

# How a Solvency Crisis Could Arise in the Insurance Industry

**A** solvency crisis in the insurance industry could arise only as a consequence of an extraordinary set of events or circumstances. Analysts may differ over whether the deterioration of the insurance industry's finances in the past decade threatens a solvency crisis, but they do agree that the industry faces risks of a solvency crisis from other sources. Some of the events and circumstances that have the potential to ignite a solvency crisis include catastrophic increases in claims for losses from, for example, natural disasters; collapses of asset markets; runs on life insurers; and the underwriting cycle in the property and casualty industry.

During the past few years, the industry has suffered an unusual amount of such losses. The industry's finances have been buffeted by catastrophic hurricanes along the East Coast and in Hawaii; tragic earthquakes and fire storms along the West Coast; floods, tornadoes, and ice storms in the Midwest; and the collapse of the junk bond and commercial real estate markets. Because the financial health of the insurance industry has declined in the past decade, even events or circumstances of a smaller scale could push some companies into insolvency or give them an incentive to adopt risky business strategies that could eventually lead to insolvency.

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## Catastrophic Increases in Claims by Policyholders

Catastrophic increases in claims by policyholders refer to extraordinarily large losses typically arising from relatively infrequent events such as earthquakes and hurricanes. In some worst-case scenarios, these claims could amount to a sizable fraction of the capital and surplus of the property and casualty or life and health insurance industries. Because the property and casualty industry insures risks that are volatile and, in some cases, difficult to evaluate, catastrophic claims are more likely to precipitate a solvency crisis in the property and casualty industry than in the life and health industry. Moreover, some analysts believe that the property and casualty industry does not hold sufficient reserves against truly catastrophic claims, in part because it cannot count additions to reserves against low-probability risks as expenses for tax purposes.<sup>1</sup>

For the property and casualty industry, catastrophic increases in claims for losses could arise from natural disasters, product liabilities, environmental impairments, and

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1. See Robert E. Litan, "Earthquake! Planning and Paying for the 'Big One'," *The Brookings Review* (Fall 1990), pp. 42-48.

commercial accidents; the latter three are collectively known as general liabilities. Because the property and casualty industry uses reinsurance extensively, a collapse of reinsurance coverage could also create a solvency crisis in this industry, though the chances of such a collapse are not clear.

For life and health insurers, an unexpectedly rapid spread of the human immunodeficiency virus (HIV), which causes acquired immune deficiency syndrome (AIDS), could create financial problems for some insurers. Health and liability insurers are also susceptible to financial problems from unexpectedly rapid increases in the costs of medical care. However, like AIDS, it is an unlikely source of a solvency crisis.

## Natural Disasters

The last few years have dramatically revealed the exposure of the property and casualty insurance industry to losses from natural disasters. Between 1989 and 1992, the industry suffered the worst string of losses from catastrophes on record--a total of more than \$38 billion of insured losses in 1992 dollars.<sup>2</sup> Hurricanes caused most of this destruction. Over 40 percent of these losses resulted from Hurricane Andrew, which hit Florida and Louisiana in 1992. Andrew was the most destructive hurricane ever to hit the United States, causing about four times the insured losses of the previous record holder, Hurricane Hugo in 1989. Total losses from catastrophes in 1992 were a record high, amounting to about 14.5 percent of the industry's surplus measured at the end of 1991; the losses from Andrew pushed close to a dozen small, Florida-based insurers into insolvency in 1992.

2. The property and casualty industry defines a catastrophe as any event that causes more than \$5 million in insured property damage and includes a significant number of claims to various insurance companies. Most of the losses between 1989 and 1992 were caused by natural forces.

The potential losses from hurricanes are even greater. Meteorologists expect the incidence of hurricanes in coming years to be greater than in the 1970s and most of the 1980s. Moreover, the losses could be many times greater if a hurricane hit a major city. If Andrew had struck Miami, some experts believe that it could have created losses of \$50 billion.

Earthquakes also have the potential to create massive losses. The Insurance Research Council estimated that the insured losses from a hypothetical earthquake with a magnitude of 7.5 on the Richter scale hitting the greater Los Angeles area at 2 p.m. on a weekday would have amounted to \$46 billion in 1987, or about \$55 billion in 1992 dollars.<sup>3</sup> These losses would have consumed about 35 percent of the property and casualty industry's surplus, measured at year-end 1991. Of the total losses, about

- o 41 percent would be attributable to residential and commercial fire policies;
- o 32 percent to workers' compensation and general liability coverages; and
- o 28 percent to residential and commercial earthquake damage policies.

The Research Council's study notes that additional insurance payments would be made under life and health insurance, auto insurance, and various business coverages on equipment, goods in transit, and losses from business interruptions, pushing the total insured losses from the earthquake closer to \$60 billion in 1992 dollars. Total overall losses created by the earthquake would be even greater because uninsured property would also be damaged.

3. Don G. Friedman, *Earthquake Losses Under Workers Compensation and General Liability: Estimates for a "Worst Case" Event in Greater Los Angeles* (Oak Brook, Ill.: All-Industry Research Advisory Council, October 1988), p. 1. The All-Industry Research Advisory Council is now known as the Insurance Research Council. The Loma Prieta earthquake in California in 1989 measured 7.1 on the Richter scale.

Another study estimated similarly large losses from a severe earthquake hitting San Francisco.<sup>4</sup> If the earthquake that struck San Francisco in 1989 had been of the same magnitude as the 1906 earthquake, analysts estimate that it would have created more than \$50 billion in insured losses in 1989 dollars, amounting to over one-third of the property and casualty insurance industry's capital and surplus measured at the end of 1989.

A third study estimates that possibly 30 insurance companies could have failed as a result of a severe earthquake, based on the exposure of companies to the types of losses the quake would create and using capital and surplus data for 1987.<sup>5</sup> The estimate assumed no failure of reinsurance. In other words, the number of insolvencies could be even greater should reinsurers default on their obligations.

## General Liabilities

Unlike natural disasters, losses under general liability insurance arise from the actions and omissions of businesses. General liabilities refer to a broad category of potential commercial liabilities. They include claims arising from injuries to others, damage to the property of others, the sale or distribution of faulty or dangerous products, and the failure to provide an acceptable level of professional services. Among the various general liabilities, product liabilities, environmental impairment liabilities, and commercial accidents appear to have the greatest potential to create solvency problems in the property and casualty industry.

These three general liabilities are particularly risky for insurers. In part, their riskiness exists because many products, services, and manufacturing techniques are technically

sophisticated. New products incorporate greater numbers of things that can go wrong, individually or in combination with other products. Sophisticated products are manufactured with equally sophisticated techniques that may use hazardous substances and produce hazardous wastes that are difficult to dispose of properly. The magnitude of these liabilities can grow quite large if such products are widely adopted before their associated risks become known.

The average riskiness of these general liability policies has gone up in recent years because the smaller and less risky businesses have left the formal insurance market.<sup>6</sup> The crisis in the liability insurance market during the mid-1980s spurred this movement, which created some dramatic increases in the costs of these policies.<sup>7</sup> As a consequence, some firms facing relatively low-risk general liabilities dropped out of the formal insurance market; some decided to self-insure, and others joined together to self-insure in risk-retention groups. Commercial insurers were left to cover only the larger risks.

General liabilities have also become riskier as the courts have ruled that insurers are liable for losses that they did not think they had covered. For example, the courts have ruled that general liability policies can apply to seepage as a result of the intentional disposal of contaminants by a municipality, even though the policy specifically covered only "sudden and accidental" discharges.<sup>8</sup> This de-

4. Testimony of Franklin W. Nutter, Chairman of the Earthquake Project, before the Subcommittee on Policy Research and Insurance of the House Committee on Banking, Finance and Urban Affairs, February 7, 1990.

5. Stewart Economics, Inc., *The Economic Impact of a Major Earthquake* (New York: Stewart Economics, Inc., February 1989), p. 55.

6. Edward B. Rappaport, "Insurance Company Solvency," 89-470E (Congressional Research Service, July 13, 1989), p. 7.

7. Scott E. Harrington, "Prices and Profits in the Liability Insurance Market," in Robert E. Litan and Clifford Winston, eds., *Liability: Perspectives and Policy* (Washington, D.C.: Brookings Institution, 1988).

8. Rappaport, "Insurance Company Solvency," p. 18. A federal appeals court in Washington ruled that reimbursements to the government for repairing environmental damage are covered under comprehensive general liability policies. See Jonathan Moses and Wade Lambert, "Insurers Lose Round in Environmental Cleanup," *The Wall Street Journal*, September 16, 1991.

velopment is simply a reflection of the more general problems of the tort system.<sup>9</sup>

These factors have combined to increase the average length of time between the origination of a general liability policy and the eventual payment of a claim--a period known as the "tail" of the policy. For example, Aetna Life and Casualty incurred a \$45 million after-tax charge in the second quarter of 1988 related to coverage it provided to A.H. Robbins from 1968 through March 1978 for the drug firm's Dalkon shield contraceptive device.<sup>10</sup> Long tails increase the difficulty of setting appropriate premiums and reserve levels for property and casualty insurers because uncontrollable and uncertain cost factors, such as medical costs, become more important as tails lengthen.

General liability insurers have taken steps to limit their exposures, but they still face potential ones. The forms in which recent policies are written have been crafted to narrow or better define coverages or to enable insurers to estimate their costs more accurately. For example, new policies cover only losses occurring during the policy year rather than retroactive occurrences.

The longer-run profitability of general liability insurance remains uncertain, however, because there is still an overhang of claims expected from coverages written, priced, and reserved long before current trends in the tort system emerged.<sup>11</sup> The lack of significant tort reform and continued sharp increases in the costs of health care also leave liability insurers exposed to potentially large and unexpected costs.

**Product Liabilities.** Product liability insurance covers injuries to people and damages to property from the use of commercial products. The insurance company agrees to be responsible for compensating an individual who has been injured by the product of an insured manufacturer, paying the costs of settling a liability suit and any punitive damage awards. The ultimate cost of product liability insurance is highly uncertain when the policy is written, especially because product liability claims generally lead to litigation.

Asbestos, the Dalkon shield, and Agent Orange are prominent examples of products that have caused enormous product liability claims. Asbestos claims accounted for almost 10,700 cases--or 63 percent of all new product liability cases opened in federal district courts in 1988.<sup>12</sup> By 1990, the number of new cases had ballooned to 12,822. In the early 1980s, estimates of financial liability from all asbestos claims expected to be filed ranged from \$8 billion to \$87 billion; at the time, the upper amount exceeded the combined net worth of the liable companies and their insurers.<sup>13</sup> As noted earlier, Aetna Life and Casualty incurred a \$45 million after-tax charge in the second quarter of 1988 related to A.H. Robbins' Dalkon shield class-action lawsuit. Agent Orange suits against Dow Chemical Company and others involved 2.4 million Vietnam veterans and relatives. Although no settlement has been reached, the estimated liability as of January 1985 totaled \$180 million.<sup>14</sup>

**Environmental Impairment Liabilities.** Massive claims from environmental damage represent still another widely publicized source of risk to the insurance industry. In-

9. See, for example, Robert E. Litan and Clifford Winston, eds., *Liability: Perspectives and Policy* (Washington, D.C.: Brookings Institution, 1988), and Peter W. Huber and Robert E. Litan, eds., *The Liability Maze: The Impact of Liability Law on Safety and Innovation* (Washington, D.C.: Brookings Institution, 1991).

10. Catherine Seifert, "Insurance and Investment, Basic Analysis," in *Standard and Poor's Industry Surveys* (New York: Standard and Poor's Corporation, July 12, 1990), p. I-20.

11. Rappaport, "Insurance Company Solvency," p. 18.

12. Insurance Information Institute, *1990 Property/Casualty Insurance Facts* (New York: Insurance Information Institute, 1990) pp. 50-51.

13. W. Kip Viscusi, "Liability for Occupational Accidents and Illnesses," in Litan and Winston, *Liability: Perspectives and Policy*.

14. Peter Huber, "Environmental Hazards and Liability Law," in Litan and Winston, *Liability: Perspectives and Policy*.

insurance against environmental impairments covers losses from the release of hazardous wastes into the environment. A famous incident in Love Canal, New York, involved a judgment of \$20 million against the Hooker Chemical Company and the city of Niagara Falls, New York. The suit was brought by 1,300 residents for chemical contamination of the soil and water of the Love Canal area of Niagara Falls. Although this example suggests relatively small losses for insurers, the potential losses are considerably greater. Estimates of the present-value cost for the cleanup of nonfederal Superfund sites alone range from \$40 billion to \$120 billion in 1991 dollars, a significant fraction of the \$159 billion of capital and surplus that the property and casualty insurance industry held at the end of 1991.<sup>15</sup>

Despite these dramatic examples, environmental impairment liabilities do not clearly represent a likely source of a solvency crisis for property and casualty insurers. On the one hand, the exposure of property and casualty insurers to these liabilities may be limited. A 1987 General Accounting Office (GAO) study found that the courts have not consistently interpreted insurer liability.<sup>16</sup> This study also found that few insurers appear to be writing policies covering these liabilities. In a sample of 104 insurance companies, GAO's report noted that only one company was actively marketing policies, with a maximum annual coverage of only \$12.5 million. GAO also noted that a consortium of 18 companies established in 1982 occasionally wrote environmental impairment liability policies to accommodate clients.

On the other hand, a recent study completed for the Insurance Information Institute, an organization of the property and casualty industry, argues that hazardous wastes could

threaten the financial integrity of that industry.<sup>17</sup> According to the study, the risk is not on current policies, since insurers are not writing many policies covering these risks. Instead, the risk is on the policies that were written before the mid-1980s, for which the courts could hold insurers liable.

**Commercial Accidents.** Commercial accident liability insurance covers losses suffered by the clients and employees of a commercial enterprise. Various types of insurance coverage can come into play as a result—for example, fire and allied lines of insurance, workers' compensation, and aircraft, marine, and commercial multiple-peril insurance policies. Examples of commercial accidents include the gas leak in Bhopal, India, and crashes of commercial aircraft. The Bhopal accident created \$470 million in damages, with at least \$167 million covered by insurers.<sup>18</sup> The two largest commercial accidents in 1988 were a fire at a petroleum refinery in Louisiana that resulted in an estimated loss of \$330 million, and a fire at a plant that manufactures hazardous chemicals that caused an estimated loss of \$103 million. The 10 largest accidents in 1988 caused total losses of almost \$800 million.<sup>19</sup>

Although commercial accidents could create large insured losses, they do not pose a serious threat of a solvency crisis for property and casualty insurers. Because such accidents affect a limited number of people, the chances of a costly class-action suit are relatively small. Moreover, the risks from commercial accidents are probably spread among many insurers through reinsurance arrangements.

15. Congressional Budget Office, *The Total Costs of Cleaning Up Nonfederal Superfund Sites* (January 1994).

16. General Accounting Office, *Hazardous Waste: Issues Surrounding Insurance Availability* (October 1987).

17. Orin Kramer, *Rating the Risks: Assessing the Solvency Threat in the Financial Services Industry* (New York: Insurance Information Institute, 1991).

18. See "Chemical Firm Wins Round on Bhopal Insurance Claims," *The Wall Street Journal*, February 6, 1991, p. B2.

19. Insurance Information Institute, *1991 Property/Casualty Insurance Facts* (New York: Insurance Information Institute, 1991), pp. 67-68.

## The Spread of the Human Immunodeficiency Virus

The spread of the human immunodeficiency virus, which causes AIDS, is a potential source of an explosive increase in payments for benefits for life and health insurers over the coming decade. HIV appeared suddenly and has spread rapidly. Between 1981, when the Centers for Disease Control and Prevention (CDC) first identified AIDS as a distinct disease, and September 1993, a total of 339,000 AIDS cases were reported in the United States.<sup>20</sup> (The actual number of AIDS cases is larger because a significant fraction of the cases are unreported.) Through 1994, the CDC expects the cumulative number of reported and unreported AIDS cases to be about 500,000, and the cumulative number of deaths from AIDS to be about 350,000.<sup>21</sup> The U.S. Public Health Service also estimates that the total number of people currently infected with HIV in the United States is about 1 million. Without a cure, almost all of these people will die from AIDS or HIV-related illnesses within 10 years after diagnosis.

Estimates of the cost of treating a person infected with HIV have risen lately. A recent estimate of the average lifetime cost of treating a person with AIDS is \$102,000 in 1991 dollars, up from a previous estimate of \$85,333 in 1990 dollars.<sup>22</sup> This new revision reflects longer hospital stays and higher costs per day of hospital care, as well as greater use of expensive drugs such as zidovudine (better known as AZT). Even for people infected with HIV but without AIDS, medical costs are hardly trivial. The estimated average yearly cost of treating such a person is \$10,000, com-

pared with an estimated \$38,300 for treating a person with AIDS.

Nevertheless, HIV-related financial losses currently do not present a particularly great risk to the life and health insurance industry. AIDS-related claims paid represent a tiny fraction of all claims paid by life and health insurers. The CDC expects that the rate of increase in the number of people diagnosed with AIDS will slow. Life and health insurers now control their exposure to risk by rejecting applicants who test positive for HIV. Moreover, Medicaid appears to have covered a growing share of AIDS-related medical costs; the portion has risen, for example, from 25 percent between 1984 and 1985 to 41 percent between 1986 and 1987.<sup>23</sup> Although some states, with federal support, are shifting some of these costs back to insurers, they are currently not a likely source of significant financial problems for the insurance industry.

## Failure of Reinsurance Coverage

As noted in Chapter 1, reinsurance is insurance that insurance companies buy against the risks they have insured. Like individuals and businesses who wish to lower their exposure to the various risks of everyday life, an insurance company may wish to lower its exposure to the risks it has insured. This attitude is particularly true when one risk could be extremely large relative to the insurance company's capital and surplus, and when many of its risks are correlated. An insurance company can spread some of its risks by paying reinsurers to assume them.

Reinsurance is a double-edged sword for the solvency of insurers. One edge is the benefits of spreading risk created by reinsurance,

20. Department of Health and Human Services, Centers for Disease Control and Prevention, *HIV/AIDS Surveillance*, vol. 5, no. 3 (October 1993).

21. Centers for Disease Control and Prevention, "Projections of the Number of Persons Diagnosed with AIDS and the Number of Immunosuppressed HIV-Infected Persons--United States, 1992-1994," *Morbidity and Mortality Weekly Report*, vol. 41, no. RR-18 (December 25, 1992), p. 6.

22. Fred J. Hellinger, "Forecasts of the Costs of Medical Care for Persons with HIV: 1992-1995," *Inquiry*, vol. 29 (Fall 1992), pp. 356-365.

23. Jesse Green and Peter S. Arno, "The 'Medicaidization' of AIDS: Trends in the Financing of HIV-Related Medical Care," *Journal of the American Medical Association*, vol. 264, no. 10 (September 12, 1990), pp. 1,261-1,266.

which limits the exposure of an insurer to the risks it has insured. The other edge is the financial dependency that reinsurance creates between a primary insurer and its reinsurers. When a policyholder suffers an insured loss, the primary insurer covers the loss, according to its legal responsibility, and collects any payments (known as reinsurance recoverables) from its reinsurers. The reinsurers make their contractual payments to the primary insurer and, in turn, collect any payments from their reinsurers. This process continues until all of the contractual obligations among these insurers related to the initial loss are met.

This chain of related obligations, however, is only as strong as its weakest link. If one of the insurers in this chain is unable to meet its obligation, other insurers may become unable to meet their obligations, possibly creating problems for still other insurers. This sequence of defaulted obligations could lead all the way back to the primary insurer, who has already paid the insured loss in full.

Although such a contagion of insolvencies of insurers has not yet happened, the failure of reinsurance coverages is a risk for insurers. Standard and Poor's examined reinsurance recoverables at year-end 1989 for the top 30 property and casualty insurance groups, which account for about two-thirds of the industry's volume in premiums.<sup>24</sup> After certain adjustments, Standard and Poor's found that reinsurance recoverables amounted to 68 percent of the total capital and surplus of these 30 groups. It concluded that the potential inability to collect reinsurance is not likely to be a cause of "wholesale insolvency" in the property and casualty industry. Nevertheless, some of these large insurers were at risk. Five of the top 30 groups had reinsurance recoverables amounting to more than 200 percent of

their capital and surplus, and 10 of the 30 had reinsurance recoverables amounting to more than 100 percent of their capital and surplus.

It is hard to know the risk behind existing reinsurance relationships because the financial condition of reinsurers has not been monitored as closely as that of primary insurers.<sup>25</sup> Although the domestically licensed reinsurers are regularly examined and subject to state regulation, a significant portion of reinsurance is supplied from abroad by carriers who are not subject to state examination or enforcement. States do require offshore reinsurers to provide some security, such as letters of credit, to back up their reinsurance contracts, but this security has not always proved to be especially great.<sup>26</sup>

It is also difficult to determine the magnitude of the liabilities of reinsurers. They tend to cover risks that have small chances of occurring, large potential losses, and long reporting delays. In addition, the extent of the retrocession chain is often unknown even to reinsurers until large claims are settled.<sup>27</sup>

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## A Collapse of Markets for Assets Held by the Insurance Industry

As a financial intermediary, the insurance industry also faces risk on the asset side of its balance sheet. The solvency problems in the savings and loan and banking industries make the potential magnitude of this risk all too clear. The collapse of one or more of the markets for assets held by insurers could create a solvency crisis in this industry.

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24. Shaun P. Flynn and Alan M. Levin, *Commentary--Reinsurance Recoverables: The Elusive Liability* (New York: Standard and Poor's Insurance Rating Services, February 1, 1991). This report examined newly available data on reinsurance transactions mandated by changes to the annual financial statement filed by insurers with their state regulators.

25. Rappaport, "Insurance Company Solvency," p. 17.

26. See, for example, House Committee on Energy and Commerce, Subcommittee on Oversight and Investigations, *Failed Promises: Insurance Company Insolvency*, Committee Print 101-P (February 1990).

27. Rappaport, "Insurance Company Solvency," p. 17.

For many years, insurers kept out of this kind of trouble. Asset markets rarely collapsed, especially during the postwar period. Moreover, insurers were conservative in their investment policies, generally holding high-quality assets and matching the maturities of their assets with those of their liabilities. State insurance regulators helped to enforce this conservatism by requiring life insurers to hold reserves against declines in the prices of their holdings of securities. Consequently, the collapse of an asset market ordinarily would not have more than a passing effect on the capital and surplus of the insurance industry.

The start of the 1990s, however, has not been ordinary. The collapse of the markets for junk bonds and commercial real estate pushed the life insurance industry to the brink of a solvency crisis in 1991. The exposure of the life insurance industry to these problems reflects a greater amount of competition in the market for financial services, which was spurred in the early 1980s by the deregulation of the interest rates that commercial banks and thrifts paid on their deposits.

Life insurers, whose main products include insurance and investments, tried hard to maintain their share of the market by offering high rates of return on their products. To pay these high returns, they needed to buy assets promising high returns. Higher returns, however, cannot be earned without taking greater risks, and life insurers obtained higher yields by buying riskier securities such as junk bonds and collateralized mortgage obligations, making riskier mortgage loans, and holding more real estate directly for investment purposes. They also tried to boost returns by not sufficiently increasing their capital reserves to buffer potential losses on these assets. Unfortunately, these risks turned out to be greater than expected, and a number of insurers suffered large losses when these markets collapsed.

In fact, 65 life and health insurers failed or became impaired in 1991, according to A. M. Best Company, a record in terms of both the number of insolvencies and the percentage of

the industry's assets in default (see Chapter 1). The risk appeared to be concentrated among a handful of medium- to large-sized life insurers who became insolvent as a result of excessive investments in these assets, most notably Executive Life, First Capital Life, Fidelity Bankers Life, Monarch Life, and Mutual Benefit Life. Widespread insolvencies as a result of losses on these assets did not appear.

Prices of junk bonds have rebounded from their levels in 1990, but the ongoing weakness in the market for commercial real estate still threatens potential solvency problems for those firms with large holdings of assets related to commercial real estate. Many life insurers with a large exposure to the weak commercial real estate market are probably those that provided large amounts of "bullet" mortgages in the mid-1980s.<sup>28</sup>

A bullet mortgage is a short-term loan to a real estate developer who pays most of the initial balance of the loan when it matures, typically within 5 to 10 years. Because they are speculative loans, bullet mortgages are riskier than the traditional mortgages made by life insurers, which are long-term loans on completed projects that are earning enough revenues to more than cover the mortgage payments at the time the loan is made. Life insurers made a large number of bullet mortgages in the mid-1980s in order to pay high returns on their investment products, especially guaranteed investment contracts and thereby better compete in the market for financial services. For example, most of the \$30 billion of new commercial mortgages extended by life insurers in 1986 were bullet loans, funded by sales of GICs.

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28. Susan Pulliam and Mitchell Pacelle, "Loans May Burn Builders and Insurers," *The Wall Street Journal*, February 26, 1991, p. B1. Some small life insurers have also experienced financial difficulties arising from their holding of collateralized mortgage obligations, which are securities derived from the cash flows of mortgage-backed securities. See Laura Jereski, "Seized Insurers' Woes Reflect Perils of CMOs," *The Wall Street Journal*, May 12, 1993, p. C1.

The problem is that large numbers of these bullet mortgages will be maturing over the next few years in a weak real estate market. For example, roughly \$15 billion of these loans were expected to mature in 1991 alone. Without a noticeable improvement in the market for commercial real estate, insurers may be forced to take substantial losses on these loans.

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## Runs on Life Insurers

Runs are a somewhat paradoxical cause of a solvency crisis because they place stress on insurers by creating an unmanageable reduction in liabilities, the opposite of a catastrophic increase in claims for losses. A run on an insurer would most likely be ignited by reports that it had suffered large losses. Such news would raise fears among the insurer's policyholders of losing the portion of their assets not covered by the state guaranty funds or of having their assets frozen for some time in the event that the state insurance regulator took over the insurer.

Consequently, some policyholders would try to protect themselves by canceling their investment contracts and policies, taking out policy loans, and withdrawing their cash values. These demands would force the insurer to sell liquid assets. If left unchecked, such demands would eventually exhaust the liquid assets and force the insurer to sell other, less liquid assets quickly at reduced prices. These losses would only intensify the financial problems of the insurer and cause additional policyholders to demand the cash values of their policies. In the extreme, policyholders of other insurers could panic and run as well, possibly causing severe disruptions to financial markets.

Recent events illustrate that runs on life insurers are possible. Insurance regulators in New Jersey seized control of the Mutual Bene-

fit Life Insurance Company in July 1991 after it suffered a flood of withdrawals and surrenders by policyholders. The run probably was exacerbated by the lack of a guaranty fund for life insurers in New Jersey at the time. Executive Life Insurance Company also suffered an increase in withdrawals and surrenders--on the order of \$3.5 billion--in 1990 shortly before the insurance regulators in California took it over.<sup>29</sup>

Thus far, the life insurance industry has not suffered a contagious run, but the risk does exist. Conceivably, state insurance regulators could be overwhelmed if runs occurred with greater frequency. Although the Federal Reserve has the authority to provide emergency liquidity to forestall runs, how quickly and effectively it could move against a run in the life insurance industry is not clear. Before the Federal Reserve would be willing to lend to an insurer, it would need to evaluate the insurer's financial position and collateral for the loan. This process would take some time, allowing a run to proceed unchecked until the Federal Reserve had established adequate borrowing arrangements with the insurer.

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## The Underwriting Cycle in the Property and Casualty Industry

The causes of a solvency crisis discussed up to this point have been unusual losses that generally occur infrequently and at irregular intervals. Solvency problems can also arise from significant losses of income that occur for other reasons. Losses of income consume as-

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29. Figure cited in Frederick Rose, "First Executive Says Regulators Question Capital Level at Its Major Insurance Unit," *The Wall Street Journal*, April 3, 1991, p. A4. A.M. Best Company, Inc., also reports that First Capital Life and Fidelity Bankers Life were put into protective custody in May 1991 in order to prevent runs by their policyholders. See *Best's Insolvency Study: Life/Health Insurers, 1976-1991* (Oldwick, N.J.: A.M. Best Company, Inc., June 1992).

sets and hence reduce the capital and surplus of an insurer. They are an unlikely source of a solvency crisis, however, except when they affect a large segment of the industry. In the property and casualty industry, the underwriting cycle is this kind of an exceptional source of income loss.

The underwriting cycle is the periodic rise and fall of the industry's net income from underwriting activities (see Figure 3). The sources of this surprising cycle are not clear, though analysts have considered a variety of possibilities.<sup>30</sup> Because swings in the income earned on investments (net investment income) are relatively small for the industry as a whole, the cycle in net income from underwriting activities creates a cycle in total net income for the industry. The number of insolvencies in the property and casualty industry varies inversely with the cycle in income--rising when income falls and falling when income rises.

In recent years, the underwriting cycle appears to have grown worse, and with it, the risks of a solvency crisis in the property and casualty industry. The periods of falling net underwriting income have lengthened, while those of rising net income have shortened. Consequently, the industry has come to rely on investment income to offset persistently large losses from underwriting activities.

One reason for the apparent change may have been the crisis in the market for liability insurance, particularly general liability insurance, which accounts for much of the decline in net underwriting income during the mid-1980s.<sup>31</sup> Another reason may be the unusual increase in losses from catastrophes in recent years. Some analysts also believe that the industry deliberately abandoned conservative underwriting standards in pursuit of high interest rates in the early 1980s.

Regardless of the reasons for the change in the cycle, the shift in the sources of income has exposed the industry to greater risks. Large underwriting losses indicate that this insurance is underpriced--the industry charges too little relative to the risk assumed. At the same time, the industry's reliance on investment income for profitability has increased its exposure to risks in asset markets. These greater risks are reflected in the drop in the industry's profit rate during the 1980s, which has resulted in the recent increase in insolvencies of property and casualty insurers. If low profitability continues, insurers may have to undertake even greater risks in hopes of returning to profitability, creating additional insolvencies.

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## Regulatory Efforts to Hold Down Insurance Premiums

Current efforts by regulators in some states to hold down insurance premiums could create a number of problems, but the risk of a solvency crisis is not likely to be one of them. Some states, most noticeably California and New Jersey, have tried to restrain high and rising premium rates by capping or rolling them back to earlier levels, particularly for private-passenger automobile insurance. These restrictions, which are aimed at keeping insurance affordable for consumers, contrast with earlier efforts to maintain "adequate" premium levels in order to prevent competitive pressures from pushing down premiums and raising the number of insolvencies.

Many analysts would agree that restrictions on premiums can hurt the efficiency of the insurance market, result in some (for example, low-risk) policyholders subsidizing others (for example, high-risk), and reduce the

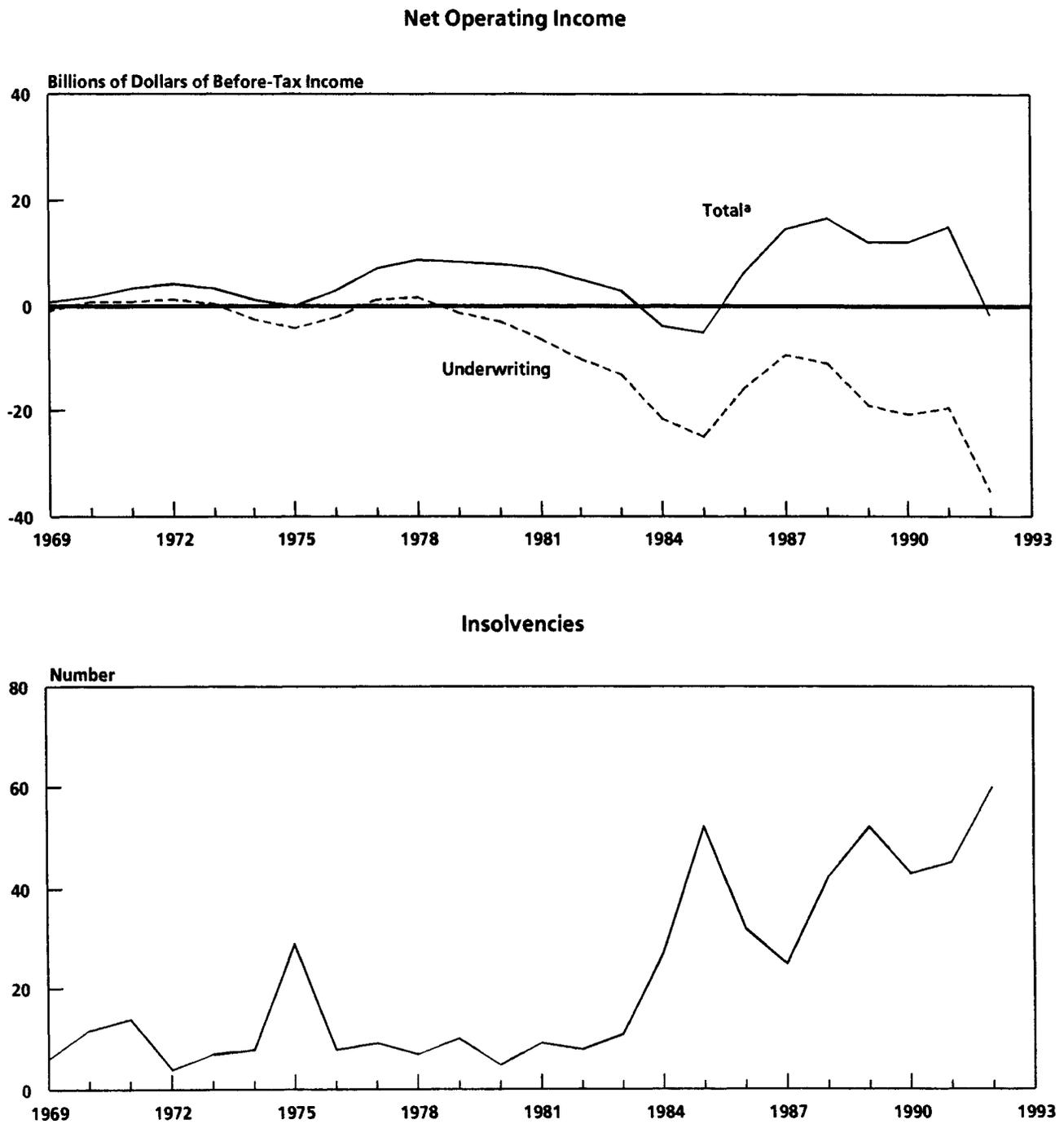
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30. Many of the explanations for the underwriting cycle are reviewed in Harrington, "Prices and Profits in the Liability Insurance Market," pp. 77-82.

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31. For a discussion of the crisis in the market for liability insurance, see Harrington, "Prices and Profits in the Liability Insurance Market."

**Figure 3.**  
**The Underwriting Cycle in the Property and Casualty Industry, 1969-1992**



SOURCE: Congressional Budget Office based on data from the Insurance Information Institute and A.M. Best Company, Inc.

NOTE: The underwriting cycle is the periodic rise and fall in net income from the underwriting of insurance policies.

a. Includes net underwriting and net investment income.

supply of insurance.<sup>32</sup> Some analysts also believe that these restrictions have held premiums below levels implied by costs and have created losses for some insurers.<sup>33</sup>

Nevertheless, rate restrictions are unlikely to create a solvency crisis. Insurers may be able to offset any losses by raising their premiums for other lines of insurance or for other policyholders in the same lines, resulting in the cross-subsidization noted above. Or to limit their losses, insurers could reduce the amount of insurance they write in those lines that are subject to restrictions.

Some states impose penalties on insurers who stop writing insurance subject to rate restrictions, but a point will come at which the penalty and taking the losses from closing operations will be less than the expected losses from continuing lines subject to the caps. Only in the extreme case in which many states force insurers to take losses would the risk of a solvency crisis be worrisome.

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## Inadequate Solvency Regulation

Inadequate solvency regulation can exacerbate a solvency crisis by permitting financial problems that arose for other reasons to fester and grow. Solvency regulation attempts to protect policyholders from losses stemming from the insolvency of their insurer by guarding against excessive risk taking and fraud. It does not create solvency crises because its requirements are largely similar to those that farsighted companies would use to remain

profitable and in business over the long run. Nevertheless, solvency regulation can make a solvency crisis worse by failing to restrict the incentives for excessive risk taking that arise in a solvency crisis.

The savings and loan crisis is a dramatic example of how inadequate solvency regulation can exacerbate a solvency crisis.<sup>34</sup> This crisis had its roots in regulations that created a mismatch between the maturities of the industry's assets and liabilities. Regulations designed to promote home ownership required savings and loans to keep most of their assets in long-term mortgage loans. However, like other depository institutions, they funded their assets largely with short-term deposits. During the late 1970s and early 1980s, the high levels of short-term interest rates relative to the rates earned on existing mortgages created large losses for many savings and loans. Instead of closing the insolvent and weakly capitalized institutions, regulators turned to a policy called forbearance. They hoped to resuscitate the financially impaired institutions by keeping them open and giving the industry new freedoms to invest in a greater variety of assets and pay higher interest rates on its deposits. At the same time, regulators did not strengthen their oversight and standards of solvency in light of these new freedoms.

With little to lose, many of the weak and insolvent savings and loans used these new freedoms to adopt risky business plans in an attempt to return to profitability and restore lost capital. Unfortunately, most of these strategies failed, resulting in a greater waste of the economy's resources and an enormous bill for federal taxpayers, who stand behind the federal deposit insurance system.

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32. See, for example, Scott E. Harrington, "Public Policy and Property-Liability Insurance," in Richard W. Kopcke and Richard E. Randall, eds., *The Financial Condition and Regulation of Insurance Companies*, Conference Series No. 35 (Boston: Federal Reserve Bank of Boston, 1991). Some analysts believe that restrictions on premium rates are not unambiguously bad, but can actually improve conditions in insurance markets in certain cases. See Eric Smith and Randall Wright, "Why Is Automobile Insurance in Philadelphia So Damned Expensive?" *The American Economic Review*, vol. 82 (September 1992), pp. 756-772.

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33. See, for example, Orin S. Kramer, *Rate Suppression and Its Consequences: The Private Passenger Auto and Workers Compensation Experience* (New York: Insurance Information Institute, 1991).

34. For a discussion of the origins of the financial problems of the savings and loan industry and the regulatory failures that helped to create the solvency crisis in that industry, see Lawrence J. White, *The S&L Debacle* (New York: Oxford University Press, 1991).

Although forbearance does not appear to have been a serious problem in the insurance industry during the 1980s, the risk of forbearance does exist in the coming years. Some state regulators may be overwhelmed by a large number of insolvencies. Intentionally or otherwise, regulators may be compelled to resort to forbearance simply to manage the caseload. Even if regulators are not overwhelmed, forbearance could arise implicitly as a consequence of inadequate solvency regulations. The states are only now in the process of strengthening capital requirements for insurers and specifying stricter corrective actions that regulators must employ on financially impaired insurers, and it is not yet clear how effective these new regulations could or will be.

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## Conclusion

Certain extraordinary events or circumstances have the potential to create a solvency crisis in the insurance industry, but the magnitude of this potential is difficult to determine. Most of the greatest threats of a solvency crisis in the property and casualty industry reside on the liability side of its balance sheet. Catastrophic increases in claims arising from natural disasters, certain general liabilities, and a collapse of reinsurance coverages could exhaust the financial resources of the property and casualty industry in the worst cases. A sharp downturn in the industry's underwriting cycle could also threaten a solvency crisis. For the life and health industry, collapses of asset markets and runs have created troubling threats of a solvency crisis in recent years. Although the junk bond market has rebounded from its lows of several years ago, the market for commercial real estate remains moribund and threatens to force insurers to realize additional losses.

