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THE FINANCIAL CRISIS, SYSTEMIC RISK, AND THE FUTURE OF INSURANCE REGULATION

Scott E. Harrington

ABSTRACT

This article considers the role of American International Group (AIG) and the insurance sector in the 2007–2009 financial crisis and the implications for insurance regulation. Following an overview of the causes of the crisis, I explore the events and policies that contributed to federal government intervention to prevent bankruptcy of AIG and the scope of federal assistance to AIG. I discuss the extent to which insurance in general poses systemic risk and whether a systemic risk regulator is desirable for insurers or other nonbank financial institutions. The last two sections of the article address the financial crisis's implications for proposed optional and/or mandatory federal chartering and regulation of insurers and for insurance regulation in general.

INTRODUCTION

The bursting of the housing bubble and resulting financial crisis have been followed by the worst economic slowdown since the early 1980s if not the Great Depression. As subprime mortgage defaults rose in 2007, the Federal Deposit Insurance Corporation (FDIC) closed down a number of major subprime lenders. The Federal Reserve rescued investment bank Bear Stearns with a $30 billion guarantee to facilitate its acquisition by J.P. Morgan in March 2008. September 15–16, 2008 saw investment bank Lehman Brothers file for bankruptcy, the distressed sale of investment bank Merrill Lynch to Bank of America, and the announcement of an $85 billion federal government bailout of American International Group (AIG). Congress enacted the $700 billion Troubled Asset Relief Program (TARP) in October, which was followed by massive infusions of capital into numerous banks, including the nine largest, along with large guarantees of bank debt. Other federal interventions included hundreds of

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billions of dollars of guarantees to support money market mutual funds, commercial paper, and numerous asset-backed securities.

The underlying causes of the financial crisis and how it was transmitted across firms, sectors, and borders will be studied and debated for years. Whatever the causes, the crisis has led to numerous proposals for changes in financial regulation, including the proposed creation of a systemic risk regulator and expanded federal government authority to resolve financially distressed nonbank institutions. The proposed changes have been motivated in significant part by the financial distress, bailout, and quasi-nationalization of AIG, formerly the world's largest publicly traded insurance organization. In addition to providing impetus for the creation of a systemic risk regulator and expanded federal authority to resolve financially distressed nonbank entities, proponents of federal chartering and regulation of insurers argue that the AIG intervention makes some form of federal chartering essential.

This article considers the role of AIG and the insurance sector in the financial crisis, the extent to which insurance involves systemic risk, and the implications for insurance regulation. I begin with a brief overview of the causes of the financial crisis. I then explore the events and policies that contributed to the AIG intervention. This synopsis is followed by an elaboration of what constitutes systemic risk and whether insurance in general poses systemic risk. I discuss whether a systemic risk regulator is desirable for insurers or other nonbank financial institutions. The last two sections address the implications of the crisis for federal chartering and regulation of insurers and for insurance regulation in general.

CAUSES OF THE FINANCIAL CRISIS

While the varied and complex causes of the 2007–2009 financial crisis will be studied and debated for decades, the popular media have often focused on alleged "Wall Street greed" and, to a lesser extent, the alleged evils of financial "deregulation." The early consensus among researchers and policy analysts is that incentive compensation arrangements in the financial sector contributed to aggressive risk taking in residential mortgages and real estate, and it is possible that certain relaxations in regulation played a role. It is clear that many parties made aggressive bets that housing prices would continue to rise or at least not fall, contributing to the housing price bubble and leading to widespread financial distress when the bubble burst. It is also clear that a number of government policy and regulatory failures contributed to the crisis.

While their relative importance is debatable, the following factors all contributed to the crisis:[1]

- Federal government policies encouraged the government-sponsored enterprises Fannie Mae and Freddie Mac to expand rapidly through the early 2000s, in significant part to support lending to low-income home buyers. The Community Reinvestment Act and pressure from the Department of Housing and Urban Development similarly encouraged commercial banks to expand mortgage lending in low-income, minority neighborhoods.

[1] See, for example, Taylor (2008), Blundell-Wignall, Atkinson, and Lee (2008), Brunnermeier (2009), Schwarcz (2008), and White (2008). Also see Gorton (2008).

- Subprime and Alt-A mortgage lending with low initial interest rates and little required downpayment accelerated during the middle part of the decade in conjunction with rapid growth in private, residential mortgage-backed securities (RMBS) and explosive growth in credit default swaps (CDS) and related instruments, which spread exposure to house price declines and mortgage defaults widely across domestic and global financial institutions.
- With the federal deposit insurance umbrella protecting depositors in their bank subsidiaries, bank holding companies aggressively expanded mortgage lending and investment in competition with investment banks and other financial institutions, commonly through off-balance sheet entities that evaded bank capital requirements.
- The leading investment banks, which had all converted from partnerships to corporations with limited liability, likewise invested aggressively in competition with investment banking subsidiaries of bank holding companies.[2] In 2004, they voluntarily agreed to be subject to consolidated supervision by the Securities and Exchange Commission (SEC) in order to meet the requirements of a European Union (E.U.) regulatory directive requiring consolidated supervision of their E.U. subsidiaries. The agreement relaxed capital requirements for the investment banks' broker-dealer subsidiaries. Whether and how much this change motivated them to increase their leverage has been debated.[3]
- Lehman Brothers, AIG, and others became major writers of CDS instruments, which, as discussed further below, offered domestic and foreign banks and financial institutions relatively low-cost protection against reductions in values of mortgage-related securities. When coupled with high leverage, CDS protection sellers became highly vulnerable to increases in mortgage defaults.
- The securitization of subprime mortgages and explosion of CDS and more complex derivatives linked to residential mortgages caused the risk of housing price declines and mortgage defaults to be spread widely among financial institutions in a complex and opaque set of transactions, which created substantial uncertainty about the financial exposure of different institutions.
- Residential mortgage lending in significant measure changed to an "originate and distribute" model, where mortgage originators retained little risk on the mortgages that were securitized and distributed broadly among financial institutions. Subprime mortgage originators were often new entrants that had little reputational capital at risk, and they did not have to hold the mortgages.
- Because many subprime borrowers acquired properties with little or no money down, they faced relatively little loss if housing prices fell and they defaulted on their mortgages. Many people took low-cost mortgages on investment property to speculate on housing price increases. Others took low-cost second mortgages to fund consumption.

[2] In a June 19, 2009 speech at the American Enterprise Institute, former Federal Reserve Chairman Alan Greenspan commented (Greenspan, 2009): "As partnerships, investment banks were an exceedingly cautious bunch. They rarely took speculative positions, as general partners were particularly sensitive to their personal unlimited liability. It is inconceivable that, as partnerships, investment banks would have taken the enormous risks that turned out so badly this decade."

[3] Compare Labaton (2008) and Sirri (2009).

- The Federal Reserve played a key role in promoting aggressive borrowing and lending. It kept interest rates at historically low levels until it was too late to prevent a severe correction in housing prices and construction. The low interest rate policy fueled housing demand and encouraged lenders to relax mortgage lending criteria.

What role did the insurance sector play? The collapse and bailout of AIG has dominated discussion of this issue and created an impression that insurance was somehow a central part of the crisis. However, as is elaborated below, the insurance sector as a whole was largely and perhaps remarkably on the periphery of the crisis. Apart from AIG, where much of its problems arose from noninsurance activity, property–casualty insurers and most life–health insurers have thus far escaped severe adverse consequences from the subprime meltdown and attendant financial crisis. Even AIG's property–casualty subsidiaries appeared reasonably well capitalized at the end of the third quarter of 2008, with moderate leverage, relatively safe assets, and a relatively high risk-based capital ratio (Schimek, 2008).[4]

A number of large life insurers have experienced a certain degree of financial stress and financial rating downgrades. This is not surprising given their extensive long-term investment in mortgages, other fixed income securities, and common equities to fund asset accumulation products, including many contracts with minimum return guarantees. The insurers' financial stresses resulting from contracts with minimum return guarantees coincided with substantial benefits to the individuals and businesses that bought those contracts to fund their retirement savings and who were partially protected from the sharp decline in stock prices in the second half of 2008 (Scism, 2009).

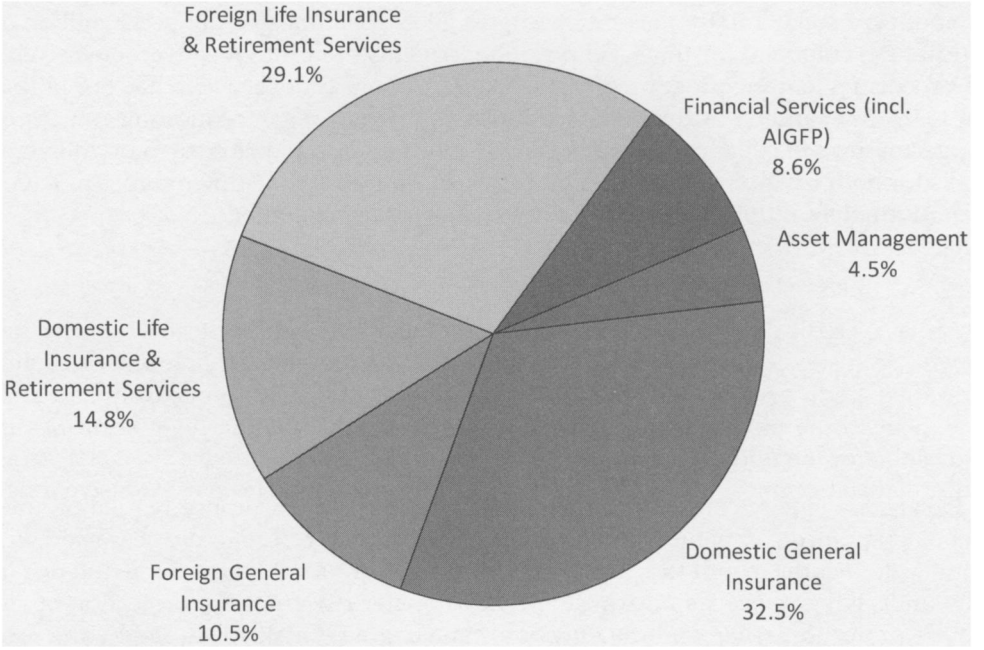
A number of insurance companies have sought and received permission in some states to modify financial reporting to improve their reported capital.[5] Apart from AIG, the insurance sector has represented a negligible amount of TARP funding and other federal assistance (see below). Six insurers applied for and were authorized to receive TARP funds. Four of them (Allstate, Ameriprise Financial, Principal Financial, and Prudential Financial) subsequently declined to receive the funds. Hartford Financial received $3.4 billion; Lincoln Financial received $950 million. Another major life insurer, Met Life, declined to seek TARP funding. Genworth Financial applied but was denied funding.

Leading "monoline" mortgage and bond insurers experienced significant losses and highly publicized downgrades by financial rating agencies. None has thus far become impaired or received a direct federal bailout. Insurance law and regulation mandate a monoline structure for such insurers and require substantial contingency reserves, including a general requirement that half of all premiums written each year be held

[4] Regarding property–casualty insurance in general, 81 percent of A.M. Best Company's property–casualty rating actions from January 1 through December 19, 2008 affirmed prior ratings (Hartwig, 2009). Four percent of Best's rating actions were downgrades; 4 percent were upgrades. Miscellaneous categories accounted for the remainder.

[5] The NAIC website (www.naic.org) provides full details of insurers with state exceptions to statutory (regulatory) accounting rules.

FIGURE 1
AIG Revenue Distribution Before the Downturn (12 Months Ending December 31, 2006)



Source: AIG 2006 SEC Form 10-K.

as a contingency reserve for 10 years. This regulatory framework apparently helped prevent their problems from spilling over to other lines of insurance, in contrast to what occurred in commercial and investment banking (Dinallo, 2009).

THE PARADOX OF AIG

The collapse, bailout, and quasi-nationalization of AIG were arguably the most shocking event during the financial crisis. The initial $85 billion assistance package has subsequently been modified on several occasions, with total federal commitments to provide assistance growing to $182.5 billion or more and assistance to date totaling about $123 billion. As elaborated below, most of the assistance has been paid to bank and investment bank counterparties in CDS and security lending transactions.

AIG is a complex organization that consisted preintervention of approximately 70 U.S. insurance companies and 175 non-U.S. companies and insurers doing business in 130 countries. At year-end 2006, before its financial condition began to erode significantly, domestic property–casualty (general) insurance represented 32.5 percent of its revenues; domestic life insurance and retirement services represented 14.8 percent (see Figure 1). Foreign insurance operations of all types represented another 39.6 percent of its total revenues. "Financial services," which included consumer finance, aircraft leasing, and AIG Financial Products (AIGFP), a subsidiary of the AIG holding company operating out of London, represented 8.6 percent of revenues. Asset management represented 4.5 percent.

The crisis at AIG was heavily influenced by AIGFP's CDS portfolio. Rating downgrades and declines in values of "super senior multi-sector collateralized debt obligation (CDO)" securities on which AIGFP had written CDS forced AIGFP to post large amounts of collateral. By the end of August 2008, it had posted about $20 billion of additional collateral for this CDS portfolio. AIG also ran into major problems with the securities lending program of its life insurance subsidiaries, which had $69 billion of loans outstanding at the end of August. Borrowers began requesting returns of large amounts of collateral in September. The liquidity problems created by collateral calls for both programs "were significantly exacerbated by the downgrades of AIG's long-term debt ratings by S&P, Moody's, and Fitch on September 15, 2008."[6]

AIG's CDS Portfolio

In a basic credit default swap, the protection seller agrees to protect the protection buyer against credit risk events associated with specified underlying securities. If a specified credit event occurs, the protection seller is obligated to make either a cash payment to the buyer or pay the notional amount of the underlying securities in exchange for the underlying securities.

CDS are not legally considered to be insurance, and U.S. insurance regulation prohibits insurance companies from writing CDS. They have economic characteristics similar to insurance, but the protection buyer does not need an insurable interest in the underlying securities or exposure. They transfer risk from the protection buyer to the protection seller, and they involve some degree of risk spreading by the protection buyer. By writing CDS on many underlying securities, some of the risk of selling protection can be diversified. However, CDS inherently pose significant risk of catastrophic loss in the event of deterioration in credit quality throughout multiple sectors of the economy.

AIGFP and divisions of many investment banks and bank holding companies were primary players in the CDS market as it expanded rapidly during the past decade. AIGFP had $533 billion (net notional amount) of CDS outstanding at year-end 2007. AIG categorized 71 percent of this amount as representing "regulatory capital" contracts. These contracts generally offered protection against credit-related losses on corporate loans and prime residential mortgages. They were largely sold to E.U. banks, which by buying protection from AIG were able to reduce or even eliminate capital requirements for holding the underlying securities under the first Basel Agreement on bank capital.[7] The buyers of the AIG swaps (and those sold by investment banks) were engaging in regulatory arbitrage to reduce their required capital during transition to the new requirements under Basel II, which would allow the largest banks to reduce required capital based on internal capital models.

[6] AIG SEC Form 10-K (2008). Unless otherwise noted, AIG financial data are obtained from this source. Sometimes specific page references are provided.

[7] The 1988 Basel Accord, or "Basel I" by the Basel Committee on Bank Supervision, proposed international bank capital regulations based primarily on credit risk. In 1999, the committee proposed more elaborate requirements ("Basel II"), including reliance on companies' internal models for setting required capital under certain conditions.

AIG classified the remainder of AIGFP's CDS portfolio as "arbitrage." At year-end 2007, the arbitrage CDS portfolio was divided between CDS on "multisector CDOs" ($78 billion notional value) and on corporate loans/collateralized loan obligations ($70 billion). The bulk of the multisector CDO swaps were written on "super senior" tranches of the underlying securities, which included RMBS, commercial mortgage-backed securities (CMBS), and collateralized debt obligations. Of the $78 billion multisector CDO swap portfolio, $61 billion included some exposure to subprime mortgages.

The super senior tranches of the securities underlying AIG's CDS would not be impaired unless the underlying tranches, including a triple-A-rated tranche, were exhausted. AIG's internal credit risk models predicted that the risk was negligible. AIG ceased writing new multisector CDO products in 2005 as the housing market slowed and subprime loan experience began to deteriorate. As housing prices began to fall and defaults of subprime mortgages increased further in 2007 and 2008, AIG had to post increasing amounts of collateral with its multisector CDO swap portfolio counterparties, which ultimately precipitated intervention by the Federal Reserve in September 2008.

CDS sold by AIGFP and other noninsurance entities were not backed by the large amounts of capital that would be held to back the sale of insurance with catastrophe exposure. Some protection sellers apparently hedged a significant amount of their risk by purchasing CDS or other contracts. On the other hand, CDS writers commonly increased their bets on housing prices by investing directly in mortgage-backed securities and other securities vulnerable to reductions in housing prices.

Given the large losses stemming from AIGFP's super senior multisector CDO swap portfolio, it is obvious that the swaps can be viewed as underpriced *ex post*. Many observers believe that the contracts were underpriced *ex ante*; that is, they were too cheap given the risk of loss at the time they were written. The contracts clearly were not backed by anything close to the amount of capital that would have been needed to respond to reductions in the value of the underlying securities and collateral calls by counterparties. If AIG's credit protection was underpriced, its counterparties either were unaware or did not care, perhaps in part because they believed that AIG either could not or would not be allowed to default.

AIG's Securities Lending Program

Securities lending has been common among financial institutions for many years. It involves one institution, such as a life insurer, lending securities to another, often a broker-dealer (e.g., for executing short sales or diversification). The borrower posts collateral in the form of cash or high-quality securities, typically in the amount of 102 percent to 105 percent of the value of the borrowed securities. The lender reinvests the collateral and earns any spread between the returns on the invested collateral and the returns on the underlying securities. The spread is sometimes shared between the lender and borrower.

The significant declines in the values of many assets during 2007–2008 reduced the values of reinvested collateral in many securities lending programs. Borrowers terminated the transactions at unprecedented levels in order to improve their liquidity and

reduce their exposure to lenders' credit risk. AIG, a major player in securities lending through its life insurance subsidiaries, was entangled in this process. Although AIG's problems with its CDS portfolio often are regarded as the *sine qua non* of its liquidity crisis and federal intervention, it also was threatened by billions of dollars of collateral calls under its securities lending program associated with its domestic life insurance subsidiaries (Dinallo, 2009).[8]

AIG had $82 billion in liabilities for securities lending at year-end 2007, down from close to $100 billion at its peak earlier in the year. As noted above, it had $69 billion in loans outstanding at the end of August 2008. Its U.S. securities lending program represented the bulk of the total, involving 12 life insurer subsidiaries, three regulated by the New York Insurance Department (NYID).

AIG primarily loaned government and high-quality corporate bonds, receiving cash collateral. According to the NYID, almost all of the U.S. collateral was invested in triple-A securities. About 60 percent of the U.S. collateral pool was invested in mortgage-backed securities (Dinallo, 2009). As AIG noted in its 2008 SEC Form 10-K:

> The cash was invested by AIG in fixed income securities, primarily RMBS to earn a spread. During September 2008, borrowers began in increasing numbers to request a return of their cash collateral. Because of the illiquidity in the market for RMBS, AIG was unable to sell the RMBS at acceptable prices and was forced to find alternative sources of cash to meet these requests.[9]

If available, AIG could have sold other, more liquid assets to meet security lending collateral demands—there is no required linkage between how collateral is invested and how collateral calls are met. It is therefore clear that, in part due to collateral demands associated with its CDS portfolio, AIG did not have available other liquid assets, such as cash or marketable securities.

Insurers have long been required to report information about securities lending in their statutory (regulatory) financial reports. On March 5, 2009, then-NYID-Superintendent Eric Dinallo testified before the U.S. Senate Banking Committee that the department was engaged in discussions with AIG about its securities lending program as early as July 2006, "began working with the company to start winding down the program" in 2007, and ultimately negotiated a $5 billion guaranty from the holding company to offset losses of the life subsidiaries (Dinallo, 2009).[10]

AIG's securities lending program significantly increased its liabilities, leverage, and vulnerability to the housing/subprime mortgage crisis. The program contributed

[8] Borrowers demanded the return of $24 billion in cash from September 12 through September 20 alone.

[9] AIG SEC Form 10-K (2008), p. 40.

[10] On the other hand, prior to the federal intervention the NYID reportedly consented to a $20 billion loan from the insurance subsidiaries to the holding company, which was mooted when the Federal Reserve intervened. AIG's securities lending and regulatory response is discussed further in testimony by Pennsylvania Insurance Commissioner Joel Ario (Ario, 2009).

to solvency concerns for the holding company, as opposed to simply liquidity issues (Eisenbeis, 2009a,b). While noting that concern over AIG's securities lending program was justified, NYID Superintendent Dinallo also testified that problems with AIGFP "caused the equivalent of a run on AIG" and that detailed analysis by the department "indicates that the AIG life insurance companies would not have been insolvent" without the federal rescue. That analysis is not publicly available.[11]

Following federal intervention, AIG had contributed $22.7 billion to its domestic life insurance subsidiaries through February 27, 2009 to offset reductions in the value of fixed maturity investments, "$18 billion of which was contributed using borrowings under the Fed Facility." It contributed $4.4 billion ($4 billion from the Fed Facility) to its foreign life subsidiaries through December 31, 2008, in response to liquidity needs and the decline in equity markets (AIG, 2008 10-K, p. 50).

Insurers have curtailed securities lending in response to the crisis. Insurance regulators expanded reporting requirements for securities lending, especially regarding collateral requirements, beginning with statutory financial reports filed for 2008.

AIG's Overall Investment Portfolio

Regardless of how it was financed, the fact that AIG's overall investment portfolio was significantly exposed to loss from reductions in the value of mortgage-related securities represents a third and related source of its distress. AIG's consolidated investment portfolio predominantly consisted of fixed-income securities, almost all of which were classified as "available for sale" under generally accepted accounting principles (GAAP) financial reporting. Table 1 shows the mix of AIG's fixed maturity available for sale portfolio at the end of 2007 and 2008. The fair value of its mortgage-backed, asset-backed, and collateralized investments was $135 billion at year-end 2007, representing 27 percent of the total. RMBS were valued at $85 billion (63 percent of the $135 billion), with $45 billion of subprime and Alt-A instruments (53 percent of the $85 billion value of RMB securities).

AIG was likewise highly leveraged on a consolidated basis. At year-end 2007, its GAAP liabilities totaled $953 billion, 10 times its $96 billion in shareholder equity. Like other large insurance holding companies, AIG issued long-term debt at the holding company level, a strategy that can reduce an entity's overall cost of capital. AIG reported $163 billion in long-term debt at year-end 2007 (in addition to $82 billion of securities lending liabilities). The long-term debt was an obligation of the holding company and not the insurance subsidiaries. While subordinated to policyholder claims, AIG's long-term debt significantly increased the parent's vulnerability to reductions in the value of its invested assets.

[11] Ario (2009) asserts strongly that AIG's CDS problems led to the run on its securities lending operation and that "AIG's insurance companies remain strong." As noted, AIG's property–casualty operations were subject to much less stress than its life insurance and retirement services and generally are regarded as reasonably strong. Its commercial property–casualty insurers had a risk-based capital ratio of 452 percent at the end of the third quarter 2008, well above the 200 percent regulatory criterion for company action to improve financial strength (Schimek, 2008). Based on analysis of the statutory filings of AIG's domestic insurance subsidiaries, however, Merkel (2009) argues that "some of the life and mortgage subsidiaries would have gone into insolvency, but the company as a whole would probably have survived." Also see Walsh (2009) and Ario and Brooks (2009).

TABLE 1
AIG Fixed Maturity Portfolio (Available for Sale), Year-End 2007 and 2008

	2008		2007	
Category	Value ($mill.)	Percent	Value ($mill.)	Percent
All bonds				
U.S. government and government-sponsored enterprises	$4,705	1%	$8,252	2%
State and municipal	$61,257	17%	$46,854	9%
Non-U.S. government	$67,537	18%	$70,200	14%
Corporate debt	$185,619	51%	$241,519	48%
Mortgage-backed, asset-backed and collateralized	$47,326	13%	$134,500	27%
Total	$366,444	100%	$501,325	100%
Mortgage-backed, asset-backed, and collateralized				
RMBS (exc. AIGFP)	$29,752	63%	$84,780	63%
CMBS (exc. AIGFP)	$11,226	24%	$22,999	17%
CDO/ABS (exc. AIGFP)	$6,131	13%	$10,447	8%
AIGFP	$217	0%	$16,274	12%
Total	$47,326	100%	$134,500	100%
RMBS (exc. AIGFP)				
U.S. agencies	$13,308	45%	$14,825	17%
Prime nonagency	$10,801	36%	$21,074	25%
Alt-A	$4,209	14%	$23,746	28%
Other housing related	$379	1%	$3,946	5%
Subprime	$1,055	4%	$21,189	25%
Total	$29,752	100%	$84,780	100%

Source: AIG 2008 SEC Form 10-K.

AIG reported a net loss of $99 billion for 2008 including net realized capital losses of $55 billion, of which $51 billion reflected "other than temporary" impairment charges to the estimated fair value of fixed maturity investments, including $38 billion for its life insurance and retirement services segment. Severity-related impairment charges of $29 billion were "primarily related to mortgage-backed, asset-backed and collateralized securities and securities of financial institutions."[12] Unrealized market valuation losses on the AIGFP super senior CDS portfolio totaled another $29 billion.

The Federal Bailout

The details of ongoing federal assistance to AIG, which began on September 16, 2008, are complex. The key arrangements have been modified several times. The details of the transactions are spread among many sources and are sometimes opaque. Table 2 presents a summary of the broad details that I prepared from a variety of sources. While I believe that the details shown in Table 2 are reasonably accurate,

[12] AIG 2008 10-K, p. 167. The bulk of the $29.1 billion was for highly rated securities.

TABLE 2
Federal Assistance to AIG Through June 30, 2009 (Approximate, in $billions)

Program	Announced	Net Amount Advanced[a]	Net Amount Authorized	Details
Federal Reserve Bank of New York				
Revolving credit facility	Sept. 2008	$18.5	$35.0	Original credit line $85 bill.
Maiden lane II	Nov. 2008	$17.4	$22.5	Purchased $39.3 bill. of RMBS to terminate AIG securities lending
Maiden lane III	Nov. 2008	$21.0	$30.0	Purchased $62.1 bill. of AIGFP CDS (notional amount)
Transfer of life subsidiaries	June 2009	$25.0	$25.0	Reduced credit facility debt; reduced $60 bill. credit line to $35 bill. (transaction pending)
U.S. Treasury Department (TARP)				
Preferred stock w/ warrants	Nov. 2008	$40.0	$40.0	Reduced credit facility debt; reduced $85 bill. credit line to $60 bill.
Capital facility	Mar. 2009	$1.2	$29.8	
Total		**$123.1**	**$182.3**	Remaining line about $56 bill.
Commercial paper funding facility	Balance April 29	$13.0		
Total with comm'l paper		**$134.9**		

[a]Net amount advanced included accrued interest.
Sources: Federal Reserve, Congressional Oversight Panel, AIG financial reports and press releases; author's interpretation.

I cannot testify to their exactitude, and the amounts shown should be viewed as approximate.[13]

According to information available to me and consistent with other summaries, the total amount of federal assistance authorized to AIG through June 30, 2009, was more than $182 billion. Of that total, approximately $123 billion had been advanced in loans (the amount of unpaid balances) and preferred stock investment. Authorized TARP assistance totaled $70 million, of which $40 million was used by the Treasury to purchase an issue of AIG preferred stock (with warrants) and to reduce the outstanding balance of the Federal Reserve Bank of New York credit facility. The remaining

[13] Not included in the table is a plan announced on March 2, 2009, for AIG to repay $8.5 billion and reduce the credit line from proceeds of a planned life insurance securitization. I was unable to confirm that the repayment occurred by July 31, 2009.

TABLE 3
Major TARP Fund Recipients Through July 16, 2009

Recipient	Amount
AIG[a]	$40 billion
Other predominantly insurance entities	$4.35 billion
Hartford Financial ($3.4 bill.)	
Lincoln National ($950 mill.)	
Top 10 banking recipients	$190 billion
Citigroup, Inc. ($50 bill.)	
Bank of America Corporation ($35 bill.)	
JPMorgan Chase & Co. ($25 bill.)	
Wells Fargo & Company ($25 bill.)	
The PNC Financial Services Group Inc. ($15.2 bill.)	
Morgan Stanley ($10 bill.)	
Goldman Sachs Group ($10 bill.)	
Fifth Third Bancorp ($6.8 bill.)	
U.S. Bancorp ($6.6 bill.)	
Sun Trust Banks, Inc. ($6.2 bill.)	
Other banking recipients (582 entities)	$55 billion
Auto industry (including suppliers)	$85 billion
Total	$374 billion

[a]AIG also received a commitment for an additional $29,835,000,000.
Source: U.S Department of Treasury Office of Financial Stability Transactions Report for the Period Ending July 16, 2009.

commitment of approximately $30 billion ($30 billion reduced by $165 million in response to AIG's payment of incentive compensation) has been largely untapped.

Table 3 shows major recipients of direct funding through TARP. Exclusive of the $30 billion largely untapped commitment, the $40 billion assistance to AIG represented 11 percent of the $374 billion total (14 percent of the $289 billion total excluding the $85 billion provided to the automobile industry). The two largest bank recipients, Citigroup and Bank of America, received $50 billion and $35 billion, respectively.

Much of the federal assistance to AIG has been used to close out contracts with counterparties for AIG's CDS and securities lending. Table 4 lists the counterparties and amounts.[14] Almost $50 billion was paid to CDS counterparties ($22.5 billion from borrowing through the Federal Reserve Bank of New York credit facility and $27.1 billion from the special purpose vehicle Maiden Lane III). Another $44 billion went to AIG's securities lending counterparties. Thus, of the $123 billion total shown in Table 4, $93.3 billion went to AIG's CDS and securities lending counterparties. Most of this amount was paid to banking and investment banking organizations, including large amounts to foreign banks, especially E.U. institutions. Three recipients received more than $10 billion: Goldman Sachs, Societe Generale, and Deutsche Bank. Four

[14] The data source, AIG Discloses Counterparties (2009), rounds each recipient's amount to the nearest $100 million.

TABLE 4
Payments to AIG Counterparties

Counterparty	CDS Counterparties From Credit Facility Through December 31, 2008	CDS Counterparties From Maiden Lane III	Securities Lending Counterparties Through December 31, 2008	Total
Goldman Sachs	$2.5	$5.6	$4.8	$12.9
Societe Generale	$4.1	$6.9	$0.9	$11.9
Deutsche Bank	$2.6	$2.8	$6.4	$11.8
Barclays	$0.9	$0.6	$7.0	$8.5
Merrill Lynch	$1.8	$3.1	$1.9	$6.8
Bank of America	$0.2	$0.5	$4.5	$5.2
UBS	$0.8	$2.5	$1.7	$5.0
BNP Paribus			$4.9	$4.9
HSBC Bank	$0.2		$3.3	$3.5
Dresdner Bank AG		$0.4	$2.2	$2.6
Calyon	$1.1	$1.2		$2.3
Ctigroup			$2.3	$2.3
Deutsche Z-G Bank	$0.7	$1.0		$1.7
ING			$1.5	$1.5
Wachovia	$0.7	$0.8		$1.5
Morgan Stanley	$0.2		$1.0	$1.2
Bank of Montreal	$0.2	$0.9		$1.1
Rabobank	$0.5	$0.3		$0.8
Royal Bank of Scotland	$0.2	$0.5	$0.0	$0.7
KFW	$0.5			$0.5
AIG International			$0.5	$0.5
Credit Suisse			$0.4	$0.4
JPMorgan	$0.4			$0.4
Banco Santander	$0.3			$0.3
Citadel			$0.2	$0.2
Danske	$0.2			$0.2
Paloma Securities			$0.2	$0.2
Reconstruction Finance Corp	$0.2			$0.2
Landesbank B-W	$0.1			$0.1
Other	$4.1			$4.1
Total	**$22.5**	**$27.1**	**$43.7**	**$93.3**
Equity in Maiden Lane				$5.0
GIAs held by municipalities				12.1
Maturing debt & other				12.5
Grand total	**$22.5**	**$27.1**	**$43.7**	**$122.9**

Source: AIG Discloses Counterparties to CDS, GIA, and Securities Lending Transactions, March 15, 2009.

others received at least $5 billion: Barclays, Merrill Lynch, Bank of America, and UBS. Merrill Lynch and Bank of America combined assistance totaled $12 billion.

Another $5 billion was used to capitalize Maiden Lane III, which was formed to wind down AIG's multisector CDO CDS. State and municipal counterparties that had purchased Guaranteed Investment Agreements from AIG received $12.1 billion. Another $12.5 billion was used for "maturing debt & other." The specific recipients in that category were not disclosed. In any case, the lion's share of the assistance provided to AIG flowed directly to banking organizations.

Whether it was better for the government to rescue AIG or instead allow it to file for bankruptcy has and will be debated, probably for years. The government's rationale for intervention, after having allowed investment bank Lehman Brothers to fail, is that an AIG bankruptcy would have further roiled world financial markets, creating the risk of another Great Depression. Donald Kohn, vice chairman of the Federal Reserve Board of Governors, testified as follows before the U.S. Senate Banking Committee on March 5, 2009 (Kohn, 2009):

> Our judgment has been and continues to be that, in this time of severe market and economic stress, the failure of AIG would impose unnecessary and burdensome losses on many individuals, households and businesses, disrupt financial markets, and greatly increase fear and uncertainty about the viability of our financial institutions. Thus, such a failure would deepen and extend market disruptions and asset price declines, further constrict the flow of credit to households and businesses in the United States and many of our trading partners, and materially worsen the recession our economy is enduring.

Accepting this rationale, which has been repeated by Federal Reserve Chairman Ben Bernanke and other high-ranking officials, the Federal Reserve and U.S. Treasury judged that it was better to undertake a *de facto* government takeover of AIG than risk the consequences. There can be little doubt that this judgment was affected by the desire to protect AIG's banking counterparties. The desire to protect banking counterparties with subsidiaries operating as primary dealers for U.S. Treasury securities, and thus to maintain a stable market for new issues and broad and liquid secondary markets for Treasury securities, might also have played a significant role (Rosenblum et al., 2008; Eisenbeis, 2009c).

The intervention and subsequent payments to E.U. banking counterparties reduced their need to quickly raise new equity capital, which may have dampened the financial crisis in the E.U. Financial regulators in the E.U. had accepted and in some sense relied on regulation and oversight of AIG by the U.S. Office of Thrift Supervision (OTS) to meet the E.U. directive that financial institutions operating in the E.U. be subject to consolidated oversight at the group level. Any role that this played in the U.S. government's decision to intervene with AIG has not been disclosed.

Regulatory Oversight of AIG

AIG's CDS activities were not conducted by regulated insurance subsidiaries. Despite AIG's CDS problems, securities lending problems, exposure of other investments to

mortgage defaults, and high leverage at the holding company level, it is not clear that any of its insurance subsidiaries would have become insolvent if the government had not intervened.

At year-end 2008, AIG reported $35 billion of surplus under statutory accounting principles for its general insurance segment and $25 billion for its life insurance and retirement services segment (AIG, 2008 10-K, p. 297). The latter amount reflects a change on October 1, 2008, in the permissible method under statutory accounting for other than temporary impairments for bonds, loan-backed, and structured securities that increased year-end statutory surplus for the domestic life and retirement services entities by $7 billion (AIG, 2008 10-K, p. 298).

A detailed analysis of whether any of AIG's regulated insurance subsidiaries would have become insolvent had the federal government not intervened and the parent company had instead sought bankruptcy would need to address several complex issues, including the potential ability of capital to be moved among subsidiaries if one or more subsidiaries were facing insolvency. If one or more of AIG's domestic life insurers would have confronted a negative capital position, it would not imply that the subsidiary would have been allowed to default on its obligations if adequate capital remained in other subsidiaries.

Vice Chairman Kohn testified on March 5, 2009, before the Senate Banking Committee (Kohn, 2009) that AIGFP

> . . . is an unregulated entity that exploited a gap in the supervisory framework for insurance companies and was able to take on substantial risk using the credit rating that AIG received as a consequence of its strong regulated insurance subsidiaries.

The assertion that AIGFP was unregulated is technically incorrect and appears misleading. As noted above, and as a consequence of owning a savings and loan subsidiary, AIG was subject to consolidated regulation and oversight by the OTS, and it was recognized as such for the purpose of meeting the 2005 E.U. regulatory criterion for group supervision.

At the same hearing, OTS Acting Director Scott Polakoff testified as follows (Polakoff, 2009):

> OTS conducted continuous consolidated supervision of the group, including an on-site examination team at AIG headquarters in New York. Through frequent, on-going dialog with company management, OTS maintained a contemporaneous understanding of all material parts of the AIG group, including their domestic and cross-border operations.

Polakoff then recounted numerous meetings with AIG's senior management and independent auditor. He indicated that in March 2006, the OTS provided AIG's board with written recommendations on risk management oversight and related issues, including discussion of significant weaknesses at AIGFP.

The OTS was also responsible for regulating Countrywide, Washington Mutual, and Indy Mac, large mortgage finance organizations that eventually failed and were merged with or acquired by other entities with FDIC assistance. The ineffectiveness of federal OTS regulation at preventing those failures and the AIG crisis do not indicate that the entities were unregulated, nor does it imply that state insurance regulation was to blame for AIG's breakdown. If the financial crisis in general and the AIG crisis in particular are to be blamed on ineffective regulation, the blame should reflect the substantial evidence of fundamental failures in U.S. and foreign banking regulation, including in the United States by the OTS, the Office of the Comptroller of the Currency (the regulator of federally chartered commercial banks), the FDIC, the SEC, and the Federal Reserve.

Banking regulation permitted and probably encouraged high leverage, aggressive investment strategies, inadequate capital requirements for risky loans and securitizations, and complex off-balance sheet vehicles, often financed by commercial paper, all taking place within the framework of government deposit insurance and "too big to fail" (TBTF) policy. In addition to reducing financial institutions' losses, higher effective capital requirements for risky loans would have discouraged excessive expansion of credit on easy terms and the associated overbuilding and rapid escalation of housing prices (Calomiris, 2009; Jaffee, 2009).

The culpability of the OTS notwithstanding, AIG's major counterparties were regulated by U.S. and foreign banking regulators. Broad regulatory authority encompasses responsibility for monitoring an institution's relationships with counterparties that could allow it to take on excessive risk. If, hypothetically, a domestic or foreign reinsurance company were to expand to the point where its financial distress seriously weakened the financial condition of U.S. licensed insurers, state insurance regulation would almost certainly take the primary blame. Even apart from the OTS's performance and possible reliance of banking regulators on AIG's top financial rating, federal banking regulators bear significant responsibility for not recognizing the risks of allowing regulated banking entities to (1) buy extensive amounts of credit protection from AIG and (2) provide large amounts of securities lending collateral to AIG.

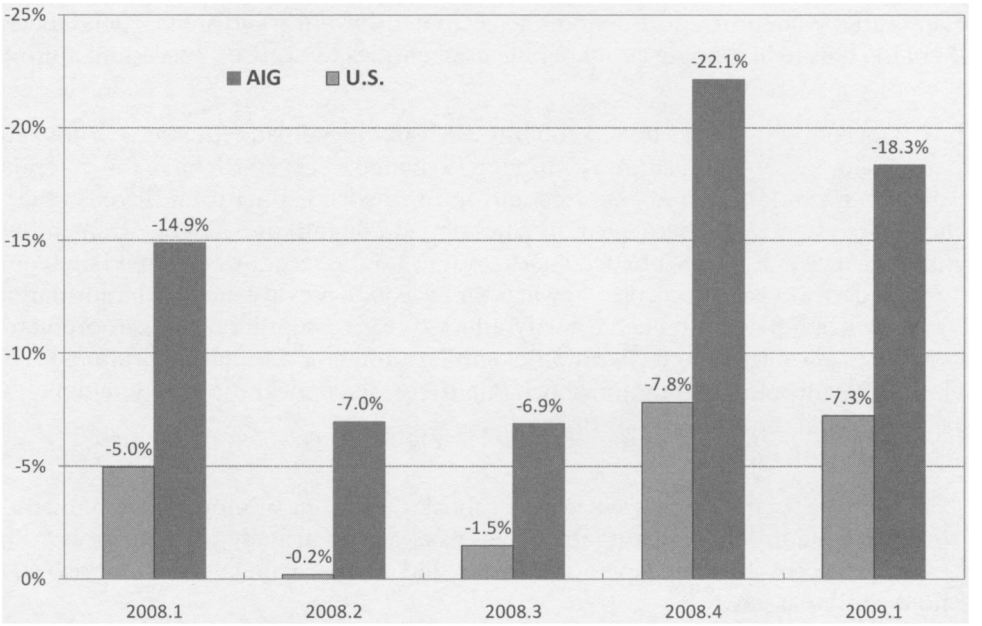
AIG's Postintervention Ability to Write Business

AIG's insurance subsidiaries have continued to write business following the federal intervention. The long-run effects of the intervention and the ability of AIG's insurance subsidiaries to prosper are not clear.[15] Some of AIG's U.S. commercial property–casualty insurance competitors have alleged that AIG's domestic commercial insurers have priced certain renewal business very aggressively in order to retain clients. A Government Accountability Office investigation of the allegations, which included discussions with regulators, underwriters, and brokers, failed to document the allegations (Williams, 2009).[16]

A detailed analysis of AIG's experience since the intervention might be informative about the extent to which federal backing may have helped AIG retain

[15] AIG is rebranding its property–casualty insurance operations under the name Chartis.
[16] The Pennsylvania Department of Insurance is conducting an investigation of AIG's pricing.

FIGURE 2
U.S. and AIG Commercial Property–Casualty Insurance Premium Growth (Year-Over-Year Percentage Changes)



Source: AIG financial reports and A.M. Best Company. Author's calculations.

business for both its property–casualty and life insurance operations. Figure 2 shows year-over-year percentage premium revenue growth for AIG's domestic commercial property–casualty business from the first quarter of 2008 through the first quarter of 2009.[17] It also shows nationwide commercial property–casualty insurance premium revenue growth (using data from A.M. Best). Nationwide premium revenues fell throughout the period due to price declines and reduced economic activity. AIG's declines were much greater during each quarter, especially during the quarter following the September 2008 intervention. The extent to which the more pronounced premium declines at AIG reflect loss of customers versus lower premium rates is not known.[18]

SYSTEMIC RISK AND THE CRISIS

There is no generally accepted definition of "systemic risk" or agreement on its importance and scope. While the term sometimes is used to encompass the risk of any

[17] AIG's domestic property–casualty premiums for the second quarter of 2009 were 18 percent lower than the second quarter of 2008 (see AIG Financial Supplement, Second Quarter 2009). Comparable nationwide data are not yet available.

[18] For general discussion of this difficulty, see Epermanis and Harrington (2006), who document significant premium declines for commercial property–casualty insurers that are downgraded, especially when the downgrade causes their financial rating to drop below A–.

large, macroeconomic shock, the term generally is used to connote situations with extensive interdependencies or "interconnectedness" among firms and an associated risk of contagion and significant economic spillovers. The Committee on Capital Markets Regulation (2009), for example, has defined systemic risk as "the risk of collapse of an entire system or entire market, exacerbated by links and interdependencies, where the failure of a single entity or cluster of entities can cause a cascading failure" (p. ES-3).

The risk of common shocks to the economy, such as widespread reductions in housing prices or changes in interest rates or foreign exchange rates, which have the potential to directly harm large numbers of people and firms, is distinct from the customary concept of systemic risk because it does not depend on interdependency-transmitted contagion. The full effects of such shocks might not be recognized immediately. Instead, evidence of the effects on a few firms may lead to reevaluation and information that other firms have also been directly affected (e.g., recognition of asset problems at one institution leads to recognition of similar problems at other institutions). The delayed response to the common shock might give the appearance of contagion.

The economics literature has identified at least four sources of systemic risk:

- The risk of *asset price contagion*, where a shock causes one or more financial institutions to have to sell large amounts of assets at temporarily depressed prices ("fire sales"), thereby further depressing prices and market values of institutions that hold similar assets;[19]
- The risk of *counterparty contagion*, where shocks to some firms make them unable to honor commitments to counterparties, thereby causing some of the counterparties to likewise default on their commitments, with repercussions that cascade through financial markets;
- The risk of *contagion due to uncertainty and opacity of information*, where the revelation of financial problems at some institutions creates uncertainty about the effects on counterparties and whether other institutions face similar problems, so that parties become reluctant to trade until further information becomes available; and
- The risk of *irrational contagion*, where investors and/or customers withdraw funds without regard to whether specific institutions are at risk.

Depending on the circumstances, each source of systemic risk can be asserted to justify government intervention as an efficient response to reduce adverse effects on the overall economy, such as a sharp contraction in bank credit. Each source of risk also can be asserted to justify bailing out an individual firm to reduce adverse effects on other parties, as opposed to allowing the firm to file for bankruptcy. In contrast,

[19] While technically not contagion, a related problem is that shocks to some financial institutions will directly reduce the values of securities they have issued, thus reducing the net worth of other financial institutions that invested in those securities. For example, if an insurance holding company invests in bonds or notes issued by a bank-holding company that later runs into financial difficulty, the associated decline in the value of the bonds and notes will reduce the insurance holding company's assets and net worth. Cross-purchases of securities among financial institutions are common.

the risk of common shocks would seldom justify selective intervention to save an individual company for efficiency reasons.

A significant body of research has attempted to identify possible contagion in previous episodes of financial turmoil, and dozens of studies of contagion in the current crisis can be expected. Prior research, which largely predates the growth of CDS and complex securitizations, yields very little evidence of irrational contagion and relatively little evidence of contagion related to counterparty risk, asset prices, or uncertainty/opacity. This includes studies of the early 1990s junk bond/real estate crisis in the life insurance sector (see below).[20]

The AIG crisis and general financial crisis were precipitated by the bursting of the housing price bubble and attendant increases in actual and expected mortgage defaults, which greatly reduced the values of mortgage-related securities as the new information was reflected in prices. While there apparently were some elements of counterparty contagion, asset price contagion, and uncertainty/opacity contagion, the principal problem was the decline in security values.

AIG was heavily exposed to the subprime crisis and the bursting of the housing price bubble. Whether AIG's CDS portfolio and securities lending actually presented significant risk of contagion has been and will be debated. Critics of the bailout stress that providing selective assistance to individual firms is problematic in part because it undermines incentives for safety and soundness in the long run. They argue that the slow and painful process of bankruptcy is generally preferable, especially for nonbank institutions (Eisenbeis, 2009c; Wallison, 2009a).

Relatively little is known about the extent to which an AIG bankruptcy would have had significant adverse effects beyond its counterparties, or the extent to which its counterparties had hedged their exposure to AIG or otherwise reduced their risk. CDS protection buyers have some ability to diversify across different sellers, and they are able to enter into offsetting trades. Goldman Sachs, for example, reported that its exposure to an AIG default was negligible.[21]

A failure to rescue AIG and funnel $123 billion to its counterparties (Table 4) would have weakened their financial condition, forcing them to sell more assets and reducing their ability to invest and make loans. Some of AIG's E.U. banking counterparties would have needed to raise more capital or significantly reduce their risk exposure. Although many more of AIG's insurance customers might have terminated or declined to renew their policies without the federal intervention, by itself that would not represent systemic risk.

Systemic Risk in Insurance

Notwithstanding whether AIG's unique circumstances created systemic risk, the question arises as to whether insurance companies typically pose systemic

[20] See Helwege (2009) and Kaufman and Scott (2003) for discussion and citations to general evidence.

[21] In this regard, Wallison (2009c) testified as follows: "If Goldman, AIG's largest counterparty, would not have suffered significant losses, there is no reason to believe that anyone else would have suffered systemically significant losses either."

risk.[22] The general consensus is that systemic risk is relatively low in insurance markets compared with banking, especially for property–casualty insurance, in part because insurers hold greater amounts of capital in relation to their liabilities, reducing their vulnerability to shocks (e.g., Harrington, 2004; Wallison, 2009b).[23]

To be sure, low-probability events with large losses, such as severe hurricanes, can simultaneously damage many property–casualty insurers. The impact can be spread broadly among insurers through product line and geographic diversification and reinsurance, which creates contractual interdependence among insurers. Large insurance losses and asset shocks can temporarily disrupt property–casualty insurance markets, sometimes contributing to market "crises" with some adverse effect on real economic activity. Even so, there is little likelihood and no evidence of significant contagion associated with major events.

Systemic risk is larger for life insurers (e.g., due to a sharp fall in asset prices) given their higher leverage, especially when policyholders seek to withdraw funds following large negative shocks, thus causing some insurers to unload assets at temporarily depressed prices. However, although a few life insurers that had heavily invested in junk bonds or commercial real estate were subject to policyholder runs during the early 1990s "crisis," there is no evidence that financially strong insurers were affected (Fenn and Cole, 1994; Brewer and Jackson, 2002; also see Harrington, 1992). Moreover, shocks to life insurers do not threaten the economy's payment system, as might be true for commercial banks.

More generally, and as I have emphasized in prior publications (e.g., Harrington, 2004, 2006) and congressional testimony (Harrington, 2009b), insurance markets are fundamentally different from banking. Sensible regulation, including government guarantees of banks' and insurers' obligations, should recognize the differences. Government guarantees protect consumers and help reduce systemic risk by deterring runs. As a by-product, they create moral hazard: they reduce market discipline for financial institutions to be safe and sound. It generally is desirable for parties to avoid dealing with undercapitalized financial institutions. Guarantees reduce the penalties for doing so. The basic policy trade-off is well known: stronger guarantees reduce systemic risk but increase moral hazard. Given this trade-off, greater systemic risk favors stronger government guarantees because of the greater potential for adverse effects on real economic activity. Greater systemic risk also favors tighter regulation in view of the additional moral hazard induced by stronger guarantees.

As noted above, bank depositor and creditor runs might threaten the economy's payment system. Banking crises have the potential to produce rapid and widespread harm to economic activity and employment. This systemic risk provides some rationale for relatively broad government guarantees of bank obligations and correspondingly stricter financial regulation, including stronger capital requirements. The need for

[22] Following the bailout, AIG representatives have asserted that its operations pose significant systemic risk, especially in life insurance. See AIG: Is the Risk Systemic? (2009).

[23] Santos (1999) explains why systemic risk is generally lower for all nonbank financial institutions than for banks. Nebel (2001) provides a useful discussion of why systemic risk is low for insurance.

stronger capital requirements in turn motivates banks to seek ways of evading the requirements and to lobby for their relaxation. The first and second Basel accords on bank capital regulation reflect this dynamic.

Because insurance, especially property–casualty and health insurance, poses much less systemic risk than banking, there is less need for broad government guarantees to prevent potentially widespread runs that would destabilize the economy. Insurance guarantees have appropriately been narrower in scope than in banking, and market discipline is generally strong. Capital requirements have been much less binding—insurers commonly have held much more capital than required by regulation (Harrington, 2004; Klein and Wang, 2009). Because insurance capital requirements are much less constraining, reducing incentives for regulatory arbitrage and other evasion, the need for accurate capital requirements has been less important. In the case of mortgage/bond insurance, the monoline structure and contingency reserves required by insurance regulation also have reduced potential systemic risk by preventing spillovers on other types of insurance and reducing leverage (Jaffee, 2009).

PROPOSED REGULATION OF "SYSTEMICALLY SIGNIFICANT" INSURERS

The Treasury Proposal

The U.S. Treasury (2009) released a white paper outlining proposals for financial regulatory reform in June 2009 (also see Goodwin Proctor LLP, 2009). The white paper attributes much of the blame for the financial crisis on the failure of large, highly leveraged, and interconnected financial firms, such as AIG. In contrast to a reform blueprint released a year earlier by the Bush administration (U.S. Treasury, 2008), the Treasury's 2009 white paper does not propose optional federal chartering (OFC) of insurance companies. However, the white paper does include several key proposals that would affect insurance:[24]

- The Federal Reserve would have broad authority to regulate as a Tier 1 financial holding company (FHC) "any firm whose combination of size, leverage, and interconnectedness could pose a threat to financial stability if it failed." The authority would not be limited to firms that own banks or even domestic financial firms. The Fed would have discretion to classify firms as Tier 1 FHCs, which, along with all of its subsidiaries, would be subject to its authority, regardless of whether those subsidiaries had a primary regulator.
- A new regime would be created for resolution, patterned after FDIC resolution procedures, of financially distressed bank holding companies and Tier 1 FHCs in the event that "a disorderly resolution would have serious adverse effects on the financial system or the economy." The Treasury would have final authority for using the regime with approval required by two-thirds of Federal Reserve board members and two-thirds of the FDIC board. The proposal emphasizes that normal bankruptcy would be expected to apply to most financially distressed nonbank entities.

[24] The Treasury also proposes a controversial new agency to regulate financial products, but not insurance products specifically.

- A Financial Services Oversight Council would be established to facilitate coordination and information sharing among regulatory agencies, study financial sector trends and regulatory issues, and advise the Federal Reserve on the identification and appropriate regulation of Tier 1 FHCs.
- An Office of National Insurance (ONI) would be formed to monitor and analyze the insurance industry and help identify to the Federal Reserve firms that should be candidates for Tier 1 FHC status. It would carry out certain federal functions, such as administration of the Terrorism Risk and Insurance Act, and it would represent U.S. insurance interests internationally with authority to enter into international agreements.

The Treasury proposal also expresses support for six principles for insurance regulation, including (1) effective systemic risk regulation, (2) strong capital standards, (3) "meaningful and consistent" consumer protection, (4) increased national uniformity through either OFC or state action, (5) improved regulation of insurers and affiliates on a consolidated basis, and (6) international coordination.

Office of National Insurance Act of 2009

Following release of its white paper, the Treasury proposed specific legislation, "Title V-Office of National Insurance Act of 2009," for creating the ONI to "monitor all aspects of the insurance industry." As proposed in the white paper, the ONI would recommend to the Federal Reserve which insurers, due to systemic risk exposure, should be designated Tier 1 FHCs and regulated by the Federal Reserve.

The ONI would also collect and analyze information on the insurance industry, with broad subpoena power to compel insurers to produce data in response to its requests. The Treasury would be authorized to negotiate and enter into "International Insurance Agreements on Prudential Measures" on behalf of the United States. The ONI would have broad authority to preempt any state regulations that were deemed inconsistent with such agreements.[25]

The Bean–Royce Federal Charter Bill

Representatives Melissa Bean (D.-Ill.) and Edward Royce (R-Calif.) introduced "The National Insurance Consumer Protection Act" in April 2009 (H.R. 1880). The bill would create an OFC system for insurance (discussed further below). An ONI would be established within Treasury to regulate insurers that chose federal regulation,

[25] The information collecting, international representation, and preemption features of the Treasury bill are broader but similar in concept to a bill introduced on May 22, 2009 by Representative Paul Kanjorski (D.-Pa.), "The Insurance Information Act of 2009" (H.R. 2609). In contrast to the Treasury bill, H.R. 2609 does not deal with systemic risk authority. It would create an Office of Insurance Information to collect and analyze data on insurance to help Congress make decisions regarding insurance. The Office of Insurance Information would "serve as a liaison between the Federal Government and the individual and several states regarding insurance matters of national importance and international importance." It would establish U.S. policy on international insurance issues. It could enter into agreements that "are substantially equivalent to regulation by the States of the comparable subject matter." It would preempt state law inconsistent with such agreements.

including the establishment of a national guaranty system for such insurers that would also be required to participate in state guaranty systems.

Section 201 of H.R. 1880 would require the president to designate a federal agency (but not ONI) to be a systemic risk regulator for systemically significant state and federally chartered insurers. The agency would have authority to participate in examinations of insurers with functional regulators and recommend actions to avoid adverse effects on the economy or financial conditions. It could also force an insurer to become federally chartered.

Section 202 would establish a Coordinating National Council for Financial Regulators to serve as a forum for financial regulators to collectively identify and consider financial regulatory issues, including the stability of financial markets. The council would promote the financial strength and competitiveness of U.S. financial services, develop early warning systems to detect weaknesses, recommend coordinated actions, and develop model supervisory policies for national and state regulators.

Is a Systemic Risk Regulator Desirable?

The large U.S. investment banks that survived the financial crisis have all become bank holding companies and are, therefore, already regulated by the Federal Reserve. There are strong arguments against creating a systemic risk regulator that would be able to designate insurers and other nonbank financial institutions as being subject to comprehensive regulation and oversight by the Federal Reserve or other agency.[26]

- Any institution designated as "systemically significant" would be regarded as TBTF. This would reduce market discipline and aggravate moral hazard, making future financial problems more likely.
- Because of implicit, if not explicit, government guarantees of its obligations, any institution designated as systemically significant would have a lower cost of attracting capital than its nonsystemically significant competitors.[27]
- Greater capital requirements and tighter regulation for institutions designated as systemically significant could reduce moral hazard and the potential competitive advantages conveyed by the systemically significant designation. But differential capital requirements and regulation would necessarily involve two risks. One possibility is that companies designated as systemically significant would face

[26] See, for example, Harrington (2009b), Wallison (2009a), Shadow Financial Regulatory Committee (2009), and Eisenbeis (2009c). Many observers have taken issue with proposals to make the Federal Reserve the systemic risk regulator in view of possible conflicts with monetary policy and an aversion to expanding the authority of an agency whose monetary policy and deficient regulatory oversight played a major role in causing the financial crisis. For example, Alice Rivlin (2009) testified: "As regulator of bank holding companies, it [the Federal Reserve] did not distinguish itself in the run up to the current crisis (nor did other regulators). It missed the threat posed by the deterioration of mortgage lending standards and the growth of complex derivatives."

[27] Regarding moral hazard and lower capital costs, for example, Hubbard, Scott, and Thornton (2009) state: "Identifying an institution as systemically important creates a moral hazard, since the market will view this designation as the equivalent of a bailout guarantee. A perceived bailout guarantee will decrease these institutions' costs of raising capital."

excessive burdens and costs. The other possibility, which seems more likely given the history of bank capital regulation and strong incentives for regulatory arbitrage, is that changes in capital requirements and regulation would not be sufficient to prevent an increase in moral hazard.

- Once a systemic risk regulator has designated an institution as systemically significant, it would likely have an incentive to prop up the institution if it experienced problems, even if the particular problems had little potential for systemic consequences.
- The threat of being designated as systemically significant and subject to regulation by a federal systemic risk regulator at a future date would create significant uncertainty for large, nonbank financial institutions that could distort their financial and operating decisions in undesirable ways.

A counterargument is that the AIG meltdown and federal intervention make a *prima facie* case that some sort of federal regulatory authority is required for large and interconnected nonbank financial institutions. This assertion can be challenged for several related reasons:

- It does not adequately consider the potential benefits and costs of creating a systemic risk regulator.
- It does not consider the failures of federal regulation of large banking organizations that contributed to the financial crisis.
- It largely ignores the regulated insurance sectors' comparatively modest role in the crisis.
- It provides no guidance for limits on the scope of discretionary federal authority to intervene in the financial sector in particular and the economy in general.

Moreover, given lessons from the current crisis and the earlier savings and loan crisis, it is questionable whether a systemic risk regulator would be effective in limiting risk in a dynamic, global environment. Even without any increase in moral hazard, it could be ineffective in deterring a future crisis, especially once memories fade. The financial crisis underscores (1) the imperfect nature of federal regulation of banks and related institutions, (2) the necessity of renewed vigilance in banking oversight and capital requirements, and (3) the desirability of encouraging additional market discipline in banking.

The federal government was able to intervene in AIG and limit any potential contagion without having had the authority to regulate AIG *ex ante*. The question arises: *What would the Federal Reserve have done differently if it had systemic risk authority before and during the crisis?*[28] The answer is not clear and has not been provided.

As a result of these considerations, creation of a systemic risk regulator for insurers and other nonbank institutions designated as systemically significant would not be good policy. It would instead illustrate the adage that "bad policy begets bad policy."

[28] When discussing the implication that lack of systemic risk authority hindered federal response to the crisis, Eisenbeis (2009c) queries: "What would the Fed have done differently, had it been officially designated as systemic risk authority—both in advance of and during the crisis?"

THE CRISIS AND FEDERAL INSURANCE REGULATION

The possible creation of a system of OFC and regulation for insurance companies has been debated for over two decades.[29] The financial crisis and AIG bailout have changed the context of the debate, if not the key issues.

The OFC Debate Precrisis

Prior to the events of 2008, pressure for OFC or other fundamental changes in state insurance regulation of property/casualty and life/annuity insurers focused on three main concerns:[30]

- Costs and delays associated with regulatory approval of policy forms in over 50 different jurisdictions;
- Costs, delays, and possible short-run suppression of rates below insurers' projected costs associated with prior regulatory approval of insurers' rate changes; and
- Restrictions on insurers' underwriting (risk selection) decisions and risk classification.

The pricing and underwriting issues are primarily relevant for property–casualty insurers (and health insurance).[31] Regulation of policy forms is the overriding issue for life–annuity insurers. Executives of many large life insurers support federal chartering for this reason and because a federal regulator might better represent their companies' interests before the Congress. OFC also is supported by executives of many large property–casualty insurers. More generally, OFC is viewed by many as a potential mechanism to achieve desirable regulatory modernization with suitable deregulation, including improved ability to deal with multijurisdictional issues within the United States (such as appropriate policy regarding terrorism risk and insurance) and internationally (such as reinsurance regulation and the development and implementation of international insurance accounting and/or capital standards).

The main arguments against OFC of insurers are: (1) the states have performed reasonably well on many dimensions, including solvency regulation; (2) the possible benefits from OFC are uncertain, and relatively little might be gained by creating an expensive, new federal bureaucracy; (3) OFC could create an unequal playing field between large multistate insurers and small insurers that are reasonably satisfied with state regulation and would face relatively high costs of switching charters; and, more broadly, (4) the potential risks and costs of OFC are large compared with the uncertain benefits.

[29] The general debate over state versus federal insurance regulation goes back much longer. I have written on the issue for nearly two decades (e.g., Harrington, 1991, 1992, 2000, 2002, 2006).

[30] In contrast to the early 1970s and early 1990s, when temporary increases in the frequency and severity of insurance company insolvencies motivated OFC proposals, pre-AIG pressure for OFC during this decade was not primarily motivated by solvency concerns.

[31] As has been emphasized by economists for two decades, continued government interference with many of insurers' product and pricing decisions is inefficient and counterproductive. See, for example, Cummins (2002) and the articles therein.

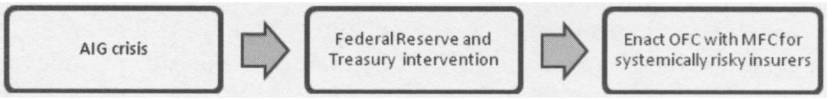
The history of federal deposit insurance and TBTF policy suggests that, either initially or later on, OFC could expand government guarantees of insurers' obligations, thereby undermining market discipline and incentives for safety and soundness. Even if OFC were to reduce the scope of insurance price regulation initially, it could ultimately produce broader restrictions on pricing and underwriting at the federal level to achieve political or social goals. Broad, federal restrictions would increase cross-subsidies among policyholders, inefficiently distort policyholders' incentives to reduce the risk of loss, and increase risk to federal taxpayers if political pressure led to inadequate rates (e.g., for windstorm coverage in coastal areas).

Two alternatives to OFC might have the potential for improving insurance regulation with less risk: (1) selective federal preemption of inefficient state regulations, such as prior approval rate regulation in competitive markets and inefficient impediments to nationwide approval of certain products, and (2) allowing insurers to choose a state for primary regulation with authorization to operate nationwide primarily under the rules of that state.[32]

Do the Financial Crisis and AIG Intervention Justify OFC?

Some observers essentially assert that the AIG bailout makes the case for either OFC or OFC combined with mandatory federal chartering (MFC) for systemically significant insurers self-evident.[33] Enactment of the Bean–Royce OFC bill and the U.S. Treasury's proposal that the Federal Reserve regulate nonbank institutions it designates as systemically significant would achieve the latter result. The basic argument for such a regime seems to be that if the federal government will have to intervene in the event that a large and systemically significant financial institution with extensive insurance operations becomes financially distressed (e.g., as is alleged to have been essential for AIG), then it should have regulatory authority over such institutions *ex ante* and that smaller and/or less systemically significant competitors should have the option to choose federal regulation.

The chain of reasoning might be depicted as follows:



This chain is unconvincing for at least two reasons. First, the asserted necessity for MFC of insurers designated as systemically significant is subject to the arguments against a systemic risk regulator for nonbank institutions outlined above. Second, there have been no compelling arguments or evidence that the financial crisis has fundamentally altered the potential benefits and costs of OFC for insurers.

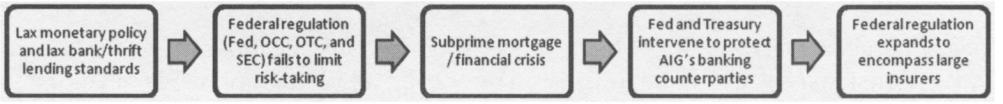
As explained earlier, AIG's problems cannot be primarily attributed to any insurance regulatory failure. Given what is currently known, AIG likely would have been able

[32] Harrington (2006) briefly discusses both alternatives. Also see Butler and Ribstein (2008-2009).

[33] See, for example, Litan (2009) who also argues that "spillovers" of monoline mortgage insurers on the municipal bond market were indicative of significant systemic risk.

to largely, if not completely, meet its obligations to policyholders without federal intervention, with state insurance guaranty funds serving as a potentially important back up if it could not. While there is still uncertainty, I know of no evidence, for example, that AIG's life subsidiaries' assets remain vulnerable to large writedowns and/or that its property/casualty subsidiaries are exposed to billions of dollars in liability claims that are not reflected in its reported loss reserves.

The alternative scenario—where insolvency of AIG subsidiaries would require multi-billion dollar assessments under the state guaranty system—would substantially increase pressure for federal regulation. Even then, however, a strong case for federal insurance regulation in response to the crisis would have to explain why the following scenario would represent sensible policy:



That case has not been made, and the question arises: *In view of what happened at Citibank, Bank of America, and other bank and investment bank holding companies, how would federal regulation of AIG before the crisis specifically have prevented or mitigated its problems?*

There can be no presumption that federal regulation of AIG's insurance operations would have prevented or mitigated risk taking at AIG, or that OFC with or without MFC for large insurance organizations would mitigate any role of insurance in some future financial crisis. It is just as likely that federal regulation of large insurers would have further increased risk in ways that would have posed a greater threat to policyholder claims.

IMPLICATIONS FOR INSURANCE REGULATION

Lessons to be drawn from the financial crisis and AIG intervention do not include the need for a systemic risk regulator with authority over insurers and nonbank institutions that would be designated as systemically significant. The crisis and intervention also do not fundamentally strengthen arguments for either optional or mandatory federal regulation of insurance.

Creating some form of federal insurance information office to provide information, serve as a liaison on insurance issues with Congress, and represent the United States in international insurance regulatory forums would be sensible.[34] The creation of a federal council to monitor domestic and international financial institutions and the economy for developments that could pose systemic risk and potentially lead to a future crisis could also be useful. Such an entity would need to have broad expertise in financial institutions and markets, including insurance.

[34] Important international issues include possible harmonization of accounting and capital standards, reinsurance regulation, and regulatory treatment of off-balancing financing vehicles, such as catastrophe bonds. See, for example, Cummins (2007) and Klein and Wang (2009).

The question of whether regulatory authority for resolving financially distressed, nonbank institutions should be expanded deserves much more study before being given serious consideration. Recent events do not justify broad authority for the FDIC or some other federal agency to selectively seize and resolve financially troubled insurance organizations or other nonbanking organizations, thereby superseding bankruptcy law or state insurance liquidation procedures. Reasonable people can disagree about the specific probability and magnitude of potential harm to the economy that would justify such action, and on how great the risk was in the AIG case. But the threshold for such action should be extraordinary. Formal expansion of federal resolution authority to encompass nonbank financial institutions would make future interventions more likely and very likely be combined explicitly or implicitly with authority to regulate nonbanks, at least those deemed systemically significant.

The general financial crisis and AIG intervention have implications on several other key dimensions that should be considered by current regulators and when developing any new regulatory initiatives, including: (1) market discipline and the TBTF problem, (2) banks and insurers' capital requirements, and (3) holding company–subsidiary relationships and possible segmentation of risky activities.

Market Discipline and TBTF Policy

Regulatory discipline or a lack thereof notwithstanding, a lack of market discipline represents one of the key underlying causes of the crisis, and the subsequent expansion of TBTF policy the biggest danger. In his remarks at the American Enterprise Institute on June 3, 2009, for example, Alan Greenspan (2009) opined:

> Of all the regulatory challenges that have emerged out of this crisis, I view the TBTF problem and the TBTF precedents, now fresh in everyone's mind, as the most threatening to market efficiency and our economic future.

Commercial banks, investment banks, savings and loans, mortgage originators, subprime borrowers, and AIG obviously placed heavy bets on continued appreciation of housing prices. The losses have been huge and widespread. A simple explanation for much of the aggressive risk taking was that the potential gains and losses were asymmetric.[35] If housing prices continued upward, or at least did not fall, participants could achieve large profits. If housing prices stabilized, or even fell, the losses would be borne largely by other parties, including taxpayers. The extended period of historically low interest rates encouraged high leverage and fueled risky borrowing, lending, and investment.

Given what we know about the causes of the housing bubble and ensuing financial crisis, a primary objective of legislative and regulatory responses should be to encourage market discipline as a means to promote prudence, safety, and soundness in banking, insurance, and other financial institutions. An overriding goal of any changes in financial regulation in response to the AIG anomaly should be to avoid

[35] I elaborated this point in Harrington (2009a).

extending explicit or implicit TBTF policies beyond banking. While it could well be difficult to significantly strengthen market discipline, ill-thought-out responses to the crisis could easily weaken it by expanding TBTF policy. The creation of a systemic risk regulator and expanded federal authority over financially distressed insurers and other nonbank institutions would very likely undermine market discipline and protect even more institutions, investors, and consumers from the downside of risky behavior.

Systemic risk aside, any debate over OFC of insurance companies should likewise recognize the fundamental importance of avoiding expanded government guarantees of insurers' obligations. This might be achieved in principle under OFC by requiring federally chartered insurers to participate in the state guaranty system and/or by designing federal guarantees along the lines of existing state guarantees. The design of any government guarantees also might be tailored in principle to help encourage additional market discipline. It should be recognized from the outset, however, that a monopoly federal guaranty program might ultimately ensue with optional federal regulation. That result could very easily undermine market discipline, requiring tougher capital requirements, which companies would fight and which, if implemented, would produce some undesirable distortions in companies' decisions, and provide incentives for them to mitigate the effects of the requirements in innovative ways.

Capital Requirements

Financial regulatory reform proposals generally advocate or at least suggest that bank capital requirements be increased to limit risk taking. It has been suggested that relatively higher capital requirements be imposed on systemically significant organizations, with progressively increasing requirements as an entity's size and potential for systemic consequences grows. Another suggestion is to adopt rules that would require banks to accumulate additional capital in good years to serve as an additional buffer in bad years, thus reducing the severity of financial shocks and associated lending contractions.

Regardless of the merits and feasibility of such suggestions for banking organizations, the financial crisis does not imply the need for any fundamental changes in U.S. insurance company capital requirements. Insurance capital requirements should continue to recognize the distinctive nature of insurance markets. Given limited systemic risk and potential for contagion and runs, government guarantees of insurers' obligations are appropriately narrower in scope than in banking, and market discipline is reasonably strong. Strong market discipline favors capital requirements that generally are easily met by the bulk of insurance companies, reducing potential undesirable distortions of sound companies' operating decisions and incentives for evading the requirements.

Pressure for and movement toward applying bank models of capital regulation to insurance, as illustrated by some proposals for federal insurance regulation and by the Solvency II initiative in the E.U., is inconsistent with this approach to capital regulation. As the financial crisis would appear to highlight, such movement can reflect excessive optimism concerning the ability of seemingly sophisticated modeling

and regulatory oversight to substitute for market discipline, and it pays too little attention to promoting market discipline.[36]

Holding Companies and Risk Segmentation

While the details will likely change, large insurance holding companies with banking-related subsidiaries in the United States and/or abroad will remain subject to some form of federal regulatory authority at the holding company level. Regarding supervision of U.S. insurance subsidiaries, state regulators and the National Association of Insurance Commissioners (NAIC) have an elaborate statutory and administrative framework designed to deter parent holding companies that experience financial difficulty from draining funds from their insurance subsidiaries. Detailed study is needed of how this system performed in the current crisis, the potential risks of securities lending and parent company debt finance, and whether any additional changes (beyond recent revisions in reporting requirements for securities lending) should be considered to strengthen oversight of parent–subsidiary relationships.

More broadly, the financial crisis highlights the need for continued analysis and understanding of the benefits and costs of allowing entities to engage in diverse financial services under common ownership and of the best ways to structure such organizations to achieve efficiencies from interconnectedness while limiting systemic risk. The fundamental question remains concerning how to structure and oversee financial integration to best achieve efficiencies while limiting systemic risk and insulating operations of commercial banking and insurance subsidiaries from potentially harmful effects of integration.

The financial crisis and the general issue of the permissible scope of financial institutions' activities also brings attention to the possibility that in some instances a monoline structure, such as that used for mortgage/bond insurers may be advantageous to limit the spread of financial shocks (Jaffee, 2008, 2009). In this regard, detailed study is desirable of mortgage/bond insurers' performance during the crisis, including the effectiveness of contingency reserve requirements in lessening their vulnerability to increases in mortgage defaults. Study is also needed to determine the extent to which such defaults adversely affected mortgage/bond insurers' ability to provide municipal bond guarantees and of the effects on entities that relied on those guarantees for rolling over their funding. Such study would help inform policymakers about strengths and weakness of the current structure of mortgage/bond insurers and possibly shed light on whether the structure might be adopted for other risks with catastrophic exposure.[37]

SUMMARY AND CONCLUSION

The AIG crisis and general financial crisis were precipitated by the bursting of the housing price bubble and attendant increases in actual and expected mortgage default

[36] Eling, Schmeiser, and Schmit (2007) provide an overview of the Solvency II initiative and the issues it raises. Klein and Wang (2009) offer a more sanguine view than expressed here of the Solvency II approach and use of internal models of capital adequacy.

[37] Klein and Wang (2009) discuss potential advantages of regulatory authorization of earmarked, tax-deferred reserves for catastrophe risk for multiline insurers.

rates. The predominant problem was the attendant decline in values of loans and mortgage-related securities. The AIG crisis was heavily influenced by the CDS written by AIG financial products, not by insurance products written by regulated insurance subsidiaries. AIG also ran into major problems with its life insurance subsidiaries' securities lending program. The holding company was highly levered, and its overall investment portfolio was significantly exposed to reductions in the value of mortgage-related securities.

If the financial crisis and AIG intervention are to be blamed on ineffective regulation, the blame should reflect the substantial evidence of fundamental failures in U.S. and foreign regulation of commercial banking, thrift lending, and investment banking. Despite AIG's enormous exposure to increases in mortgage default rates, it is not clear that any of its insurance subsidiaries would have become insolvent if the government had not intervened. Most federal assistance to AIG has been paid to banking counterparties. There can be little doubt that federal intervention was influenced by the desire to protect those counterparties.

Whether AIG's CDS portfolio and securities lending presented significant risk of contagion has and will be debated. But the general consensus is that systemic risk is relatively low in insurance markets compared with banking, especially for property–casualty insurance, in part because insurers hold greater amounts of capital in relation to their liabilities, reducing their vulnerability to shocks. Creating a systemic risk regulator for insurers and other nonbank institutions designated as systemically significant would not be good policy. Any institution designated as systemically significant would be regarded as TBTF, reducing market discipline and giving it an inappropriate competitive advantage. Nor do the AIG crisis and federal intervention fundamentally strengthen arguments for either optional or mandatory federal regulation of insurance.

The primary objectives of legislative and regulatory responses to the financial crisis should be to strengthen bank capital regulation and otherwise encourage market discipline in banking, insurance, and other financial institutions as a means to promote safety and soundness. An overriding goal of any regulatory changes in response to the AIG anomaly should be to avoid further extension of explicit or implicit TBTF policies beyond banking. The creation of a systemic risk regulator and expanded federal authority over financially distressed insurers and other nonbank institutions would very likely undermine market discipline and protect even more institutions, investors, and consumers from the downside of risky behavior. The debate over OFC of insurance companies should likewise recognize the fundamental importance of avoiding expanded government guarantees of insurers' obligations.

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