, the likelihood of adverse selection in the case of borrowers where they did not have to disclose their income or any information about employment).

192 Some of the problems that have arisen with credit ratings involve a series of perverse incentives in the securitization process, leading to practices such as ratings shopping and low-quality ratings. As such, it is not obvious that regulation alone can fix the deficiencies in the rating process. Charles W. Calomiris, *The Debasement of Ratings: What's Wrong and How We Can Fix It* (2009), online at http://www.economics21.org/files/pdfs/in-depth-research/debasement-of-ratings.pdf (visited Nov 21, 2009).

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who pays for the ratings. The fact is that a rating has value to investors, but nonetheless a subscription model under which institutional investors pay on a calendar basis for ratings was apparently abandoned by credit rating agencies, decades ago.[193] Economists may say that ratings are public goods, but until some public means of paying for ratings emerges, payment by issuers is a solution, even if perhaps a second-best or partial solution.[194]

A more immediate set of concerns is that in recent years, rating agencies have generated a large proportion of their revenues by their consulting services. As part of their consulting services, rating agencies give issuers advice on how to qualify for higher ratings. And rating agencies certainly help issuers to structure their offerings to obtain higher ratings by advising on various kinds of what are called "credit enhancements."[195] This advisory activity, which has been quite profitable for credit rating agencies, leads to conflict of interest issues when the credit rating agency then goes on to rate a security that has been structured following the advice of the agency. The SEC consequently issued a rule to the effect that any agency that has acted in an advisory capacity on a securitization may not also rate the securities in that securitization.[196]

Perhaps the most problematic aspect of ratings is that an investment grade rating for securities is required by statute for some kinds of institutional investors, such as banks and pension funds, to buy the securities (at least in the US).[197] A substantial number of US statutes and regulation rely on credit rating

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193 See Frank Partnoy, *How and Why Credit Rating Agencies Are Not Like Other Gatekeepers* 62–64, USD Legal Studies Research Paper No 07-46 (May 2006), online at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=900257 (visited Nov 21, 2009); Frank Partnoy, *Overdependence on Credit Ratings Was a Primary Cause of the Crisis*, 27 Nota di Lavoro 3–4 (2009), online at http://www.feem.it/NR/rdonlyres/B404FB1B-45F3-43E8-A2B0-083076C3410B/2862/2709.pdf (visited Nov 21, 2009).

194 Some new entrants to the credit rating field are using a subscription business plan. *Turmoil in the US Credit Markets: The Role of Credit Rating Agencies* ("Coffee Testimony"), Hearing Before the United States Senate Committee on Banking, Housing, and Urban Affairs 17 (Apr 22, 2008) (testimony of John C. Coffee, Jr.), online at http://banking.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=94ccc2ab-8401-4e4c-a1b2-71f36a9fd25b (visited Nov 21, 2009).

195 Among the most important credit enhancements in the securitization process are (1) insurance offered by so-called monoline insurers (who do not offer other types of insurance) and (2) overcollateralization by means of the tranche (or waterfall) structure of mortgage-backed securities offerings described above. See Section III.B.

196 *SEC Issues Rules on Conflicts in Credit Rating*, NY Times (Dec 4, 2008), online at http://www.nytimes.com/2008/12/04/business/economy/04sec.html (visited Nov 21, 2009). The actual consequences of that prohibition are not clear because of an "industry custom of submitting alternative securitization structures to [a credit rating agency] until the desired rating is achieved." Shadow Financial Regulatory Committee, *Regulation of Credit Rating Organizations* 2, Statement No 265 (Dec 8, 2008).

197 Coffee Testimony at 2 (cited in note 194).

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in one way or another. In effect, regulation has favored the outsourcing of due diligence to rating agencies, which ideally would be a prime activity of investors. Thus, both the originating bank, which is presumably able to charge a higher interest rate, and many US institutional investors, who need high ratings to buy the security at all, have a vested interest in rating agencies awarding high ratings. It is perhaps not surprising, then, that many buyers do not bother to incur the expense to do their own due diligence.

In a partial step toward eliminating the influence of credit ratings in the regulation process, the SEC has proposed to eliminate the use of credit ratings from private credit agencies in its own regulations and procedures.[198] However, the SEC has not yet adopted that proposal. A bill that would eliminate references to ratings in certain statutes was approved by the House Financial Service Committee but the agencies could apparently nevertheless make use of credit ratings in their proceedings if they chose to do so.[199]

The use of ratings for official SEC purposes has been criticized on the ground that making ratings legally determinative leads to ratings inflation and discourages due diligence by purchasers. A tendency of investors to rely on ratings in lieu of doing their own due diligence certainly played a role in the subprime fiasco even where the ratings did not provide a regulatory safe harbor, and official use by the SEC of ratings could be expected to carry that tendency even further.[200] Furthermore, using ratings from private sector agencies as a basis for regulatory rules and decisions amounts to a delegation of governmental power to private bodies. Yet Basel II relies on credit ratings in several respects, and therefore the official use of credit ratings is likely to resurface as an issue.[201]

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198 The June 2009 Treasury proposal on behalf of the Obama administration did not make far-reaching proposals concerning credit rating agencies. *Obama Treasury Proposal* at 46, 87 (cited in note 87). See Aline van Duyn and Joanna Chung, *Rating Agency Model Left Largely Intact Despite Treasury Reform*, Fin Times 31 (July 23, 2009). An SEC Roundtable later in 2009 endorsed the elimination of prescriptive mandates from SEC regulations because giving legal effect to credit ratings could be a cause of ratings inflation. At the time, the SEC had already had certain regulatory powers with regard to the credit rating agencies. For recent SEC regulatory activity in this regard, see SEC Press Release, *SEC Votes on Measure to Further Strengthen Oversight of Credit Rating Agencies* (Sept 17, 2009), online at http://www.sec.gov/news/press/2009/2009-200.htm (visited Nov 21, 2009).

199 CQ Agencies, Today Midday Update, House Panel Moves to Tighten Regulation of Credit Rating Agencies (Oct 28, 2009), online at http://www.cqpolitics.com/wmspage.cfm?docID=cqmidday-000003233395 (visited Nov 21, 2009).

200 For critiques, see Richard Herring and Marshall Blume, *Do the SEC's New Rating Agency Rules Have Any Bite?*, Knowledge@Wharton (Dec 10, 2008), online at http://knowledge.wharton.upenn.edu/article.cfm?articleid=2112 (visited Nov 21, 2009).

201 In July 2009, the Obama administration proposed that statutory requirements to use credit ratings be abolished, and the Chairman of the House Financial Services Committee stated, "They're going to all be repealed." Joanna Chung and Aline van Dyne, *US Rating Agencies Escape Overhaul*,

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In May 2008, the EU Committee of European Securities Regulators (CESR) proposed an "international CRAs standard setting and monitoring body to develop and monitor compliance with these international standards . . . using full public transparency and acting in a 'name and shame' capacity to enforce compliance with these standards via market discipline."[202] The new body would be formed as an international body or, failing that, at the EU level. Meanwhile, the European Commission is considering EU legislation based on an IOSCO (International Organization of Securities Organizations) code.[203] This appears thus far to be an example of a rush to regulation without having first identified specific shortcomings to be addressed. It is ironic that the EU member securities regulators themselves are making these proposals since they presumably had the responsibility themselves to regulate the MBSs markets.[204]

Another problem with ratings is that they do not address several important issues. First, since rating agencies rate the issuer's capacity to pay principal and interest when due, the probable price performance of the securities is largely ignored, despite the fact that under mark-to-market accounting a substantial portion of the losses experienced to date have involved downward price fluctuations, not defaults on the underlying mortgages loans. Quite without regard to defaults on residential mortgages, price performance plays a major role in investors' results because when market interest rates rise, the price of fixed income investments falls (though hedging may minimize such losses).

Second and related, the rating agencies do not address liquidity in secondary markets. The seizing up of various credit markets in the summer of 2007 underscores the importance to investors of liquidity. As previously discussed, the seizing up of commercial paper markets used by SIVs to fund purchases was the trigger for the onset of the crisis. The liquidity vulnerability

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Fin Times 4 (July 22, 2009) (quoting Barney Frank, Chairman of the House Financial Services Committee). Such proposals and statements fall well short, of course, of actual legislation.

202 Committee of European Securities Regulators Press Release, *CESR Advises the European Commission to Take Steps and Offers Its Proposals to Enhance the Integrity and Quality of the Rating Process* (May 19, 2008), online at http://www.cesr.eu/popup2.php?id=5050 (visited Nov 21, 2009). See *Refining the Ratings Agencies, Will the US Follow Europe's Tougher Rules* (Knowledge@Wharton, May 27, 2009), online at http://knowledge.wharton.upenn.edu/article.cfm?articleid=2242 (visited Nov 21, 2009) (explaining that the EU rules are now much different from the US rules, and reporting US reactions).

203 For a history of EU activity with regard to credit rating agencies, see Piero Cinquegrana, *The Reform of the Credit Rating Agencies: A Comparative Perspective*, ECMI Policy Brief No 12 § 3.2 (Feb 2009), online at http://www.ceps.be/ceps/download/1619 (visited Nov 21, 2009). See Rebecca Ford, *Proposals for the Regulation of Credit Rating Agencies in Europe*, GTNews (Oct 21, 2008), online at http://www.gtnews.com/article/7440.cfm (visited Nov 21, 2009); see also Nikki Tait, *EU Votes for Rating Agency Rules*, Fin Times (April 23, 2009).

204 For specific suggestions on how to improve the credit rating process without resorting to massive new regulation with new regulatory bodies, consider Coffee Testimony at 2 (cited in note 194).

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stems directly, of course, from the fact that the business model of banks is based, as previously discussed,[205] on borrowing short and lending long, a practice carried to extremes in the short-term commercial paper financing of SIVs.

And third, in an effort apparently to be—or at least to appear to be—objective, rating agencies rely heavily (and perhaps in some cases exclusively) on past payment experience with regard to similar securities. Since subprime mortgage securitization (other than by the GSEs) is largely a phenomenon of the several years prior to the crisis, which was a period in which US real estate prices were rising steadily, the ratings failed to capture the lifetime risk in the underlying mortgages.[206] It is therefore not surprising that the five-year default rate on securitized products rated by Moody's just above the investment grade qualifying level (Baa) was ten times higher than on corporate bonds at the same level.[207] As defaults on residential MBSs rose, credit rating agencies began to downgrade other outstanding securitized MBSs, causing widespread decline in prices of such securities.[208] All financial institutions holding residential MBSs had to book widespread losses under the mark-to-market principle.[209]

H. Underwriting Standards

Another issue that has captured great public attention in the US is the lax underwriting standards at the stage of the initial mortgage loans to subprime

205 See Section III.

206 See Bailey, Elmendorf and Litan, *The Great Credit Squeeze* at 33 (cited in note 66).

207 Charles Calomiris and Joseph Mason, *Reclaim Power from the Rating Agencies*, Fin Times 11 (Aug 24, 2007). On the systemic effects of rating crises, consider Amadou N.R. Sy, *The Systemic Regulation of Credit Rating Agencies and Rated Markets*, IMF Working Paper WP/09/129 (June 2009) ("unanticipated and abrupt credit rating downgrades"), online at http://www.imf.org/external/pubs/ft/wp/2009/wp09129.pdf (visited Nov 21, 2009).

208 Herring and Blume, *Do the SEC's New Rating Agency Rules Have Any Bite?* (cited in note 200).

209 The issue of mark-to-market accounting (also called "fair value" accounting), under which some, but not all, assets would be valued at current market prices rather than historical cost, has played a major role in the debate over causes and remedies for the subprime crisis, but it is a complicated subject well beyond the scope of this study. For an introduction to the issue, see Scott, *International Finance* at 646–53 (cited in note 38). For a short, clear analysis of the issues in the subprime context, consider Robert C. Pozen, *Is It Fair to Blame Fair Value for the Financial Crisis?*, 87 Harv Bus Rev 84 (Nov 2009). For detail, consider Securities and Exchange Commission, Office of the Chief Accountant, *Report and Recommendations Pursuant to Section 133 of the Emergency Economic Stabilization Act of 2008: Study on Mark-to-Market Accounting* (Dec 30, 2008), online at http://www.sec.gov/news/studies/2008/marktomarket123008.pdf (visited Nov 21, 2009). Consider also Christian Laux and Christian Leuz, *Did Fair Value Contribute to the Financial Crisis?*, Chicago Booth Research Paper 09-38 (Oct 12, 2009), online at http://ssrn.com/abstract=1487905 (visited Nov 21, 2009).

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buyers.[210] Not only did many of the lenders purposely fail to exercise ordinary banking prudence, but fraud by both borrowers and lenders was undoubtedly part of the overall problem. But perhaps most of the problem arose from the persistently skewed incentives of the parties involved in securitization.[211] We can be sure that the US administration and the US Congress will be focused on this aspect of subprime mortgages, and the Obama administration has proposed a plan to create a CFPA[212] that would be able to confront such issues. The activities of such an agency could prove crucial to the re-launching of securitization activity in the consumer real estate market.

It was, of course, the increasing defaults by US homebuyers, who bought homes that they could not in the end pay for, that triggered the subprime crisis. The general disposition in the US domestic political process has been, perhaps reasonably in view of the extensive anecdotal evidence of lender fraud and of no-documentation and low documentation loans, to blame the lenders rather than the borrowers.

Here the European perspective is instructive. In Germany and in some other European countries, it is difficult to obtain financing above 60 percent of a home's value, and this fact is widely accepted by the citizenry.[213] The US focus on affordable housing is socially praiseworthy and politically popular, but it was also the breeding ground for the subprime crisis and for such setbacks as the collapse of the GSEs. But what the content of remedial legislation should be, with regard to the initial mortgage loans to home owners, including the activities of a CFPA, is beyond the scope of this Article.[214]

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210 The President's Working Group in its March 2008 interim report recommended that "all states should implement strong nationwide licensing standards for mortgage brokers" (that is, nonbank firms that put borrowers and lenders together) and "[t]he Federal Reserve should issue stronger consumer protection rules and mandate enhanced consumer protection disclosures . . . ." President's Working Group on Financial Markets, *Policy Statement on Financial Market Developments* at 3 (cited in note 182).

211 See Scott, *International Finance* at 643–45 (cited in note 38) (explaining the moral hazards involved in the securitization process, citing to several studies).

212 Consumer Financial Protection Agency, previously mentioned in Section II.C.4.

213 The author was repeatedly told by young Germans that the 40 percent down payment requirement was a fact of life for young German couples. The conventional German mortgage, the Pfandbrief (a covered bond financed mortgage), is by law limited to 60 percent of value. See Mathilde Franscini and Tamara Schillinger, *Mortgage Bond and MBS Market Development in Germany*, Securitization Conduit (Mar 22, 2001).

214 Another class of regulatory issues beyond the scope of this Article involves those that have systemic effects on the economy as a whole. Leading examples are proposals for a specialized resolution mechanism (replacing conventional bankruptcy) for "large, interconnected" financial firms, especially those deemed "too large to fail," and the creation of a systemic regulator to deal with issues that threaten the financial system as a whole. The Chairman of the Federal Reserve addressed both of these issues in a wide-ranging speech to the Council on Foreign Relations. Ben

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VI. CONCLUSION

When the subprime crisis first erupted, the widespread general assumption was that the crisis arose from the practice of securitization and therefore the way to prevent a recurrence was to reform financial regulation. But once the chain of events went on to the credit crunch, the near-failure and even outright failure of financial institutions, leading to the need for massive bailouts, and then on to the worst recession since the Great Depression, it became hard to disentangle the regulatory issues from much broader economic issues. In fact, governmental attention and legislation came to focus more on bailouts and other means of saving financial institutions to shield the real economy than on the regulation issues.

Moreover, looking backward it became clear that defective regulation was only one cause—perhaps a relatively minor one—compared to overly lenient monetary policy, massive leverage in financial institutions (perhaps even greater in Europe than in the US), coupled with constantly rising real estate prices and, with the resulting bubble-induced euphoria, overly lenient attitudes of regulators toward enforcing rules that were already on the books.

The fact that the recession spread throughout the world led to a need to address the regulatory issues together with the macroeconomic issues on an international political level. The vehicle for that exercise became the G20, an institution that promised much but delivered only quite generalized consensus agreements because it met at the summit level without the benefit of a permanent staff to prepare the meetings adequately or to follow up on the agreements reached.

The result was that it was not until the summer of 2009 that the new Obama administration was able to make proposals for regulatory reform. And when those proposals reached Congress, there was a pushback at the Congressional committee level due to intense lobbying by interest groups and the complexity of the regulatory issues, and this led to more public attention to peripheral issues such as bankers' bonuses than to the regulatory issues themselves. With the economy widely thought to be beginning to recover, the regulatory proposals of the Administration, parts of which inevitably had both pros and cons, failed to hold the attention not just of the public but even of key legislators. Nonetheless, the regulatory issues remain important for the health not just of the US economy but also, given the interconnectedness of financial institutions around the world, of the international economy as well.

S. Bernanke, Speech before the Council on Foreign Relations, *Financial Reform to Address Systemic Risk* (Mar 10, 2009), online at http://www.federalreserve.gov/newsevents/speech/bernanke20090310a.htm (visited Nov 21, 2009).

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The analysis of the regulatory issues undertaken, albeit not on a detailed basis, in this Article suggests that the macroeconomic events that followed on the subprime crisis have not changed either the nature or the importance of the regulatory reform issues. Those events have rather shown that financial regulatory issues may be abstruse, but they are perhaps more important than heretofore appreciated.

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