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ANALYSIS OF HEALTH CARRIER INSOLVENCIES

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I. INTRODUCTION

This study was made possible by a grant from the Society of Actuaries, under the direction of William J. Bugg, Chairperson of the Project Oversight Group. This research had its genesis in the identification by the Health Financial Issues Task Force of "...the need to quantify the number of financial impairments that have occurred among health carriers and to identify the reasons for such situations."

Research objectives for the study were (1) to identify health carriers that became financially impaired because of the operation of their health business during a relatively long time and (2) to identify the reason(s) that each company became financially impaired. Health carriers specifically included were commercial insurance companies, Blue Cross/Blue Shield plans, and health maintenance organizations (HMOs).

The research was to include developing a meaningful definition of "financial impairment" (which might differ by type of health carrier), reviewing relevant studies, conducting necessary additional research, and presenting results and analysis in a written document.

This report presents the research results. Within each section we consider commercial insurers, Blue Cross/Blue Shield plans, and HMOs separately. The report is organized in the following sections:

- Section II explores relevant definitions of "financial distress" and allied terms. This part of the research looked at other studies, textbooks in insurance and finance, and articles in academic journals. Appendix A provides quotations directly from the source materials.
- Section III details the methodologies and presents the findings. Findings are displayed in Figures 1 through 10. Listings of commercial insurers identified are shown in Appendixes B through G. The listings are shown alphabetically (Appendix B), by assets (Appendix C), by percentage of health business (Appendix D), by year of insolvency (Appendix E), by reason for insolvency (Appendix F), and by state (Appendix G). The single insolvency for Blue Cross/Blue Shield is identified in the text.

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Impaired HMOs could not be individually identified, but failed HMOs by year of insolvency had been *counted* in other research. Appendix H gives details on the approach to the counting of failed HMOs.

- Section IV comments on problems of definition, the difficulties in data collection, and the findings. Further, it contains our recommendations to the Oversight Group on how further research in this area might be carried forward.

II. MEANINGFUL DEFINITION OF FINANCIAL IMPAIRMENT

To inventory working definitions of "financial impairment" and allied terms, we reviewed copies of recent finance and insurance textbooks and conducted electronic searches of the academic literature in finance and insurance. ("Financial impairment" finds its chief expression in the A. M. Best studies.) Full quotations of definitions are given in the appendixes cited. We describe these definitions in the summary paragraphs below.

Appendix A, Section I, provides relevant quoted text from recent textbooks on some definitions of allied terms. "Financial distress" is the umbrella term applied to all types of business organizations; it encompasses "bankruptcy," "insolvency," "liquidation," "reorganization," "default," "failure," and other conditions. Marsh [22] and Van Horne and Wachowicz [42] provide typical definitions. Most texts go beyond these definitions to describe the legal procedures followed. Black and Skipper [8] address insurers directly. Their concept of "corrective orders" is linked to the A. M. Best application of the "financial impairment" concept.

Appendix A, Section II, contains relevant quotations from academic studies of "financial distress." Definitions are provided by Wruck [44], "...a situation where cash flow is insufficient to cover current obligations," and by Kose [20], "A firm is in financial distress at a given point in time when the liquid assets of the firm are not sufficient to meet the current requirements of its hard contracts."

Examples of financial distress are furnished by Gilson [16], large common stock price declines; DeAngelo and DeAngelo [13], multiple losses during 1980–1985; and by Gilbert, Menon, and Schwartz [15], negative cumulative earnings over any consecutive three-year period. Lau [21] identifies reducing dividend payments and defaulting on loan payments as intermediate states. BarNiv and Hershbarger [6] define "insolvent insurers" as those declared insolvent by their respective state insurance commissioners and reported by A. M. Best Company. BarNiv and McDonald [7] use financial distress and insolvency interchangeably to describe insurers experiencing liquidation, receivership, conservatorship, restraining orders, rehabilitation, and so on.

Looking at the definitions of "insolvency" and "financial distress" used in other studies shown in the references, we found the following.

A. *Commercial Insurers*

1. *"Insurer Failures: Property/Casualty Insurer Insolvencies and State Guaranty Funds"* [37]

This was a study of property/casualty insolvencies, 140 of them from 11/69 through 12/86, related to the state guaranty funds. The study's focus was on clear insolvencies; the data were obtained from the National Committee of Insurance Guaranty Funds (NCIGF); and the test was that the property/casualty guaranty fund was "triggered." The "triggering" event differs among states.

2. *American Council of Life Insurance Task Force* [5]

This was a study of both types of insurers, 68 of them from 1/85 through 9/89, for determining whether there was a solvency problem in the life insurance industry. Again, the Task Force's focus was on clear insolvencies; the data appear to have been obtained from the National Organization of Life & Health Guaranty Associations (NOLHGA); and the test was that the life/health guaranty fund was "triggered." An interesting footnote is that eight of the insolvencies were property/casualty carriers that wrote sufficient life or health business to trigger life/health guaranty fund assessments.

3. *Failed Promises: Insurance Company Insolvencies* [41]

This was a report by a House subcommittee that examined four specific instances of property/casualty failures (Mission, Integrity, Transit Casualty, and Anglo-American) plus two near-failures (Omaha Indemnity and Insurance Company of Ireland). The thrust of the inquiry was examination of common causes of property/casualty insurer failure. This particular case study approach is not helpful to us in inventorying failed or financially impaired health insurers, although it does provide excellent examples of the *multiple* reasons for these distressed insurers.

4. Best's Insolvency Study: Life/Health Insurers [2]

This was a report by A. M. Best, covering 290 "insolvencies" of life/health insurers in the period 1976–1991. These definitions are provided on page 87 of Best [2]:

> We dated a financially impaired company as of the first official action taken by the insurance department in its state of domicile. The reason for the state action may have been due to the company's insolvency or financial impairment. State actions included involuntary liquidation, receivership, conservatorship, cease-and-desist order, suspension, license revocation, administrative order, supervision or any other action which restricted a company's freedom to conduct business normally.
>
> We emphasize that a financially impaired company might not have been declared technically insolvent. Its capital and surplus simply could have been deemed inadequate to meet legal requirements, or there was concern regarding its general financial condition. The latter includes solvent companies against which actions were taken to protect them from financially weakened affiliates or a 'run-on-the-bank'.

To clarify the difference between "insolvency" and "financial impairment," in mid-1992 A. M. Best made these rough estimates for the financially impaired life/health carriers covered in its study: "50% have been or are being liquidated, 40% are still under some form of state supervision, 6% have resumed normal operations free from state supervision, and 4% have been merged into other companies."

5. Best's Insolvency Study: Property/Casualty Insurers [1]

Exactly the same definition of "financial impairment" was used by A. M. Best in its June 1991 property/casualty study, covering 372 "insolvencies" in the period 1969–1990. Best's own files on property/casualty insurers were augmented by additional material from the National Association of Insurance Commissioners (NAIC), the Insurance Information Institute (III), the NCIGF, and individual state departments.

B. Blue Cross and Blue Shield Plans

Blue Cross and Blue Shield plans present yet another problem for those who wish to construct a common definition of "financially impaired" entities. Extensive reading in the investigations of several large plans (including that of West Virginia, which was the only one that actually did become insolvent) suggests strongly that the kind of regulatory takeovers that comprise the bulk of "financially impaired" commercial insurers have no counterparts in practice in the regulation of Blue Cross and Blue Shield plans. Our Blue Cross and Blue Shield research sheds no useful light on the concept of "financial impairment" beyond the reasons for the insolvency of the West Virginia plan itself.

C. Health Maintenance Associations (HMOs)

HMOs are subject to the various degrees of financial distress outlined above; insolvencies in the classic sense do occur; and in addition, there are simple business closures due to the owners' strategic reasons that have nothing to do with financial distress—this last category appears relatively unique to HMOs in this study. Studies of financial distress among HMOs are rare. There are no focal points for the collection of data on distressed or failed HMOs, and there is no agreed-upon definition of "financial impairment" for HMOs (see Section III.C).

D. Conclusion

In this report on health insurance companies, we have chosen to utilize the approach defined by A. M. Best in its studies: we consider a commercial insurer "financially impaired" when the insurance department in its state of domicile takes official action with respect to it. Casey and Bartczak [11] provide two powerful reasons: comparability with prior research and the relative costs of alternative approaches. This approach permits building on the A. M. Best work. In the lone case in the Blue Cross/Blue Shield area, we have used genuine insolvency as the criterion, while for HMOs we have been forced by data limitations to back into a working definition that is insolvency-based.

III. IDENTIFYING THE POPULATION OF IMPAIRED HEALTH INSURERS

A. Commercial Carriers

Starting from lists of insolvent life/health or property/casualty carriers developed by A.M. Best, the NAIC, and NOLHGA, we first attempted to identify those companies that were primarily health carriers. As an operating definition endorsed by the Oversight Group, we categorized any company that derived more than 50% of its premium income from health business as a health carrier.

Because of the very low yield of financially impaired *health* carriers and because of the inability of the NAIC and the states to supply older data to us, it was decided *not* to pursue the identification of additional possible failed health insurers from the property/casualty data set. We estimate that thereby we may be missing another four health carriers.

Working back through the annual *Best's Reports, Life-Health Editions*, we calculated the percentage of health premiums for each company identified in the *Best's Insolvency Study* [2]. Where that calculation could be made and the percentage exceeded 50%, we classified the company as a health insurer. Completing that process left us with a number of companies known to be financially impaired (usually the reason therefor was also known), but the financial figures were not available to determine whether the company was a health insurer or not.

We sent to the NAIC's offices in Kansas City an extended list of impaired companies in the more recent years, for which figures were not available in the *Best's Reports*, asking that the annual statements from the companies be pulled and held for our visit. Results from the working visit were encouraging: most annual statements for that list were available, and the determination of "health insurer or not" from the annual statement figures was straightforward. Working simply with the annual statement figures on a sample of companies for which the primary reason for failure had been given by Best [2], we were able to replicate those reasons in nearly all cases, and we were able to use the same procedures to provide the "primary reason for failure" for most companies for which reasons were not available.

A longer list of impaired companies in earlier years, again those for which figures were not available in the Best's Reports, was prepared and sent to the NAIC offices to the people with whom we had worked on the visit. Two things quickly became clear:

1. The NAIC does not maintain its annual statement records for longer than 11 years. Earlier files are thrown away; no records of any sort for individual companies are kept.
2. Companies do not have to file annual statements with the NAIC, and many do not. The small, financially impaired carriers that are the principal objects of our study are especially apt not to file.

Still seeking financial information to determine the "health insurer" status of the 102 life/health companies known to have become financially impaired, we asked the Society of Actuaries to write to each state. The SOA's letter listed the companies domiciled in that state that had been identified as "financially impaired" and asked for specific data for each such company.

From the responses received, we determined that five of the 102 companies were primarily health companies, while 32 were primarily life carriers. Records were not available for 62 of the 102 companies. Two states, Idaho and Utah, and the Commonwealth of Puerto Rico failed to respond: each had one company on the list.

Because of the relatively high numbers of companies that were known to have been financially impaired but could not be identified as primarily health or primarily life, the totals for the health companies are probably substantially understated. In view of this, readers should use the listings and figures with caution, especially in the earlier years for which the relevant records have been discarded or destroyed.

Absent the information on the residuum of 65 companies, we have a list of 117 "financially impaired" commercial insurers over the period 1971 through 1993. For each firm we have listed the following five variables:

1. The size of the company in total assets just prior to financial impairment
2. The proportion of premium income derived from the health business
3. The year of financial impairment
4. The primary cause of financial impairment
5. The state of domicile.

Appendix B lists in alphabetical order the 117 commercial health insurers. Appendixes B–G list those same firms sorted according to the five variables shown above, in that same order. We have summarized the information in these listings of financially impaired health insurance companies in a series of figures, and they are discussed below.

Figures that show values other than years on the x-axis are self-explanatory. Except for the end bars, the figures that show numbers of insolvent companies (or FICs) show totals for three-year groupings. The high stress years of 1989, 1990, and 1991 are grouped together, and the other groupings follow. The end bars show data that may not comprise three-year groupings. The figures that show companies "in force" give the number of companies for the middle year of those three-year groupings. Again, the end bars are given to show all the data but may not be the centers of three-year groupings. The range of all data sets is the greatest available at this writing.

Figures 1–5 all refer to insolvencies of health insurance carriers. No count (on the 50%-of-premiums definition) is available for the number of health insurers, nor is there such a figure. Figures 6 and 7 show the life/health FICs and the life/health companies in force for comparison. These companies constituted the population underlying the A. M. Best study. Figure 8 gives the population of Blue Cross/Blue Shield companies; no figure is needed to display the single Blue Cross/Blue Shield insolvency in 1990. Figures 9 and 10 show the HMO FICs and the HMOs in force, again for comparison.

Figure 1 provides statistics on the size of the insolvent health companies by assets. The size of the companies in our sample (as measured by admitted assets in the year prior to impairment) ranges from $246,000 to $5,127,008,000; the average is $68,507,000. However, the median of $5,558,000 indicates that the distribution is skewed, with most cases to the left of the mean.

FIGURE 1
NUMBER OF INSOLVENCIES BY TOTAL ASSETS

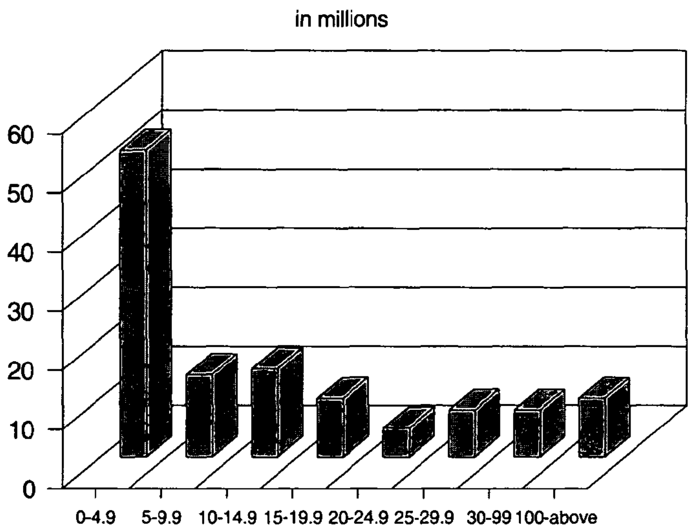
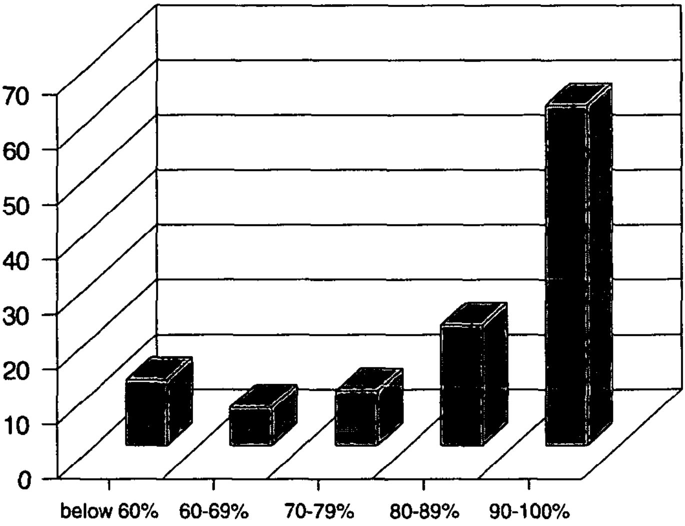


Figure 2 shows the financially impaired health companies by percentage of health business written. The proportion of premium income derived from health business varies from 50% to a full 100%; the average is 86%. However, the median of 87% indicates that, for most of the firms in the sample, health premiums provided the lion's share of premium income.

Figure 3 displays the data by year of financial distress for these failed health carriers. Distribution of the impairments across time shows that most

FIGURE 2
PERCENTAGE OF HEALTH BUSINESS OF INSOLVENT CARRIERS



impairments were late in the sample period, with 23 impairments in 1989 and 16 each in 1990 and 1991. These figures highlight the surge in health insolvencies in the period 1989–1991, a period characterized by powerful competition in the health industry within an environment of sharply escalating costs for hospital and medical care.

Some 48 companies in our sample became financially impaired due to inadequate pricing and/or inadequate surplus, as Figure 4 indicates. The next most frequent reason for impairment was rapid growth (n=29), followed by affiliate problems (n=9), significant shift in business (n=9), overstated assets (n=5), fraud (n=4), and reinsurance failure (n=3). We are unable to determine the primary cause for impairment for the remaining 10 companies.

Consistent with Best [2], we define the primary causes (reasons) for financial impairment as the following:

1. *Inadequate pricing or inadequate surplus.* This typically involves product underpricing, leading to operating losses and declining surplus.
2. *Rapid growth.* This involves rapid expansion of the asset base beyond levels that can be supported by the existing capital/surplus base.

FIGURE 3

NUMBER OF INSOLVENT CARRIERS BY YEAR IN 1973–1992

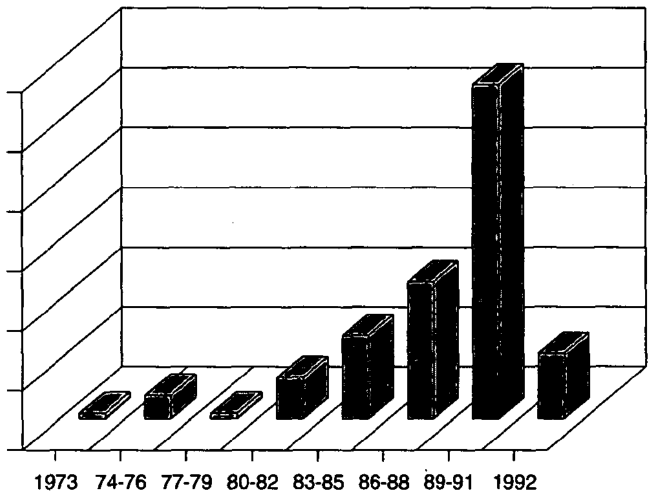
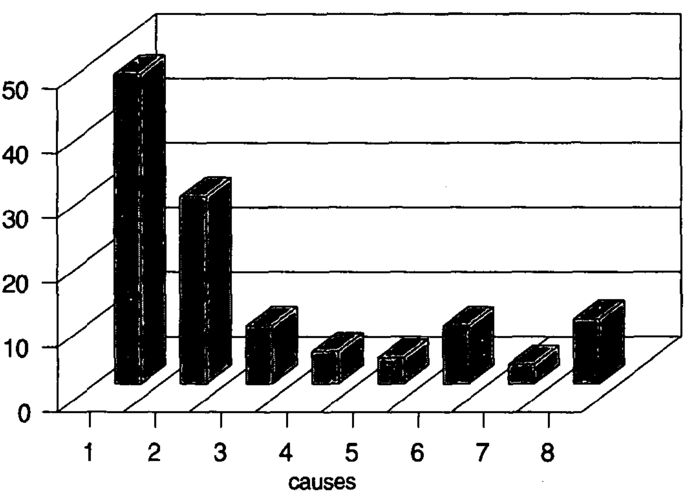


FIGURE 4

CAUSES OF INSOLVENCIES



3. *Affiliate problems.* This involves investments in or affiliation with financially impaired companies such as S&Ls, real estate companies, or other insurers.
4. *Overstated assets.* This results from significant declines in the market value of assets held—declines that are not reflected in the book value of these assets. Thus, companies that appear solvent on the books may be insolvent in terms of market value. Insurer problems with investments in high yield bonds are a good case in point.
5. *Fraud.*
6. *Significant change in business, such as rapid expansion into new product lines or markets.*
7. *Reinsurance failure.*
8. *Cause undetermined.*

While mismanagement is not specifically cited as a reason for impairment, Best [2] reports that mismanagement was involved in nearly all cases of life/health insurer impairment. In addition, press coverage of commercial insurer failures, property/casualty and life/health, almost always identifies multiple reasons for failure. The same is true of the lone Blue Cross/Blue Shield failure and appears to be true in those HMO failures in which first-hand knowledge of the failure is available to the Oversight Group.

Figure 5 shows that, over the sample period, financial impairments of health insurers were domiciled in relatively few states. Texas, with 30 financially impaired companies, leads the list; followed by Arizona with 10; Florida, 8; California, 7; Louisiana and Oklahoma, 6 each; Illinois, 5; Pennsylvania, 4; and Alabama, Indiana, and Utah, 3 each. No other state of domicile accounted for more than two impaired companies.

To summarize, the financial impairments in our sample tended to be companies that had \$5.6 million (median) in assets, derived 87% of premium income (median) from health business, and were domiciled in the Southwest, with the highest frequency of impairments over the period 1989 through 1991. These companies became financially impaired primarily because of some combination of inadequate pricing and rapid growth, with the caveat that other reasons are nearly always present.

Figures 6 and 7 refer to the life/health carriers analyzed in the A. M. Best study. Figure 6, which is similar to Figure 2, displays the number of those companies financially impaired in the periods shown, while Figure 7 gives the number of companies in business in the central years. (No such count is available for health carrers.) Figures 2 and 6 both demonstrate the stresses of the 1989–1991 period on health insurers.

FIGURE 5

NUMBER OF INSOLVENCIES BY STATE IN YEARS 1973–1992

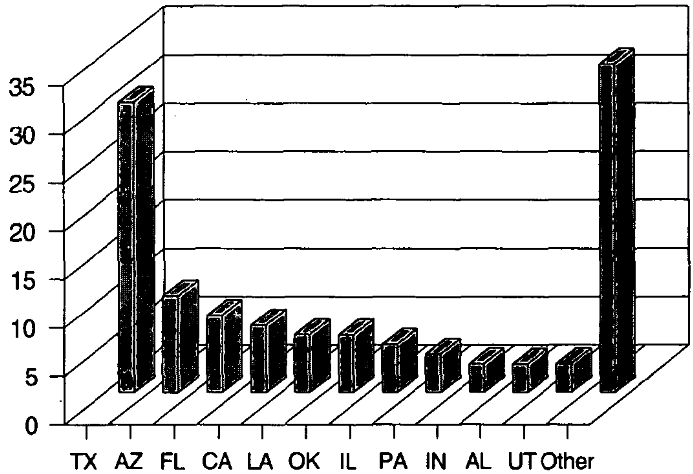


FIGURE 6

NUMBER OF LIFE/HEALTH FICs BY YEAR IN YEARS 1977–1991

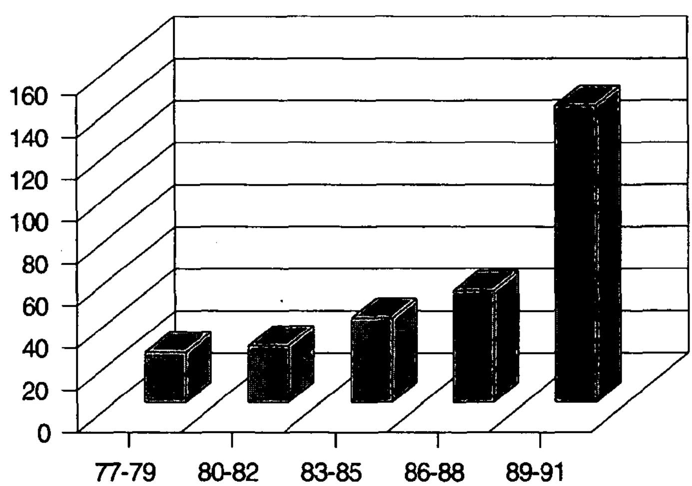
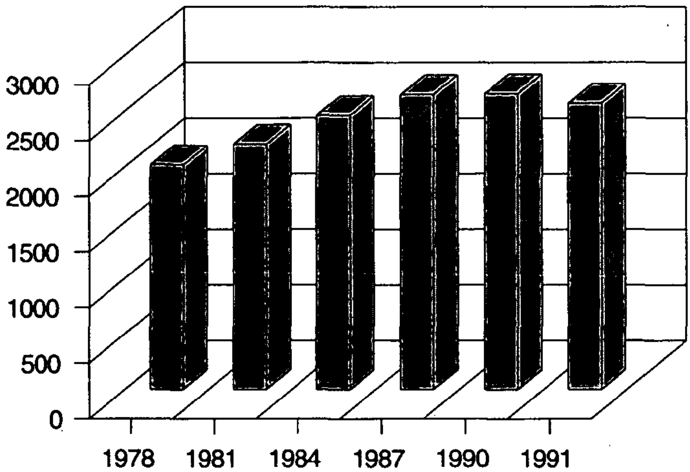


FIGURE 7
NUMBER OF LIFE/HEALTH COMPANIES IN BUSINESS IN YEARS 1978–1991



B. Blue Cross & Blue Shield Plans

Most Blue Cross and/or Blue Shield Plans were originally established under separate enabling legislation in a given state or area within a state, typically as hospital and medical service corporations. All were not-for-profit. Most were built around the notion of "prepayment" rather than insurance doctrines.

Blue Cross Plans can be traced back to the 1929 Baylor University Hospital Plan, which provided hospital "service" benefits. Blue Shield Plans developed in the 1938–1942 period, providing coverage of physician services. The Blue Shield medical-surgical service corporations were also a response to commercial insurer health care market penetration. Blue Cross organizations were legally separate from their Blue Shield counterparts even though they might have utilized a common staff and operations. There were several instances of multiple Blue Cross and/or Blue Shield Plans in a given state.

Over the past 25 years, the number of plans has been significantly reduced through mergers and consolidations into a single Blue Cross or Blue Shield Plan and/or into a combined Blue Cross and Blue Shield Plan. These affiliations were driven by management to realize economies, to make effective use of capital, and to take advantage of market synergies. In 1971 there were 138 plans. As of the end of 1994 there were 69.

In addition, plans evolved considerably in corporate structure, in the way they do business, and in the way they are regulated. Fourteen of the plans are now organized as life/health or property/casualty companies. Almost all plans have diversified into related products and services, such as HMOs, life insurance, third-party administration, and the like. Regardless of corporate structure, all plans embody insurance principles. The history of the plans also reflects the conflicts between a desire to cover the most people at the lowest rates and a desire to maintain solvency. Recognition of surplus and capitalization needs and related regulation in this area have evolved substantially, but not in all states. Originally it was not uncommon to find "prepayment" plans operated and regulated on more of a cash-flow basis, with the perception by all viewers that the plans were "too-big-to-fail."

While this area proved to be a difficult one in which to get database information, it is clear that *there has been only one insolvency in the history of the Blue Cross/Blue Shield Plans*: Blue Cross/Blue Shield of West Virginia in 1990. That single insolvency was sufficient to open a series of Congressional investigations by the Permanent Subcommittee on Investigations of the Senate's Committee on Governmental Affairs. Extensive testimony was taken (and published) in connection with subcommittee explorations of the difficulties of the Blue Cross/Blue Shield plans in West Virginia and several other jurisdictions.

Part of our charge in looking at financially distressed health insurers has been to find the reasons for failure. Unless unusual attention is paid to an insolvency, the reasons are seldom shown clearly for any kind of health insurer. The staff of the Investigating Committee (*Efforts to Combat Fraud and Abuse in the Insurance Industry*) lists [40, p. 210] the following reasons for the lone failure in West Virginia:

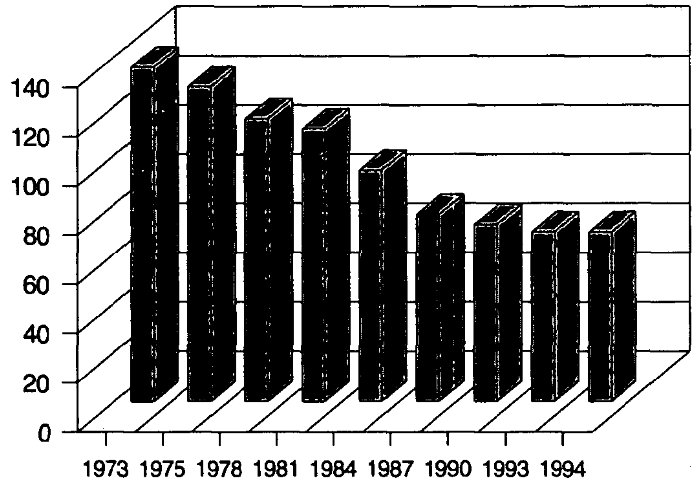
- Mismanagement by the senior officers of the plan
- Lax and inadequate oversight of management policies and activities by the Board of Directors
- Diversion of management and plan resources and attention to non-plan-related activities
- Conflicts of interest by senior management and the Chairman of the Board
- Creation of subsidiaries and affiliates for the personal gain of certain officers and members of the Board of Directors

- Inadequate state regulation of the plan by the Department of Insurance
- Increased health-care costs and cost-shifting to the plan.

Because of the single Blue Cross/Blue Shield insolvency in West Virginia in 1990, no figure has been prepared. Figure 8 shows the number of Blue Cross/Blue Shield plans in business at selected year-ends over the 1973–1994 period. The pattern for Blue Cross/Blue Shield plans has been one of consolidation, while both commercial life/health insurers and HMOs have grown in number over time and then topped out. Compare Figure 7 with Figure 10.

FIGURE 8

NUMBER OF BLUE CROSS/BLUE SHIELD COMPANIES IN YEARS 1973–1994



C. Health Maintenance Organizations

There is no central data-collecting body for gathering statistics on financially distressed or insolvent HMOs. They are neither uniformly regulated by the individual states nor covered by the state guaranty associations. We have found three organizations that regularly collect what might be called "in force" statistics on individual HMOs. In all three cases these sources provide a snapshot of data at December 31 of the calendar year.

1. *Best's Managed Care Reports, HMO* [3], [4]. It provides figures in these areas starting with 1990: assets, net worth, net premiums, total revenues, and net income. In addition, it shows enrollment data and ratios for liquidity, profitability, and leverage. It is prepared by A. M. Best from the HMO regulatory statement filings with the state insurance departments.
2. *National Directory of HMOs* [17]. It provides information on many facets of the HMO. The only figures provided are enrollment, operational date, number of physicians/hospitals/medical centers. It is prepared from data forms sent to HMOs directly by the Group Health Association of America (GHAA). Strong efforts are made to contact all HMOs, not just GHAA members. Compliance is voluntary. Data collection may go back to 1986 or 1987.
3. *Healthcare Investment Analysts (HCIA), 1-800-568-3282.* It provides the most extensive information in these areas: assets, liabilities, revenue, expenses, net worth, enrollment, utilization, and miscellaneous. There are more than 300 data elements for the more than 500 HMOs covered. Its data are extracted from the regulatory filings by the HMOs with their regulatory overseer—different in different jurisdictions. The data appear to be unavailable through HCIA for years before 1989.

It is clear that in the health maintenance organization area there are no ready-made lists of insolvent HMOs. A substantially different approach is needed to construct a population of insolvent insurers. The idea is to utilize a series of year-end inventories of "all" existing HMOs to derive a series of failed HMOs. The technique is to difference two consecutive year-end listings and then to screen from the resulting list of "suspects" the HMOs that disappeared by merger or by name change; the remaining companies can be assumed, subject to some error factor, to have "failed." This technique has been used in two academic studies of HMOs, described below. (Because obtaining the data is the real issue in the HMO area, we have included in Appendix H extended quotations from the data and methodology sections of the three academic studies involved.)

Christianson, Wholey, and Sanchez [12] use the differencing approach to construct charts that show the number of HMOs in operation (1978–1990); HMO failures, mergers, and acquisitions (1980–1990); HMO failures and mergers "by states" (1976–1990); HMO failures and mergers by HMO model type (1980–1990); and HMO failures and mergers (1980–1990), split by affiliation—local, national, Blue Cross/Blue Shield.

Wholey, Christianson, and Sanchez [43] process the data to show, for the lengthier period 1976–1991, charts of the numbers of both HMOs in force and HMO failures, split between groups and IPAs. Individual listings of failed HMOs are not given.

The following articles cited in the references provide commentary on reasons for HMO failure.

- Stone and Heffernan [39], drawing on their 1988 survey of HMO regulators for the GHAA, cite these reasons (in descending order of importance): too little initial capital and surplus, missing utilization controls, inadequate rates, inadequate permanent capital and surplus, and inadequate IBNR claim reserves.
- Boles [9] identifies the risks to which HMOs are exposed as these: revenue risk (variability and predictability of revenues), operating risk (nature and characteristics of the cost of operations), business risk (combination of revenue and operating risk), financing risk (use of debt and borrowed moneys), and total risk (variability in net income). He focuses on predictors of insolvency.
- Scheur [33] lists these causes of impaired plans: lack of operating capital, inability to deal effectively with competition, dissolution of the provider system, poor management, and shortcomings at the level of the Board of Directors.
- Christianson, Wholey, and Sanchez [12] tested affiliation status and found that local plans experienced higher rates of failure than national plans or those affiliated with Blue Cross/Blue Shield.
- Wholey, Christianson, and Sanchez [12], investigating the relationship between HMO size and HMO failure rates, found that the risk of failure is greatest for mid-sized groups. They found the following factors reduce failure rates:
  1. For individual practice associations: Blue Cross/Blue Shield affiliation, federal qualification, and national affiliation.
  2. For groups, national affiliation.
  3. More markets served.
  4. More physicians per capita.
  5. Low hospital utilization.

We have tested for ourselves the "differencing approach," working with members of the Oversight Group. Two computer runs were purchased from the HCIA data supplier in Baltimore: they compared the HMOs in force in 1991 with those in force in 1990, and similarly those in force in 1992 with those in 1991. The runs produced listings of HMOs that "fell out of force."

These listings have been reviewed by actuaries familiar with the HMO field. Here the idea has been that the Society of Actuaries has experts familiar with individual HMOs who can identify "failures" directly and can reduce the list by mergers, name changes, and so on to make a residual set of "likely failures." This process would replicate that described in Appendix H by Christianson, Wholey, and Sanchez [12].

The yield from repeated application of this process to past years would be a list of identified failed HMOs showing year of failure, size of assets, state of domicile, and percentage of A&H (usually 100%). The information on failed HMOs in such a list would track the information we have from other sources on the commercial health insurers. It would permit researchers to calculate numbers and rates of failure comparable to those of commercial health insurers, except that commercials are tracked on a regulatory intervention basis and HMOs would be tracked on an insolvency basis.

Society of Actuaries experts have examined several lists that represent products of the differencing approach. The opinion appears to be that the use of such lists for reconstructing the "failures" would not be very efficient this far after the fact. It is known, for example, that many of the plans identified in the differencing approach from 1989 are still operating.

The Seubold memorandum [35], provided by Harry Sutton, gives an analysis of 25 failed HMOs from a then population of 161 qualified by the Office of Health Maintenance Organizations (OHMO). Seven were taken over or merged;18 were not rescued. The conclusion by the OHMO director was: "The loss of these HMOs was brought about by the failure of management—administrative and medical—to control the utilization and costs of services; to react promptly and effectively when those problems were clearly identified. External factors did provide the last push in some instances, but only after the internal deficiencies had provided most of the momentum." To these causes of failure, Mr. Sutton adds inadequate initial financing, uncooperative medical providers, and poor utilization controls and fixed overhead costs for clinic plans. He suggests that the situation is different today, with much larger HMOs, more experienced managers, and more sophisticated management information systems.

Figure 9 shows the number of HMO FICs by the standard three-year periods; it exhibits the financial stress characteristic in an earlier period than do the health insurers and the Blue Cross/BlueShield plans. Figure 10 exhibits the number of HMOs in business in the selected years.

FIGURE 9
NUMBER OF HMO FICs BY YEAR IN YEARS 1977–1990

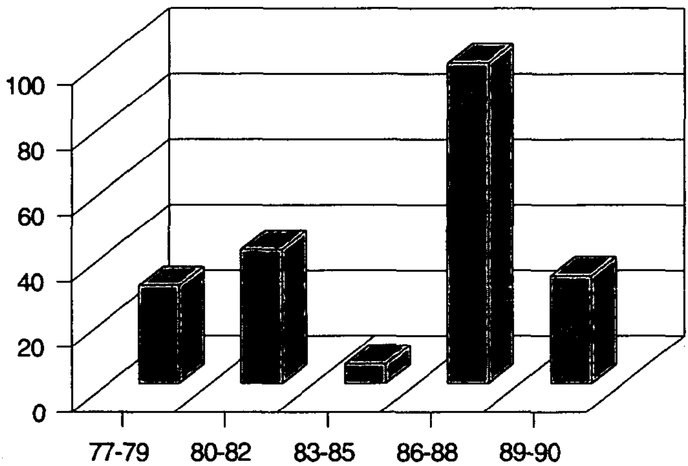
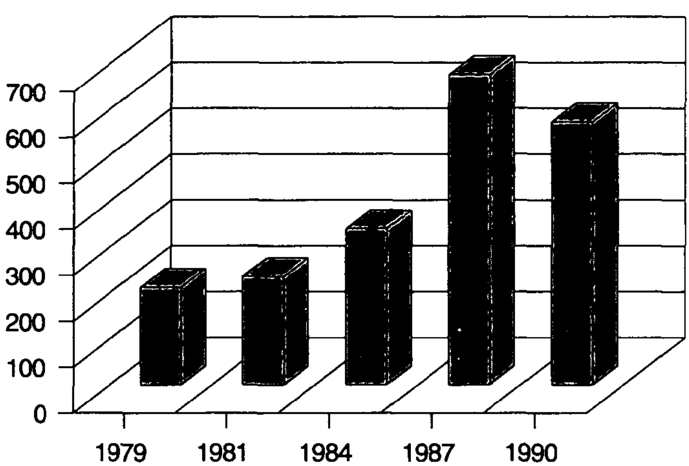


FIGURE 10
NUMBER OF HMOs IN YEARS 1979–1990



IV. CONCLUSIONS AND RECOMMENDATIONS

We have reached the following conclusions.

First, definitions of "financial impairment" and "financial distress" are not standardized in general and certainly not across the three sets of carriers: commercial insurers, Blue Cross/Blue Shield plans, and HMOs. Coupled with the data deficiencies encountered, we could not use a uniform definition. Given the fact that the regulators are not common to the three sets of carriers, it does not appear to us that this problem will be easy to solve. We have used, as mentioned above, regulatory intervention for commercial insurers and insolvency for the lone Blue Cross/Blue Shield failure and have backed into insolvency for HMOs.

Second, the data difficulties encountered were not foreseen by either the Oversight Group or by the researchers. The best data set was that for the commercial insurers, for whom earlier studies were available and upon which this study could be built. Even in that area, some data are not available because of the short record-retention practices of state insurance departments and the NAIC, and further because companies are not required to submit data directly to the NAIC (or A. M. Best).

The analysis of Blue Cross/Blue Shield plans was greatly simplified by using insolvency as the defining event of failure. Any other definition would create real data difficulties. HMO data can be put into usable form only in the most roundabout of ways.

Third, while there are great differences in the legal and organizational forms and other characteristics, all three types of insurers studied had much in common. Poor management, poor pricing, weak financial controls, improper reserving, slow response to changing economic and competitive conditions, insufficient capital and surplus to carry the insurer through lean times—all are common to the three types of organizations. When there are stressful times, all three types of insurers are stressed—the results show this clearly.

The following are our recommendations.

First, unaffiliated academic researchers who have used the differencing approach on HMO data have not been willing to make their files available to us. Perhaps this could be revisited by the committee, even on a grant basis, so that individual listings of HMOs, like those of commercial insurers in the several appendixes, could be obtained.

Second, the Oversight Group, in conference calls with us, expressed an interest from time to time in other kinds of definitions of "financially impaired," even for commercial insurers. We explored these briefly before settling on the ones we chose for practical reasons. It would be possible, but would take much larger budget allocations from the SOA, to explore the following alternative definitions of "distressed" or "impaired":

- Carriers with certain combinations of poor IRIS ratios
- Carriers that were merged or acquired by stronger market factors
- Carriers with below stipulated ratings from selected commercial ratings services.

We agree that such definitions would give rise to research whose findings would probably be more helpful in the prediction and avoidance of financial difficulty down the road. We think there are formidable problems with obtaining the data in many instances under these definitions, and the problem of comparability across the three kinds of carriers would still exist. On the other hand, some of the commercial ratings services do cover a number of Blue Cross/Blue Shield plans now and have begun to extend their ratings to selected HMOs.

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APPENDIX A

QUOTATIONS ON FINANCIAL DISTRESS

In this appendix we show relevant quotations from (1) current finance and insurance textbooks and from (2) academic studies on financial distress from the finance and insurance literature.

1. Current Finance and Insurance Textbooks

29. Petty, J. William, Keown, Arthur J., Scott, David F., Jr., and Martin, John D. *Basic Financial Management*. 6th ed. Englewood Cliffs, N.J.: Prentice Hall, 1993, pp. 825–8.

"The term 'failure' is used in a variety of contexts. **Economic failure** suggests that a company's costs exceed its revenues. Stated differently, the internal rates of return on investments are less than a firm's cost of capital. **Insolvency** also is frequently used to specify serious financial problems. A firm is *technically insolvent* when it can no longer honor its financial obligations. Although the book value of assets may exceed total liabilities, indicating a positive net worth, the company simply does not have sufficient liquidity to pay its debts. This condition may be temporary, and reorganization may be possible, or irreversible. Another term used is *insolvency in bankruptcy*. In this case the company's liabilities are greater than the fair valuation of its assets, which means a negative net worth. Regardless of the liquidity of its assets, the company is completely and unquestionably unable to meet maturing obligations. This situation generally indicates that liquidation rather than a reorganization of the firm is necessary." (pp. 825–826)

8. Black, Kenneth, Jr., and Skipper, Harold D., Jr. *Life Insurance*. 12th ed. Englewood Cliffs, N.J.: Prentice-Hall, 1994, pp. 1008–9.

"**REHABILITATION AND LIQUIDATION**. A regulator's typical first responses to a troubled insurer are informal. The regulator may attempt to work with management to identify and deal with the sources of difficulty. A friendly merger or acquisition might be arranged. States also take formal actions—often in the form of so-called **corrective orders**—against financially troubled licensed insurers. ... The regulator may also revoke an insurer's license. All these actions are subject to court review.

"If the commissioner determines that reorganization, consolidation, conversion, reinsurance, merger, or other transformation is appropriate, a specific plan of rehabilitation may be prepared. Under an order of **rehabilitation**, the commissioner is granted title to the domestic insurance company's assets and is given the authority to carry on its business until the insurer either is returned to private management after the grounds for issuing the order have been removed or is liquidated.

"**Liquidation** of a domestic insurer is the ultimate power of the commissioner. When it is found not advisable to attempt rehabilitation, or if rehabilitation becomes impracticable, the commissioner must petition the proper court for a liquidation order." (pp. 1008–1009)

10. Brealey, Richard A., Myers, Stewart C., and Marcus, Alan J. *Fundamentals of Corporate Finance.* New York, N.Y.: McGraw-Hill, 1995, pp. 393–400.

"Financial distress occurs when promises to creditors are broken or honored with difficulty. Sometimes financial distress leads to bankruptcy. Sometimes it only means skating on thin ice." (p. 393)

22. Marsh, William H. *Basic Financial Management.* Cincinnati, Ohio: South-Western College Publishing, 1995, pp. 536–9.

"**Technical insolvency** occurs when a company is unable to meet its current obligations as they come due. Even though the value of assets is greater than the value of liabilities, the company is suffering from a liquidity crisis. ... If the conditions are temporary, it may be worked out with creditors. If the conditions are permanent, the company may become legally insolvent.

"**Legal insolvency** occurs when the total liabilities exceed the total assets, as recorded on the balance sheet. Absolute insolvency is similarly defined, but in this case, assets are shown at their fair market value. The latter suggests a more critical stage of financial difficulty, possibly leading to bankruptcy.

"**Bankruptcy** is a legal term indicating that the company has begun a legal proceeding under the control of a bankruptcy court. The Bankruptcy Act of 1938, amended in 1978 and 1984, allows a company to petition into bankruptcy using technical insolvency, legal insolvency, or absolute insolvency as a basis. This action leads to reorganization or liquidation." (pp. 536–537)

24. Moyer, R. Charles, McGuigan, James R., and Kretlow, William J. *Contemporary Financial Management*. 6th ed. St. Paul, Minn.: West Publishing Company, 1995, p. 811.

"It is ... common, however, for business failure to be viewed in a *financial context*, either as a *technical insolvency*, a *legal insolvency*, or a *bankruptcy*. A firm is said to be *technically insolvent* if it is unable to meet its current obligations as they become due, even though the value of its assets exceeds its liabilities. A firm is *legally insolvent* if the recorded value of its assets is less than the recorded value of its liabilities. A firm is *bankrupt* if it is unable to pay its debts and files a bankruptcy petition in accordance with the federal bankruptcy laws." (p. 811)

30. Rao, Ramesh K.S. *Financial Management—Concepts and Applications*. 3rd ed. Cincinnati, Ohio: South-Western College Publishing, 1992, pp. 501–4.

"A business is said to be experiencing **failure** when the realized rate of return on that business is consistently less than investors' opportunity costs. That is, the return provided by the firm is not adequate to offset the risk of the firm. Note that this definition says nothing about whether the firm can continue operations or will cease to exist. Corporate **financial distress**, however, threatens the viability of the firm.

"A firm is said to be experiencing financial distress if it faces **insolvency**. Insolvency implies that the firm is in default, and there are two variants. A financially distressed firm may be in **technical default** or in a more serious situation of **formal default**. Technical default arises when a firm violates a legally binding agreement with a creditor. ... The more serious formal default arises when the firm is unable to meet its interest obligations to the creditors." (pp. 501–502)

31. Ross, Stephen A., Westerfield, Randolph W., and Jordan, Bradford D. *Fundamentals of Corporate Finance*. 3rd ed. Homewood, Ill.: Irwin Publishers, 1995, pp. 391–3.

"One of the consequences of using debt is the possibility of financial distress, which can be defined in several ways:

1. *Business failure.* This is a term usually used to refer to a situation where a business has terminated with a loss to creditors, but even an all-equity firm can fail.

2. *Legal bankruptcy.* Firms bring petitions to a federal court for bankruptcy. *Bankruptcy* is a legal proceeding for liquidating or reorganizing a business.

3. *Technical insolvency.* Technical insolvency occurs when a firm defaults on a legal obligation; for example, it does not pay a bill.

4. *Accounting insolvency.* Firms with negative net worth are insolvent on the books. This happens when the total book liabilities exceed the book value of the total assets." (p. 391)

36. Sharpe, William F., Alexander, Gordon J., and Bailey, Jeffery V. *Investments.* 5th ed. Englewood Cliffs, N.J.: Prentice Hall, 1995, pp. 415–7.

"A corporation unable to meet its obligatory debt payments is said to be technically insolvent (or insolvent in the equity sense). If the value of the firm's assets falls below its liabilities, it is said to be insolvent (or insolvent in the bankruptcy sense)." (p. 415)

42. Van Horne, James C., and Wachowicz, John M., Jr. *Fundamentals of Financial Management.* 9th ed. Englewood Cliffs, N.J.: Prentice Hall, 1995, p. 659.

"Nevertheless, we must not lose sight of the fact that some firms fail. Internal management must keep this in mind, and so must a creditor who has amounts due from a company in financial distress. The word "failure" is vague, partly because there are varying degrees of failure. A company is regarded as *technically insolvent* if it is unable to meet its current obligations. However, such insolvency may be only temporary and subject to remedy. Technical insolvency, then, denotes only a lack of liquidity. *Insolvency in bankruptcy,* on the other hand, means that the liabilities of a company exceed its assets. In other words, the shareholders' equity of the company is negative. *Financial failure* includes that entire range of possibilities between these two extremes." (p. 659)

2. *Academic Studies of Financial Distress*

11. Casey, Cornelius, and Bartczak, Norman. "Using Operating Cash Flow Data to Predict Financial Distress: Some Extensions," *Journal of Accounting Research* 23, no. 1 (1985): 384–401.

Casey and Bartczak conducted their study "... to assess whether operating cash flow data and related measures lead to more accurate predictions of bankrupt and nonbankrupt firms. Bankruptcy was selected as the specific form of financial distress and as the criterion event for three primary reasons: (1) the direct and indirect costs of bankruptcy are significant in relation to the value of the firm (Altman [1983a]); (2) results from this study can be compared with previous studies of bankruptcy prediction; (3) the costs of data gathering and the problem of interpreting the economic significance of other events (e.g., loan default) were viewed as greater than the benefits of using events whose occurrences are arguably less subject to noneconomic factors than is bankruptcy." (pp. 384–385)

21. Lau, Amy Hing-Ling. "A Five-State Financial Distress Prediction Model," *Journal of Accounting Research* 25, no. 1 (1987): 127–38.

Lau "...extends previous corporate failure prediction models ... in two ways: (1) instead of the usual failing/nonfailing dichotomy, five financial states are used to approximate the continuum of corporate financial health ... The five financial states used in this study are: state 0: financial stability; state 1: omitting or reducing dividend payments; state 2: technical default and default on loan payments; state 3: protection under Chapter X or XI of the Bankruptcy Act; and state 4: bankruptcy and liquidation. States 1 to 4 are states of increasing severity of financial distress.

"Although a financially stable firm may reduce or omit dividends, say, to finance capital investments, empirical studies ... show that a firm that reduces dividends is typically encountering some financial distress. Therefore, this study uses 'dividend omission or reduction' to represent a financial condition between states 0 and 2." (pp. 127–128)

16. Gilson, Stuart C. "Management Turnover and Financial Distress," *Journal of Financial Economics* 25 (1989): 241–62.

"This study analyzes a sample of firms that experience large common stock price declines. This approach allows me to identify firms that have suffered an unexpectedly large decline in their cash flows. The incidence of default, bankruptcy, and debt restructuring is assumed to be relatively high for such firms ..." (pp. 242–243)

6. BarNiv, Ran, and Hershbarger, Robert A. "Classifying Financial Distress in the Life Insurance Industry," *Journal of Risk and Insurance* 57, no. 1 (1990): 110–36.

"In this study, insolvent insurers are defined as those companies which are declared insolvent by their respective state insurance commissioners and reported by A. M. Best Company ... Life insurance companies which were listed as "dissolved" are not included in this study since this term may include voluntary dissipation." (p. 114)

13. DeAngelo, Harry, and DeAngelo, Linda. "Dividend Policy and Financial Distress: An Empirical Investigation of Troubled NYSE Firms," *Journal of Finance* 45, no. 5 (1990): 1415–32.

DeAngelo and DeAngelo "...study the dividend policy adjustments of 80 NYSE firms to protracted financial distress as evidenced by multiple losses during 1980–1985." (p. 1415)

15. Gilbert, Lisa R., Menon, Krishnagopal, and Schwartz, Kenneth B. "Predicting Bankruptcy for Firms in Financial Distress," *Journal of Business Finance and Accounting* 17, no. 1 (1990): 161–71.

"Three groups of firms were used: (1) a bankrupt group, (2) a random group, and (3) a distressed group, i.e. firms which are identified as being financially weak but which did not go bankrupt. The bankrupt group consisted of US firms that filed a Chapter 11 bankruptcy petition between 1974 and 1983. ... The distressed group contained firms that had negative cumulative earnings (income from continuing operations) over any consecutive three year period between 1972 and 1983." (pp. 162–163)

44. Wruck, Karen Hopper. "Financial Distress, Reorganization, and Organizational Efficiency," *Journal of Financial Economics* 27, no. 2 (1990): 419–44.

"This paper defines financial distress as a situation where cash flow is insufficient to cover current obligations. These obligations can include unpaid debts to suppliers and employees, actual or potential damages from litigation, and missed principal and interest payments under borrowing agreements (default). Technical default, the violation of a debt covenant other than one specifying principal and interest payments (e.g. minimum-net-worth requirements or working-capital constraints), can be a warning that distress is imminent....

"Some confusion arises because the word insolvent is often used as a synonym for financial distress. Insolvency can be interpreted as pertaining to stocks or flows, and the two are often confused. ... A stock-based definition describes as insolvent a firm with a negative economic net worth: the present value of its cash flows is less that its total obligations. A firm in financial distress is insolvent on a flow basis if it is unable to meet current cash obligations.

"Bankruptcy and liquidation are also used as synonyms for financial distress. In this paper, bankruptcy refers to the court-supervised process for breaking and rewriting contracts. Liquidation refers to a sale of the firm's assets and distribution of proceeds to claimants." (pp. 421–422)

7. BarNiv, Ran, and McDonald, James B. "Identifying Financial Distress in the Insurance Industry: A Synthesis of Methodological and Empirical Issues," *Journal of Risk and Insurance* 59, no. 4 (1992): 543–74.

"This study presents a methodological approach for identifying insolvent insurance companies. In this article, financial distress and insolvency are used interchangeably to describe insurers experiencing liquidation, receivership, conservatorship, restraining orders, rehabilitation, etc." (p. 543)

20. Kose, John. "Managing Financial Distress and Valuing Distressed Securities: A Survey and a Research Agenda," *Financial Management* 22, no. 3 (1993): 60–78.

"The financial contracts of a firm can be loosely categorized into hard and soft contracts. An example of a hard contract is a coupon debt contract which specifies periodic payments by the firm to the bondholders. If these payments are not made on time, the firm is considered to be in violation of the contract and the claimholders have specified and unspecified legal recourse to enforce the contract. Contracts with suppliers and employees may be other examples of hard contracts. Common stock and preferred stock are examples of soft contracts. Here, even though its claimholders have expectations of receiving current payouts from the firm in addition to their ownership rights, the level and frequency of these payouts are often policy decisions made by the firm.

"The above categorization of the financing contracts of a firm ... gives rise to a natural definition of *financial distress.* A firm is in financial distress at a given point in time when the liquid assets of the firm are not sufficient to meet the current requirements of its hard contracts." (p. 61)

APPENDIX B

ALPHABETICAL LISTING OF COMMERCIAL HEALTH CARRIER INSOLVENCIES 1971-1993

Company	State	Date	Cause*	% A&H	Total Assets
Alpha Life Ins. Co.	TX	1991	1	78%	1,030
Amalgamated Labor Life Ins. Co.	IL	1989	3	92	17,164
American Financial Life Ins. Co.	FL	1991	4	81	9,478
American Protectors Ins. Co.	UT	1988	2	87	13,944
American Protectors Ins. Co.	UT	1990	1	84	13,473
American Standard Life & Accident Ins. Co.	OK	1988	5	54	82,121
American Sun Life Ins. Co.	FL	1989	1	87	17,287
American Teachers Life Ins. Co.	TX	1989	2	91	5,100
American Way General Ins. Co.	AZ	1990	1	100	28,354
American Way Life Ins. Co.	MI	1993	1	68	24,943
Associated Life Ins. Co.	IL	1989	1	55	15,820
Atlantic & Pacific Ins. Co.	CO	1983	1	92	1,426
Atlantic & Pacific Life Ins. Co. of America	GA	1991	1	74	13,667
Business Ins. Life of America	LA	1982	2	93	1,131
California Benefit Life Ins. Co.	CA	1989	2	98	2,522
California Life Ins. Co.	CA	1986	7	85	33,775
California Pacific Life Ins. Co.	CA	1989	1	96	4,848
Coastal Ins. Co.	CA	1989	6	93	34,813
Colombia Life Ins. Co.	PA	1991	4	84	23,266
Colony Charter Life Ins. Co.	CA	1987	1	95	10,023
Connecticut Commercial Travelers Mutual Life Ins. Co.	CT	1978	2	66	2,142
Consolidated Benefit Health Ins. Co.	TX	1989	1	99	878
Consolidated Savings Life Ins. Co.	TX	1987	8	95	2,687
Consumers United Ins. Co.	DE	1993	8	96	27,238
Continental Bankers Life Ins. Co. of the South	TN	1986	5	94	13,878
Continental Service Life & Health Ins. Co.	LA	1985	5	64	16,950
Diamond Benefits Life Ins. Co.	AZ	1988	6	73	7,853
Eagle Life Ins. Co.	TX	1986	2	90	18,302
Employers Equitable Life Ins. Co.	AR	1991	8	100	475
Employers Life Ins. Co.	AL	1992	8	93	4,013
Excalibur Life Ins. Co.	TX	1990	1	89	N/A
Farm & Home Life Ins. Co.	AZ	1990	1	87	211,829
Farmers National Life Ins. Co.	FL	1976	5	58	5,072
Farwest American Assurance Co.	OR	1989	3	90	25,926
Fidelity American Life Assurance Co.	AZ	1984	1	83	702
First Columbia Life Ins. Co.	LA	1988	6	91	N/A
First Farwest Life Ins. Co.	OR	1989	2	92	91,486
First Transcontinental Life Ins. Co.	WI	1988	6	94	N/A
First United Life Ins. Co. of America	TX	1981	2	74	1,425
Florida General Life Ins. Co.	FL	1983	1	82	5,839

APPENDIX B—*Continued*

Company	State	Date	Cause*	% A&H	Total Assets
Foundation Life Ins. Co.	NJ	1981	8	72	12,122
Galaxia Life Ins. Co.	LA	1989	6	100	1,924
General Life & Accident Ins. Co.	TX	1991	1	99	7,431
George Washington Life Ins. Co.	WV	1990	1	93	25,163
George Washington Life Ins. Co. of CA	CA	1990	3	92	4,301
Georgia Life and Health Ins. Co.	GA	1991	1	98	18,116
GIC Ins. Co.	TX	1989	2	98	5,558
Great Republic Ins. Co.	CA	1991	2	99	44,017
Guardian American Life Ins. Co.	OK	1989	1	100	489
Hermitage Health & Life Ins. Co.	TN	1986	2	67	22,993
Independent Bankers Life Ins. Co. of TX	TX	1984	1	98	8,584
Independent Liberty Life Ins. Co.	MI	1983	2	75	37,392
Independent Security Life Ins. Co.	TX	1993	1	53	598
Independent Standard Life Ins. Co.	TX	1984	1	57	N/A
International Fidelity Life Ins. Co.	TX	1987	2	97	N/A
International Life Ins. Co.	TX	1990	1	100	N/A
Iowa State Travelers Mutual Assurance Co.	IA	1983	1	85	10,638
Justice Life Ins. Co.	TX	1990	1	97	1,363
Key Life Ins. Co. of SC	SC	1983	1	99	753
Keystone Life Ins. Co.	TX	1987	2	90	17,082
L.A. Life Ins. Co.	FL	1988	1	91	1,782
Latin American Life Ins. Co.	FL	1987	1	96	2,307
Legacy Life Ins. Co.	NE	1991	1	92	14,700
Legal Protective Life Ins. Co.	TX	1991	1	97	N/A
Legal Security Life Ins. Co.	TX	1992	1	99	6,244
Life of Indiana Ins. Co.	IN	1989	2	87	27,770
Lumbermans Life Ins. Co.	IN	1988	6	84	22,344
Maine Ins. Co.	ME	1971	2	95	4,301
Maxicare Life & Health Ins. Co.	MO	1989	6	94	11,613
Merchants & Manufacturers Ins. Co.	OH	1986	2	54	4,258
Mid-Western Life Ins. Co.	OK	1989	4	90	10,054
Missouri National Life Ins. Co.	MO	1989	1	95	6,270
Modern Life & Accident Ins. Co.	IL	1982	1	91	1,138
Modern Pioneers Life Ins. Co.	AZ	1989	2	100	10,404
Monarch Life Ins. Co.	MA	1991	3	52	5,127,008
National American Life Ins. Co.	LA	1976	4	62	22,269
National Benefit Life Ins. Co.	TX	1990	1	97	5,435
National Society of Health	LA	1990	2	92	1,124
National Union Life Ins. Co.	AL	1986	4	100	2,008
Northeastern Life Ins. Co. of NY	NY	1976	1	88	31,162
Old Southern Life Ins. Co.	AL	1991	1	98	26,790
Parliament Life Ins. Co.	PA	1987	8	92	N/A
Paso Del Norte Life Ins. Co.	AZ	1991	8	81	825
Pilgrim Life Ins. Co.	PA	1993	1	80	11,604
Pioneer Annuity Life Ins. Co.	AZ	1984	6	59	11,403

APPENDIX B—*Continued*

Company	State	Date	Cause*	% A&H	Total Assets
Producers Ins. Co.	AR	1985	8	87	N/A
Professional Benefits Ins. Co.	TX	1990	8	99	6,872
Progress Life & Accident Ins. Co.	OK	1989	3	51	2,040
Progressive Mutual Life Ins. Co.	TX	1992	2	91	N/A
Regent Life Ins. Co.	TX	1989	1	80	246
Reliable Life & Casualty Co.	WI	1981	1	92	32,445
Republic American Life Ins. Co.	AZ	1991	2	99	2,824
Republic American Life Ins. Co.	AZ	1992	1	99	5,873
Rumford Life Ins. Co.	RI	1990	3	93	3,868
Seaboard Life Ins. Co.	FL	1975	1	62	41,980
Senior Security Life Ins. Co.	OK	1992	1	99	N/A
Southern General Life Ins. Co.	FL	1987	3	92	15,630
Southern General Life Ins. Co. of TX	TX	1989	2	91	2,444
Southern National Life Ins. Co.	TX	1989	7	100	1,648
Springfield Life Ins. Co.	VT	1991	3	76	161,782
State Security Life Ins. Co.	MS	1984	2	92	1,915
Tara Life Ins. Co. of America	DE	1983	1	100	13,987
Texas Consumer Life Ins. Co.	TX	1989	1	78	2,522
Texas Dealers Life Ins. Co.	TX	1990	8	52	479
Texas Fidelity Life Ins. Co.	TX	1986	2	84	1,338
Texas Investors Life Ins. Co.	TX	1989	1	94	4,539
UCSB Ins. Assoc.	UT	1981	1	100	946
Underwriters Life Ins. Co.	SD	1990	2	86	8,175
Underwriters National Assurance Co.	IN	1990	3	78	52,426
United Bankers Life Ins. Co.	TX	1982	2	80	12,785
United Equitable Life Ins. Co.	IL	1990	2	60	27,405
United Equity Life Ins. Co.	OK	1984	2	99	2,518
United Fire Ins. Co.	IL	1988	7	55	13,231
United Life of NA	AZ	1992	6	70	N/A
United Security Life Ins. Co.	TX	1992	1	82	N/A
US Bankers Life Ins. Co.	NM	1988	1	100	792
World Life & Health Ins. Co. of PA	PA	1991	2	90	28,446

*Cause:
1. Inadequate pricing or inadequate surplus
2. Rapid growth
3. Affiliate problems
4. Overstated assets
5. Fraud
6. Significant change in business, such as rapid expansion into new product lines or markets
7. Reinsurance failure
8. Cause undetermined.

APPENDIX C

LISTING IN DESCENDING ORDER BY TOTAL ASSETS PRIOR TO FINANCIAL IMPAIRMENT FOR COMMERCIAL HEALTH CARREIR INSOLVENCIES 1971–1993

Company	State	Date	Cause*	% A&H	Total Assets
Monarch Life Ins. Co.	MA	1991	3	52%	5,127,008
Farm & Home Life Ins. Co.	AZ	1990	1	87	211,829
Springfield Life Ins. Co.	VT	1991	3	76	161,782
First Farwest Life Ins. Co.	OR	1989	2	92	91,486
American Standard Life & Accident Ins. Co.	OK	1988	5	54	82,121
Underwriters National Assurance Co.	IN	1990	3	78	52,426
Great Republic Ins. Co.	CA	1991	2	99	44,017
Seaboard Life Ins. Co.	FL	1975	1	62	41,980
Independent Liberty Life Ins. Co.	MI	1983	2	75	37,392
Coastal Ins. Co.	CA	1989	6	93	34,813
California Life Ins. Co.	CA	1986	7	85	33,775
Reliable Life & Casualty Co.	WI	1981	1	92	32,445
Northeastern Life Ins. Co. of NY	NY	1976	1	88	31,162
World Life & Health Ins. Co. of PA	PA	1991	2	90	28,446
American Way General Ins. Co.	AZ	1990	1	100	28,354
Life of Indiana Ins. Co.	IN	1989	2	87	27,770
United Equitable Life Ins. Co.	IL	1990	2	60	27,405
Consumers United Ins. Co.	DE	1993	8	96	27,238
Old Southern Life Ins. Co.	AL	1991	1	98	26,790
Farwest American Assurance Co.	OR	1989	3	90	25,926
George Washington Life Ins. Co.	WV	1990	1	93	25,163
American Way Life Ins. Co.	MI	1993	1	68	24,943
Colombia Life Ins. Co.	PA	1991	4	84	23,266
Hermitage Health & Life Ins. Co.	TN	1986	2	67	22,993
Lumbermens Life Ins. Co.	IN	1988	6	84	22,344
National American Life Ins. Co.	LA	1976	4	62	22,269
Eagle Life Ins. Co.	TX	1986	2	90	18,302
Georgia Life and Health Ins. Co.	GA	1991	1	98	18,116
American Sun Life Ins. Co.	FL	1989	1	87	17,287
Amalgamated Labor Life Ins. Co.	IL	1989	3	92	17,164
Keystone Life Ins. Co.	TX	1987	2	90	17,082
Continental Service Life & Health Ins. Co.	LA	1985	5	64	16,950
Associated Life Ins. Co.	IL	1989	1	55	15,820
Southern General Life Ins. Co.	FL	1987	3	92	15,630
Legacy Life Ins. Co.	NE	1991	1	92	14,700
Tara Life Ins. Co. of America	DE	1983	1	100	13,987
American Protectors Ins. Co.	UT	1988	2	87	13,944
Continental Bankers Life Ins. Co. of the South	TN	1986	5	94	13,878
Atlantic & Pacific Life Ins. Co. of America	GA	1991	1	74	13,667
American Protectors Ins. Co.	UT	1990	1	84	13,473

APPENDIX C—*Continued*

Company	State	Date	Cause*	% A&H	Total Assets
United Fire Ins. Co.	IL	1988	7	55%	13,231
United Bankers Life Ins. Co.	TX	1982	2	80	12,785
Foundation Life Ins. Co.	NJ	1981	8	72	12,122
Maxicare Life & Health Ins. Co.	MO	1989	6	94	11,613
Pilgrim Life Ins. Co.	PA	1993	1	80	11,604
Pioneer Annuity Life Ins. Co.	AZ	1984	6	59	11,403
Iowa State Travelers Mutual Assurance Co.	IA	1983	1	85	10,638
Modern Pioneers Life Ins. Co.	AZ	1989	2	100	10,404
Mid-Western Life Ins. Co.	OK	1989	4	90	10,054
Colony Charter Life Ins. Co.	CA	1987	1	95	10,023
American Financial Life Ins. Co.	FL	1991	4	81	9,478
Independent Bankers Life Ins. Co. of TX	TX	1984	1	98	8,584
Underwriters Life Ins. Co.	SD	1990	2	86	8,175
Diamond Benefits Life Ins. Co.	AZ	1988	6	73	7,853
General Life & Accident Ins. Co.	TX	1991	1	99	7,431
Professional Benefits Ins. Co.	TX	1990	8	99	6,872
Missouri National Life Ins. Co.	MO	1989	1	95	6,270
Legal Security Life Ins. Co.	TX	1992	1	99	6,244
Republic American Life Ins. Co.	AZ	1992	1	99	5,873
Florida General Life Ins. Co.	FL	1983	1	82	5,839
GIC Ins. Co.	TX	1989	2	98	5,558
National Benefit Life Ins. Co.	TX	1990	1	97	5,435
American Teachers Life Ins. Co.	TX	1989	2	91	5,100
Farmers National Life Ins. Co.	FL	1976	5	58	5,072
California Pacific Life Ins. Co.	CA	1989	1	96	4,848
Texas Investors Life Ins. Co.	TX	1989	1	94	4,539
George Washington Life Ins. Co. of CA	CA	1990	3	92	4,301
Maine Ins. Co.	ME	1971	2	95	4,301
Merchants & Manufacturers Ins. Co.	OH	1986	2	54	4,258
Employers Life Ins. Co.	AL	1992	8	93	4,013
Rumford Life Ins. Co.	RI	1990	3	93	3,868
Republic American Life Ins. Co.	AZ	1991	2	99	2,824
Consolidated Savings Life Ins. Co.	TX	1987	8	95	2,687
California Benefit Life Ins. Co.	CA	1989	2	98	2,522
Texas Consumers Life Ins. Co.	TX	1989	1	78	2,522
United Equity Life Ins. Co.	OK	1984	2	99	2,518
Southern General Life Ins. Co. of TX	TX	1989	2	91	2,444
Latin American Life Ins. Co.	FL	1987	1	96	2,307
Connecticut Commercial Travelers Mutual Life Ins. Co.	CT	1978	2	66	2,142
Progress Life & Accident Ins. Co.	OK	1989	3	51	2,040
National Union Life Ins. Co.	AL	1986	4	100	2,008
Galaxia Life Ins. Co.	LA	1989	6	100	1,924
State Security Life Ins. Co.	MS	1984	2	92	1,915
L.A. Life Ins. Co.	FL	1988	1	91	1,782
Southern National Life Ins. Co.	TX	1989	7	100	1,648

APPENDIX C—*Continued*

Company	State	Date	Cause*	% A&H	Total Assets
Atlantic & Pacific Ins. Co.	CO	1983	1	92%	1,426
First United Life Ins. Co. of America	TX	1981	2	74	1,425
Justice Life Ins. Co.	TX	1990	1	97	1,363
Texas Fidelity Life Ins. Co.	TX	1986	2	84	1,338
Modern Life & Accident Ins. Co.	IL	1982	1	91	1,138
Business Ins. Life of America	LA	1982	2	93	1,131
National Society of Health	LA	1990	2	92	1,124
Alpha Life Ins. Co.	TX	1991	1	78	1,030
UCSB Ins. Assoc.	UT	1981	1	100	946
Consolidated Benefit Health Ins. Co.	TX	1989	1	99	878
Paso Del Norte Life Ins. Co.	AZ	1991	8	81	825
US Bankers Life Ins. Co.	NM	1988	1	100	792
Key Life Ins. Co. of SC	SC	1983	1	99	753
Fidelity American Life Assurance Co.	AZ	1984	1	83	702
Independent Security Life Ins. Co.	TX	1993	1	53	598
Guardian American Life Ins. Co.	OK	1989	1	100	489
Texas Dealers Life Ins. Co.	TX	1990	8	52	479
Employers Equitable Life Ins. Co.	AR	1991	8	100	475
Regent Life Ins. Co.	TX	1989	1	80	246
Excalibur Life Ins. Co.	TX	1990	1	89	N/A
First Columbia Life Ins. Co.	LA	1988	6	91	N/A
First Transcontinental Life Ins. Co.	WI	1988	6	94	N/A
Independent Standard Life Ins. Co.	TX	1984	1	57	N/A
International Fidelity Life Ins. Co.	TX	1987	2	97	N/A
International Life Ins. Co.	TX	1990	1	100	N/A
Legal Protective Life Ins. Co.	TX	1991	1	97	N/A
Parliament Life Ins. Co.	PA	1987	8	92	N/A
Producers Ins. Co.	AR	1985	8	87	N/A
Progressive Mutual Life Ins.	TX	1992	2	91	N/A
Senior Security Life Ins. Co.	OK	1992	1	99	N/A
United Life of NA	AZ	1992	6	70	N/A
United Security Life Ins. Co.	TX	1992	1	82	N/A

*Cause:

1. Inadequate pricing or inadequate surplus
2. Rapid growth
3. Affiliate problems
4. Overstated assets
5. Fraud
6. Significant change in business, such as rapid expansion into new product lines or markets
7. Reinsurance failure
8. Cause undetermined

APPENDIX D

LISTING IN DESCENDING ORDER BY PROPORTION OF BUSINESS DERIVED FROM HEALTH BUSINESS FOR COMMERCIAL HEALTH CARRIER INSOLVENCIES 1971–1993

Company	State	Date	Cause*	% A&H	Total Assets
American Way General Ins. Co.	AZ	1990	1	100%	28,354
Employers Equitable Life Ins. Co.	AR	1991	8	100	475
Galaxia Life Ins. Co.	LA	1989	6	100	1,924
Guardian American Life Ins. Co.	OK	1989	1	100	489
International Life Ins. Co.	TX	1990	1	100	N/A
Modern Pioneers Life Ins. Co.	AZ	1989	2	100	10,404
National Union Life Ins. Co.	AL	1986	4	100	2,008
Southern National Life Ins. Co.	TX	1989	7	100	1,648
Tara Life Ins. Co. of America	DE	1983	1	100	13,987
UCSB Ins. Assoc.	UT	1981	1	100	946
US Bankers Life Ins. Co.	NM	1988	1	100	792
Consolidated Benefit Health Ins. Co.	TX	1989	1	99	878
General Life & Accident Ins. Co.	TX	1991	1	99	7,431
Great Republic Ins. Co.	CA	1991	2	99	44,017
Key Life Ins. Co. of SC	SC	1983	1	99	753
Legal Security Life Ins. Co.	TX	1992	1	99	6,244
Professional Benefits Ins. Co.	TX	1990	8	99	6,872
Republic American Life Ins. Co.	AZ	1992	1	99	5,873
Republic American Life Ins. Co.	AZ	1991	2	99	2,824
Senior Security Life Ins. Co.	OK	1992	1	99	N/A
United Equity Life Ins. Co.	OK	1984	2	99	2,518
California Benefit Life Ins. Co.	CA	1989	2	98	2,522
Georgia Life and Health Ins. Co.	GA	1991	1	98	18,116
GIC Ins. Co.	TX	1989	2	98	5,558
Independent Bankers Life Ins. Co. of TX	TX	1984	1	98	8,584
Old Southern Life Ins. Co.	AL	1991	1	98	26,790
International Fidelity Life Ins. Co.	TX	1987	2	97	N/A
Justice Life Ins. Co.	TX	1990	1	97	1,363
Legal Protective Life Ins. Co.	TX	1991	1	97	N/A
National Benefit Life Ins. Co.	TX	1990	1	97	5,435
California Pacific Life Ins. Co.	CA	1989	1	96	4,848
Consumers United Ins. Co.	DE	1993	8	96	27,238
Latin American Life Ins. Co.	FL	1987	1	96	2,307
Colony Charter Life Ins. Co.	CA	1987	1	95	10,023
Consolidated Savings Life Ins. Co.	TX	1987	8	95	2,687
Maine Ins. Co.	ME	1971	2	95	4,301
Missouri National Life Ins. Co.	MO	1989	1	95	6,270
Continental Bankers Life Ins. Co. of the South	TN	1986	5	94	13,878
First Transcontinental Life Ins. Co.	WI	1988	6	94	N/A
Maxicare Life & Health Ins. Co.	MO	1989	6	94	11,613

APPENDIX D—*Continued*

Company	State	Date	Cause*	% A&H	Total Assets
Texas Investors Life Ins. Co.	TX	1989	1	94%	4,539
Business Ins. Life of America	LA	1982	2	93	1,131
Coastal Ins. Co.	CA	1989	6	93	34,813
Employers Life Ins. Co.	AL	1992	8	93	4,013
George Washington Life Ins. Co.	WV	1990	1	93	25,163
Rumford Life Ins. Co.	RI	1990	3	93	3,868
Amalgamated Labor Life Ins. Co.	IL	1989	3	92	17,164
Atlantic & Pacific Ins. Co.	CO	1983	1	92	1,426
First Farwest Life Ins. Co.	OR	1989	2	92	91,486
George Washington Life Ins. Co. of CA	CA	1990	3	92	4,301
Legacy Life Ins. Co.	NE	1991	1	92	14,700
National Society of Health	LA	1990	2	92	1,124
Parliament Life Ins. Co.	PA	1987	8	92	N/A
Reliable Life & Casualty Co.	WI	1981	1	92	32,445
Southern General Life Ins. Co.	FL	1987	3	92	15,630
State Security Life Ins. Co.	MS	1984	2	92	1,915
American Teachers Life Ins. Co.	TX	1989	2	91	5,100
First Columbia Life Ins. Co.	LA	1988	6	91	N/A
L.A. Life Ins. Co.	FL	1988	1	91	1,782
Modern Life & Accident Ins. Co.	IL	1982	1	91	1,138
Progressive Mutual Life Ins. Co.	TX	1992	2	91	N/A
Southern General Life Ins. Co. of TX	TX	1989	2	91	2,444
Eagle Life Ins. Co.	TX	1986	2	90	18,302
Farwest American Assurance Co.	OR	1989	3	90	25,926
Keystone Life Ins. Co.	TX	1987	2	90	17,082
Mid-Western Life Ins. Co.	OK	1989	4	90	10,054
World Life & Health Ins. Co. of PA	PA	1991	2	90	28,446
Excalibur Life Ins. Co.	TX	1990	1	89	N/A
Northeastern Life Ins. Co. of NY	NY	1976	1	88	31,162
American Protectors Ins. Co.	UT	1988	2	87	13,944
American Sun Life Ins. Co.	FL	1989	1	87	17,287
Farm & Home Life Ins. Co.	AZ	1990	1	87	211,829
Life of Indiana Ins. Co.	IN	1989	2	87	27,770
Producers Ins. Co.	AR	1985	8	87	N/A
Underwriters Life Ins. Co.	SD	1990	2	86	8,175
California Life Ins. Co.	CA	1986	7	85	33,775
Iowa State Travelers Mutual Assurance Co.	IA	1983	1	85	10,638
American Protectors Ins. Co.	UT	1990	1	84	13,473
Colombia Life Ins. Co.	PA	1991	4	84	23,266
Lumbermens Life Ins. Co.	IN	1988	6	84	22,344
Texas Fidelity Life Ins. Co.	TX	1986	2	84	1,338
Fidelity American Life Assurance Co.	AZ	1984	1	83	702
Florida General Life Ins. Co.	FL	1983	1	82	5,839
United Security Life Ins. Co.	TX	1992	1	82	N/A
American Financial Life Ins. Co.	FL	1991	4	81	9,478

APPENDIX D—*Continued*

Company	State	Date	Cause*	% A&H	Total Assets
Paso Del Norte Life Ins. Co.	AZ	1991	8	81%	825
Pilgrim Life Ins. Co.	PA	1993	1	80	11,604
Regent Life Ins. Co.	TX	1989	1	80	246
United Bankers Life Ins. Co.	TX	1982	2	80	12,785
Alpha Life Ins. Co.	TX	1991	1	78	1,030
Texas Consumers Life Ins. Co.	TX	1989	1	78	2,522
Underwriters National Assurance Co.	IN	1990	3	78	52,426
Springfield Life Ins. Co.	VT	1991	3	76	161,782
Independent Liberty Life Ins. Co.	MI	1983	2	75	37,392
Atlantic & Pacific Life Ins. Co. of America	GA	1991	1	74	13,667
First United Life Ins. Co. of America	TX	1981	2	74	1,425
Diamond Benefits Life Ins. Co.	AZ	1988	6	73	7,853
Foundation Life Ins. Co.	NJ	1981	8	72	12,122
United Life of NA	AZ	1992	6	70	N/A
American Way Life Ins. Co.	MI	1993	1	68	24,943
Hermitage Health & Life Ins. Co.	TN	1986	2	67	22,993
Connecticut Commercial Travelers Mutual Life Ins. Co.	CT	1978	2	66	2,142
Continental Service Life & Health Ins. Co.	LA	1985	5	64	16,950
National American Life Ins. Co.	LA	1976	4	62	22,269
Seaboard Life Ins. Co.	FL	1975	1	62	41,980
United Equitable Life Ins. Co.	IL	1990	2	60	27,405
Pioneer Annuity Life Ins. Co.	AZ	1984	6	59	11,403
Farmers National Life Ins. Co.	FL	1976	5	58	5,072
Independent Standard Life Ins. Co.	TX	1984	1	57	N/A
Associated Life Ins. Co.	IL	1989	1	55	15,820
United Fire Ins. Co.	IL	1988	7	55	13,231
American Standard Life & Accident Ins. Co.	OK	1988	5	54	82,121
Merchants & Manufacturers Ins. Co.	OH	1986	2	54	4,258
Independent Security Life Ins. Co.	TX	1993	1	53	598
Monarch Life Ins. Co.	MA	1991	3	52	5,127,008
Texas Dealers Life Ins. Co.	TX	1990	8	52	479
Progress Life & Accident Ins. Co.	OK	1989	3	51	2,040

*Cause:
1. Inadequate pricing or inadequate surplus
2. Rapid growth
3. Affiliate problems
4. Overstated assets
5. Fraud
6. Significant change in business, such as rapid expansion into new product lines or markets
7. Reinsurance failure
8. Cause undetermined.

APPENDIX E

LISTING IN CHRONOLOGICAL ORDER BY YEAR OF FINANCIAL IMPAIRMENT OF COMMERCIAL HEALTH CARRIER INSOLVENCIES 1971–1993

Company	State	Date	Cause*	% A&H	Total Assets
Maine Ins. Co.	ME	1971	2	95%	4,301
Seaboard Life Ins. Co.	FL	1975	1	62	41,980
Farmers National Life Ins. Co.	FL	1976	5	58	5,072
National American Life Ins. Co.	LA	1976	4	62	22,269
Northeastern Life Ins. Co. of NY	NY	1976	1	88	31,162
Connecticut Commercial Travelers Mutual Life Ins. Co.	CT	1978	2	66	2,142
First United Life Ins. Co. of America	TX	1981	2	74	1,425
Foundation Life Ins. Co.	NJ	1981	8	72	12,122
Reliable Life & Casualty Co.	WI	1981	1	92	32,445
UCSB Ins. Assoc.	UT	1981	1	100	946
Business Ins. Life of America	LA	1982	2	93	1,131
Modern Life & Accident Ins. Co.	IL	1982	1	91	1,138
United Bankers Life Ins. Co.	TX	1982	2	80	12,785
Atlantic & Pacific Ins. Co.	CO	1983	1	92	1,426
Florida General Life Ins. Co.	FL	1983	1	82	5,839
Independent Liberty Life Ins. Co.	MI	1983	2	75	37,392
Iowa State Travelers Mutual Assurance Co.	IA	1983	1	85	10,638
Key Life Ins. Co. of SC	SC	1983	1	99	753
Tara Life Ins. Co. of America	DE	1983	1	100	13,987
Fidelity American Life Assurance Co.	AZ	1984	1	83	702
Independent Bankers Life Ins. Co. of TX	TX	1984	1	98	8,584
Independent Standard Life Ins. Co.	TX	1984	1	57	N/A
Pioneer Annuity Life Ins. Co.	AZ	1984	6	59	11,403
State Security Life Ins. Co.	MS	1984	2	92	1,915
United Equity Life Ins. Co.	OK	1984	2	99	2,518
Continental Service Life & Health Ins. Co.	LA	1985	5	64	16,950
Producers Ins. Co.	AR	1985	8	87	N/A
California Life Ins. Co.	CA	1986	7	85	33,775
Continental Bankers Life Ins. Co. of the South	TN	1986	5	94	13,878
Eagle Life Ins. Co.	TX	1986	2	90	18,302
Hermitage Health & Life Ins.	TN	1986	2	67	22,993
Merchants & Manufacturers Ins. Co.	OH	1986	2	54	4,258
National Union Life Ins. Co.	AL	1986	4	100	2,008
Texas Fidelity Life Ins. Co.	TX	1986	2	84	1,338
Colony Charter Life Ins. Co.	CA	1987	1	95	10,023
Consolidated Savings Life Ins. Co.	TX	1987	8	95	2,687
International Fidelity Life Ins. Co.	TX	1987	2	97	N/A
Keystone Life Ins. Co.	TX	1987	2	90	17,082
Latin American Life Ins. Co.	FL	1987	1	96	2,307
Parliament Life Ins. Co.	PA	1987	8	92	N/A

APPENDIX E—*Continued*

Company	State	Date	Cause*	% A&H	Total Assets
Southern General Life Ins. Co.	FL	1987	3	92%	15,630
American Protectors Ins. Co.	UT	1988	2	87	13,944
American Standard Life & Accident Ins. Co.	OK	1988	5	54	82,121
Diamond Benefits Life Ins. Co.	AZ	1988	6	73	7,853
First Columbia Life Ins. Co.	LA	1988	6	91	N/A
First Transcontinental Life Ins. Co.	WI	1988	6	94	N/A
L.A. Life Ins. Co.	FL	1988	1	91	1,782
Lumbermens Life Ins. Co.	IN	1988	6	84	22,344
United Fire Ins. Co.	IL	1988	7	55	13,231
US Bankers Life Ins. Co.	NM	1988	1	100	792
Amalgamated Labor Life Ins. Co.	IL	1989	3	92	17,164
American Sun Life Ins. Co.	FL	1989	1	87	17,287
American Teachers Life Ins. Co.	TX	1989	2	91	5,100
Associated Life Ins. Co.	IL	1989	1	55	15,820
California Benefit Life Ins. Co.	CA	1989	2	98	2,522
California Pacific Life Ins. Co.	CA	1989	1	96	4,848
Coastal Ins. Co.	CA	1989	6	93	34,813
Consolidated Benefit Health Ins. Co.	TX	1989	1	99	878
Fawest American Assurance Co.	OR	1989	3	90	25,926
First Farwest Life Ins. Co.	OR	1989	2	92	91,486
Galaxia Life Ins. Co.	LA	1989	6	100	1,924
GIC Ins. Co.	TX	1989	2	98	5,558
Guardian American Life Ins. Co.	OK	1989	1	100	489
Life of Indiana Ins. Co.	IN	1989	2	87	27,770
Maxicare Life & Health Ins. Co.	MO	1989	6	94	11,613
Mid-Western Life Ins. Co.	OK	1989	4	90	10,054
Missouri National Life Ins. Co.	MO	1989	1	95	6,270
Modern Pioneers Life Ins. Co.	AZ	1989	2	100	10,404
Progress Life & Accident Ins.	OK	1989	3	51	2,040
Regent Life Ins. Co.	TX	1989	1	80	246
Southern General Life Ins. Co. of TX	TX	1989	2	91	2,444
Southern National Life Ins. Co.	TX	1989	7	100	1,648
Texas Consumers Life Ins. Co.	TX	1989	1	78	2,522
Texas Investors Life Ins. Co.	TX	1989	1	94	4,539
American Protectors Ins. Co.	UT	1990	1	84	13,473
American Way General Ins. Co.	AZ	1990	1	100	28,354
Excalibur Life Ins. Co.	TX	1990	1	89	N/A
Farm & Home Life Ins. Co.	AZ	1990	1	87	211,829
George Washington Life Ins. Co.	WV	1990	1	93	25,163
George Washington Life Ins. Co. of CA	CA	1990	3	92	4,301

APPENDIX E—*Continued*

Company	State	Date	Cause*	% A&H	Total Assets
International Life Ins. Co.	TX	1990	1	100%	N/A
Justice Life Ins. Co.	TX	1990	1	97	1,363
National Benefit Life Ins. Co.	TX	1990	1	97	5,435
National Society of Health	LA	1990	2	92	1,124
Professional Benefits Ins. Co.	TX	1990	8	99	6,872
Rumford Life Ins. Co.	RI	1990	3	93	3,868
Texas Dealers Life Ins. Co.	TX	1990	8	52	479
Underwriters Life Ins. Co.	SD	1990	2	86	8,175
Underwriters National Assurance Co.	IN	1990	3	78	52,426
United Equitable Life Ins. Co.	IL	1990	2	60	27,405
Alpha Life Ins. Co.	TX	1991	1	78	1,030
American Financial Life Ins. Co.	FL	1991	4	81	9,478
Atlantic & Pacific Life Ins. Co. of America	GA	1991	1	74	13,667
Colombia Life Ins. Co.	PA	1991	4	84	23,266
Employers Equitable Life Ins. Co.	AR	1991	8	100	475
General Life & Accident Ins. Co.	TX	1991	1	99	7,431
Georgia Life and Health Ins. Co.	GA	1991	1	98	18,116
Great Republic Ins. Co.	CA	1991	2	99	44,017
Legacy Life Ins. Co.	NE	1991	1	92	14,700
Legal Protective Life Ins. Co.	TX	1991	1	97	N/A
Monarch Life Ins. Co.	MA	1991	3	52	5,127,008
Old Southern Life Ins. Co.	AL	1991	1	98	26,790
Paso Del Norte Life Ins. Co.	AZ	1991	8	81	825
Republic American Life Ins. Co.	AZ	1991	2	99	2,824
Springfield Life Ins. Co.	VT	1991	3	76	161,782
World Life & Health Ins. Co. of PA	PA	1991	2	90	28,446
Employers Life Ins. Co.	AL	1992	8	93	4,013
Legal Security Life Ins. Co.	TX	1992	1	99	6,244
Progressive Mutual Life Ins. Co.	TX	1992	2	91	N/A
Republic American Life Ins. Co.	AZ	1992	1	99	5,873
Senior Security Life Ins. Co.	OK	1992	1	99	N/A
United Life of NA	AZ	1992	6	70	N/A
United Security Life Ins. Co.	TX	1992	1	82	N/A
American Way Life Ins. Co.	MI	1993	1	68	24,943
Consumers United Ins. Co.	DE	1993	8	96	27,238
Independent Security Life Ins. Co.	TX	1993	1	53	598
Pilgrim Life Ins. Co.	PA	1993	1	80	11,604

*Cause:

1. Inadequate pricing or inadequate surplus
2. Rapid growth
3. Affiliate problems
4. Overstated assets
5. Fraud
6. Significant change in business, such as rapid expansion into new product lines or markets
7. Reinsurance failure
8. Cause undetermined.

APPENDIX F

LISTING IN ASCENDING ORDER BY PRIMARY CAUSE OF FINANCIAL IMPAIRMENT OF COMMERCIAL HEALTH CARRIER INSOLVENCIES 1971–1993

Company	State	Date	Cause*	% A&H	Total Assets
Alpha Life Ins. Co.	TX	1991	1	78%	1,030
American Protectors Ins. Co.	UT	1990	1	84	13,473
American Sun Life Ins. Co.	FL	1989	1	87	17,287
American Way General Ins. Co.	AZ	1990	1	100	28,354
American Way Life Ins. Co.	MI	1993	1	68	24,943
Associated Life Ins. Co.	IL	1989	1	55	15,820
Atlantic & Pacific Ins. Co.	CO	1983	1	92	1,426
Atlantic & Pacific Life Ins. Co. of America	GA	1991	1	74	13,667
California Pacific Life Ins. Co.	CA	1989	1	96	4,848
Colony Charter Life Ins. Co.	CA	1987	1	95	10,023
Consolidated Benefit Health Ins. Co.	TX	1989	1	99	878
Excalibur Life Ins. Co.	TX	1990	1	89	N/A
Farm & Home Life Ins. Co.	AZ	1990	1	87	211,829
Fidelity American Life Assurance Co.	AZ	1984	1	83	702
Florida General Life Ins. Co.	FL	1983	1	82	5,839
General Life & Accident Ins. Co.	TX	1991	1	99	7,431
George Washington Life Ins. Co.	WV	1990	1	93	25,163
Georgia Life and Health Ins. Co.	GA	1991	1	98	18,116
Guardian American Life Ins. Co.	OK	1989	1	100	489
Independent Bankers Life Ins. Co. of TX	TX	1984	1	98	8,584
Independent Security Life Ins. Co.	TX	1993	1	53	598
Independent Standard Life Ins. Co.	TX	1984	1	57	N/A
International Life Ins. Co.	TX	1990	1	100	N/A
Iowa State Travelers Mutual Assurance Co.	IA	1983	1	85	10,638
Justice Life Ins. Co.	TX	1990	1	97	1,363
Key Life Ins. Co. of SC	SC	1983	1	99	753
L.A. Life Ins. Co.	FL	1988	1	91	1,782
Latin American Life Ins. Co.	FL	1987	1	96	2,307
Legacy Life Ins. Co.	NE	1991	1	92	14,700
Legal Protective Life Ins. Co.	TX	1991	1	97	N/A
Legal Security Life Ins. Co.	TX	1992	1	99	6,244
Missouri National Life Ins. Co.	MO	1989	1	95	6,270
Modern Life & Accident Ins. Co.	IL	1982	1	91	1,138
National Benefit Life Ins. Co.	TX	1990	1	97	5,435
Northeastern Life Ins. Co. of NY	NY	1976	1	88	31,162
Old Southern Life Ins. Co.	AL	1991	1	98	26,790
Pilgrim Life Ins. Co.	PA	1993	1	80	11,604
Regent Life Ins. Co.	TX	1989	1	80	246
Reliable Life & Casualty Co.	WI	1981	1	92	32,445
Republic American Life Ins. Co.	AZ	1992	1	99	5,873

APPENDIX F—*Continued*

Company	State	Date	Cause*	% A&H	Total Assets
Seaboard Life Ins. Co.	FL	1975	1	62%	41,980
Senior Security Life Ins. Co.	OK	1992	1	99	N/A
Tara Life Ins. Co. of America	DE	1983	1	100	13,987
Texas Consumers Life Ins. Co.	TX	1989	1	78	2,522
Texas Investors Life Ins. Co.	TX	1989	1	94	4,539
UCSB Ins. Assoc.	UT	1981	1	100	946
United Security Life Ins. Co.	TX	1992	1	82	N/A
US Bankers Life Ins. Co.	NM	1988	1	100	792
American Protectors Ins. Co.	UT	1988	2	87	13,944
American Teachers Life Ins. Co.	TX	1989	2	91	5,100
Business Ins. Life of America	LA	1982	2	93	1,131
California Benefit Life Ins. Co.	CA	1989	2	98	2,522
Connecticut Commercial Travelers Mutual Life Ins. Co.	CT	1978	2	66	2,142
Eagle Life Ins. Co.	TX	1986	2	90	18,302
First Farwest Life Ins. Co.	OR	1989	2	92	91,486
First United Life Ins. Co. of America	TX	1981	2	74	1,425
GIC Ins. Co.	TX	1989	2	98	5,558
Great Republic Ins. Co.	CA	1991	2	99	44,017
Hermitage Health & Life Ins. Co.	TN	1986	2	67	22,993
Independent Liberty Life Ins. Co.	MI	1983	2	75	37,392
International Fidelity Life Ins. Co.	TX	1987	2	97	N/A
Keystone Life Ins. Co.	TX	1987	2	90	17,082
Life of Indiana Ins. Co.	IN	1989	2	87	27,770
Maine Ins. Co.	ME	1971	2	95	4,301
Merchants & Manufacturers Ins. Co.	OH	1986	2	54	4,258
Modern Pioneers Life Ins. Co.	AZ	1989	2	100	10,404
National Society of Health	LA	1990	2	92	1,124
Progressive Mutual Life Ins. Co.	TX	1992	2	91	N/A
Republic American Life Ins. Co.	AZ	1991	2	99	2,824
Southern General Life Ins. Co. of TX	TX	1989	2	91	2,444
State Security Life Ins. Co.	MS	1984	2	92	1,915
Texas Fidelity Life Ins. Co.	TX	1986	2	84	1,338
Underwriters Life Ins. Co.	SD	1990	2	86	8,175
United Bankers Life Ins. Co.	TX	1982	2	80	12,785
United Equitable Life Ins. Co.	IL	1990	2	60	27,405
United Equity Life Ins. Co.	OK	1984	2	99	2,518
World Life & Health Ins. Co. of PA	PA	1991	2	90	28,446
Amalgamated Labor Life Ins. Co.	IL	1989	3	92	17,164
Farwest American Assurance Co.	OR	1989	3	90	25,926
George Washington Life Ins. Co. of CA	CA	1990	3	92	4,301

APPENDIX F—*Continued*

Company	State	Date	Cause*	% A&H	Total Assets
Monarch Life Ins. Co.	MA	1991	3	52%	5,127,008
Progress Life & Accident Ins. Co.	OK	1989	3	51	2,040
Rumford Life Ins. Co.	RI	1990	3	93	3,868
Southern General Life Ins. Co.	FL	1987	3	92	15,630
Springfield Life Ins. Co.	VT	1991	3	76	161,782
Underwriters National Assurance Co.	IN	1990	3	78	52,426
American Financial Life Ins. Co.	FL	1991	4	81	9,478
Colombia Life Ins. Co.	PA	1991	4	84	23,266
Mid-Western Life Ins. Co.	OK	1989	4	90	10,054
National American Life Ins. Co.	LA	1976	4	62	22,269
National Union Life Ins. Co.	AL	1986	4	100	2,008
American Standard Life & Accident Ins. Co.	OK	1988	5	54	82,121
Continental Bankers Life Ins. Co. of the South	TN	1986	5	94	13,878
Continental Service Life & Health Ins. Co.	LA	1985	5	64	16,950
Farmers National Life Ins. Co.	FL	1976	5	58	5,072
Coastal Ins. Co.	CA	1989	6	93	34,813
Diamond Benefits Life Ins. Co.	AZ	1988	6	73	7,853
First Columbia Life Ins. Co.	LA	1988	6	91	N/A
First Transcontinental Life Ins. Co.	WI	1988	6	94	N/A
Galaxia Life Ins. Co.	LA	1989	6	100	1,924
Lumbermens Life Ins. Co.	IN	1988	6	84	22,344
Maxicare Life & Health Ins. Co.	MO	1989	6	94	11,613
Pioneer Annuity Life Ins. Co.	AZ	1984	6	59	11,403
United Life of NA	AZ	1992	6	70	N/A
California Life Ins. Co.	CA	1986	7	85	33,775
Southern National Life Ins. Co.	TX	1989	7	100	1,648
United Fire Ins. Co.	IL	1988	7	55	13,231
Consolidated Savings Life Ins. Co.	TX	1987	8	95	2,687
Consumers United Ins. Co.	DE	1993	8	96	27,238
Employers Equitable Life Ins. Co.	AR	1991	8	100	475
Employers Life Ins. Co.	AL	1992	8	93	4,013
Foundation Life Ins. Co.	NJ	1981	8	72	12,122
Parliament Life Ins. Co.	PA	1987	8	92	N/A
Paso Del Norte Life Ins. Co.	AZ	1991	8	81	825
Producers Ins. Co.	AR	1985	8	87	N/A
Professional Benefits Ins. Co.	TX	1990	8	99	6,872
Texas Dealers Life Ins. Co.	TX	1990	8	52	479

*Cause:

1. Inadequate pricing or inadequate surplus
2. Rapid growth
3. Affiliate problems
4. Overstated assets
5. Fraud
6. Significant change in business, such as rapid expansion into new product lines or markets
7. Reinsurance failure
8. Cause undetermined

APPENDIX G

LISTING BY STATE OF COMMERCIAL HEALTH CARRIER INSOLVENCIES 1971–1993

Company	State	Date	Cause*	% A&H	Total Assets
Employers Life Ins. Co.	AL	1992	8	93%	4,013
National Union Life Ins. Co.	AL	1986	4	100	2,008
Old Southern Life Ins. Co.	AL	1991	1	98	26,790
Employers Equitable Life Ins. Co.	AR	1991	8	100	475
Producers Ins. Co.	AR	1985	8	87	N/A
American Way General Ins. Co.	AZ	1990	1	100	28,354
Diamond Benefits Life Ins. Co.	AZ	1988	6	73	7,853
Farm & Home Life Ins. Co.	AZ	1990	1	87	211,829
Fidelity American Life Assurance Co.	AZ	1984	1	83	702
Modern Pioneers Life Ins. Co.	AZ	1989	2	100	10,404
Paso Del Norte Life Ins. Co.	AZ	1991	8	81	825
Pioneer Annuity Life Ins. Co.	AZ	1984	6	59	11,403
Republic American Life Ins. Co.	AZ	1992	1	99	5,873
Republic American Life Ins. Co.	AZ	1991	2	99	2,824
United Life of NA	AZ	1992	6	70	N/A
California Benefit Life Ins. Co.	CA	1989	2	98	2,522
California Life Ins. Co.	CA	1986	7	85	33,775
California Pacific Life Ins. Co.	CA	1989	1	96	4,848
Coastal Ins. Co.	CA	1989	6	93	34,813
Colony Charter Life Ins. Co.	CA	1987	1	95	10,023
George Washington Life Ins. Co. of CA	CA	1990	3	92	4,301
Great Republic Ins. Co.	CA	1991	2	99	44,017
Atlantic & Pacific Ins. Co.	CO	1983	1	92	1,426
Connecticut Commercial Travelers Mutual Life Ins. Co.	CT	1978	2	66	2,142
Consumers United Ins. Co.	DE	1993	8	96	27,238
Tara Life Ins. Co. of America	DE	1983	1	100	13,987
American Financial Life Ins. Co.	FL	1991	4	81	9,478
American Sun Life Ins. Co.	FL	1989	1	87	17,287
Farmers National Life Ins. Co.	FL	1976	5	58	5,072
Florida General Life Ins. Co.	FL	1983	1	82	5,839
L.A. Life Ins. Co.	FL	1988	1	91	1,782
Latin American Life Ins. Co.	FL	1987	1	96	2,307
Seaboard Life Ins. Co.	FL	1975	1	62	41,980
Southern General Life Ins. Co.	FL	1987	3	92	15,630
Atlantic & Pacific Life Ins. Co. of America	GA	1991	1	74	13,667
Georgia Life and Health Ins. Co.	GA	1991	1	98	18,116
Iowa State Travelers Mutual Assurance Co.	IA	1983	1	85	10,638
Amalgamated Labor Life Ins. Co.	IL	1989	3	92	17,164
Associated Life Ins. Co.	IL	1989	1	55	15,820
Modern Life & Accident Ins. Co.	IL	1982	1	91	1,138

APPENDIX G—*Continued*

Company	State	Date	Cause*	% A&H	Total Assets
United Equitable Life Ins. Co.	IL	1990	2	60	27,405
United Fire Ins. Co.	IL	1988	7	55	13,231
Life of Indiana Ins. Co.	IN	1989	2	87	27,770
Lumbermens Life Ins. Co.	IN	1988	6	84	22,344
Underwriters National Assurance Co.	IN	1990	3	78	52,426
Business Ins. Life of America	LA	1982	2	93	1,131
Continental Service Life & Health Ins. Co.	LA	1985	5	64	16,950
First Columbia Life Ins. Co.	LA	1988	6	91	N/A
Galaxia Life Ins. Co.	LA	1989	6	100	1,924
National American Life Ins. Co.	LA	1976	4	62	22,269
National Society of Health	LA	1990	2	92	1,124
Monarch Life Ins. Co.	MA	1991	3	52	5,127,008
Maine Ins. Co.	ME	1971	2	95	4,301
American Way Life Ins. Co.	MI	1993	1	68	24,943
Independent Liberty Life Ins. Co.	MI	1983	2	75	37,392
Maxicare Life & Health Ins. Co.	MO	1989	6	94	11,613
Missouri National Life Ins. Co.	MO	1989	1	95	6,270
State Security Life Ins. Co.	MS	1984	2	92	1,915
Legacy Life Ins. Co.	NE	1991	1	92	14,700
Foundation Life Ins. Co.	NJ	1981	8	72	12,122
US Bankers Life Ins. Co.	NM	1988	1	100	792
Northeastern Life Ins. Co. of NY	NY	1976	1	88	31,162
Merchants & Manufacturers Ins. Co.	OH	1986	2	54	4,258
American Standard Life & Accident Ins. Co.	OK	1988	5	54	82,121
Guardian American Life Ins. Co.	OK	1989	1	100	489
Mid-Western Life Ins. Co.	OK	1989	4	90	10,054
Progress Life & Accident Ins. Co.	OK	1989	3	51	2,040
Senior Security Life Ins. Co.	OK	1992	1	99	N/A
United Equity Life Ins. Co.	OK	1984	2	99	2,518
Farwest American Assurance Co.	OR	1989	3	90	25,926
First Farwest Life Ins. Co.	OR	1989	2	92	91,486
Colombia Life Ins. Co.	PA	1991	4	84	23,266.
Parliament Life Ins. Co.	PA	1987	8	92	N/A
Pilgrim Life Ins. Co.	PA	1993	1	80	11,604
World Life & Health Ins. Co. of PA	PA	1991	2	90	28,446
Rumford Life Ins. Co.	RI	1990	3	93	3,868
Key Life Ins. Co. of SC	SC	1983	1	99	753
Underwriters Life Ins. Co.	SD	1990	2	86	8,175
Continental Bankers Life Ins. Co. of the South	TN	1986	5	94	13,878
Hermitage Health & Life Ins. Co.	TN	1986	2	67	22,993

APPENDIX G—*Continued*

Company	State	Date	Cause*	% A&H	Total Assets
Alpha Life Ins. Co.	TX	1991	1	78	1,030
American Teachers Life Ins. Co.	TX	1989	2	91	5,100
Consolidated Benefit Health Ins. Co.	TX	1989	1	99	878
Consollidated Savings Life Ins. Co.	TX	1987	8	95	2,687
Eagle Life Ins. Co.	TX	1986	2	90	18,302
Excalibur Life Ins. Co.	TX	1990	1	89	N/A
First United Life Ins. Co. of America	TX	1981	2	74	1,425
General Life & Accident Ins. Co.	TX	1991	1	99	7,431
GIC Ins. Co.	TX	1989	2	98	5,558
Independent Bankers Life Ins. Co. of TX	TX	1984	1	98	8,584
Independent Security Life Ins. Co.	TX	1993	1	53	598
Independent Standard Life Ins. Co.	TX	1984	1	57	N/A
International Fidelity Life Ins. Co.	TX	1987	2	97	N/A
International Life Ins. Co.	TX	1990	1	100	N/A
Justice Life Ins. Co.	TX	1990	1	97	1,363
Keystone Life Ins. Co.	TX	1987	2	90	17,082
Legal Protective Life Ins. Co.	TX	1991	1	97	N/A
Legal Security Life Ins. Co.	TX	1992	1	99	6,244
National Benefit Life Ins. Co.	TX	1990	1	97	5,435
Professional Benefits Ins. Co.	TX	1990	8	99	6,872
Progressive Mutual Life Ins. Co.	TX	1992	2	91	N/A
Regent Life Ins. Co.	TX	1989	1	80	246
Southern General Life Ins. Co. of TX	TX	1989	2	91	2,444
Southern National Life Ins. Co.	TX	1989	7	100	1,648
Texas Consumers Life Ins. Co.	TX	1989	1	78	2,522
Texas Dealers Life Ins. Co.	TX	1990	8	52	479
Texas Fidelity Life Ins. Co.	TX	1986	2	84	1,338
Texas Investors Life Ins. Co.	TX	1989	1	94	4,539
United Bankers Life Ins. Co.	TX	1982	2	80	12,785
United Security Life Ins. Co.	TX	1992	1	82	N/A
American Protectors Ins. Co.	UT	1990	1	84	13,473
American Protectors Ins. Co.	UT	1988	2	87	13,944
UCSB Ins. Assoc.	UT	1981	1	100	946
Springfield Life Ins. Co.	VT	1991	3	76	161,782
First Transcontinental Life Ins. Co.	WI	1988	6	94	N/A
Reliable Life & Casualty Co.	WI	1981	1	92	32,445
George Washington Life Ins. Co.	WV	1990	1	93	25,163

*Cause:

1. Inadequate pricing or inadequate surplus
2. Rapid growth
3. Affiliate problems
4. Overstated assets
5. Fraud
6. Significant change in business, such as rapid expansion into new product lines or markets
7. Reinsurance failure
8. Cause undetermined

APPENDIX H

QUOTATIONS ON THE DIFFERENCING APPROACH TO HMOs

Because obtaining the data is the real issue in the HMO area, we quote liberally from the three academic studies involved.

Christiansen, Wholey and Sanchez [12] seek to establish the frequency of HMO failures and the types of HMOs that are likely to fail. The following quotations are from their section, "Sources of Data":

> "Reports of state regulators are one source of information about HMO failures. In 1988, state HMO regulators were surveyed to collect data to be used in crafting amendments to state HMO legislation. The survey, precipitated by the Maxicare bankruptcy, elicited responses from thirty-five states containing 92% of operational HMOs. It found only twelve states reporting HMO insolvencies (or "financial impairments") between 1982 and 1988. In total, respondents identified twenty-one HMO insolvencies, including three HMOs that ceased operations before enrolling any members. Almost all of these insolvent HMOs had adequate enrollee protection through insolvency insurance and "hold-harmless" contractual clauses that prohibited providers affiliated with the HMOs from billing enrollees directly for payment of services. Therefore, the researchers concluded that 'regulators' concern that many existing HMOs have a considerable likelihood of becoming insolvent and jeopardizing enrollee medical care and financial circumstances' is not supported by this survey.
>
> "This conclusion must be tempered by the nature of the survey, which focused on insolvencies and relied on regulators' recall over a seven-year period. HMOs may fail without becoming insolvent and still impose costs on involved parties.
>
> "The National HMO Census provides an alternative data source on HMO failures. As part of a larger study of organizational development within the HMO industry, we compiled National HMO Census data for the years 1978–1990. From the census, it is possible to obtain for all HMOs the HMO's name, headquarters, location, federal qualification status, the year founded, total enrollment in each year it was observed, and organizational form (staff, group, network, or IPA). From 1978 to 1980, the census was conducted by the federal government's Office of Health Maintenance Organizations (OHMO). Since 1981, InterStudy has conducted the census. From 1978 to 1984, there was no other major annual census of HMOs, but from 1985 to the present, the Group Health Association of America (GHAA) has also conducted an annual HMO

> survey. A series of supplemental InterStudy reports, along with data supplied by Blue Cross and Blue Shield, permitted the identification of HMO mergers, acquisitions, and affiliations with national firms. We assumed that an HMO failed if it was not listed in the census after a specific year, after having been listed in previous years, and if it could not be identified as having been merged with or been acquired by another HMO. This process results in more HMO "failures" than identification of technically insolvent HMOs, since factors other than bankruptcy or financial insolvency can cause an existing HMO to close its doors. For instance, HMOs that foresee serious financial problems may terminate operations, even though they technically may not be insolvent."

Gruber, Shadle, and Pion [18] were the authors of the 1989, Volume 4, issue of *The InterStudy Edge* referred to in the text and appendix of this study. We include these brief statistics simply to provide an idea of the magnitude of the transactions with which researchers were dealing relative to the roughly 600 HMOs then in existence. With respect to transactions since the publication of Volume 2, Appendix B of this issue of *The InterStudy Edge* reports 18 name changes, 12 terminations ("plan ceases to enroll members"), 12 mergers, and three changes in reporting format.

Wholey, Christianson, and Sanchez [43] examine the relationship between HMO size, HMO type, and failure. They utilize the same data base used in Christianson, Wholey, and Sanchez [12], discussed above at length (in their own words.) They add these useful comments about the database:

> "We focus on HMO *failures*, although HMOs can exit a market by merging. We do not address mergers as they are a consequence of different processes and require at least two organizations deciding to combine operations. ... We also do not include acquisitions by a national firm in our analysis because acquisitions occur when a national firm chooses to enter a particular market. The acquisition decision is probably a function in part of how a particular market relates to other markets the national firm has already entered. Also an acquisition does not mean that an HMO failed—a strong HMO can be an attractive takeover target. Furthermore, after an HMO is acquired it still operates in the local community. Clearly the processes associated with acquisitions and mergers differ enough from failure processes to warrant separate analysis."

Mensah, Considine and Oakes [23] gather data on management behavior in setting HMO incurred but not reported claim reserves. These extended comments are taken from their section, *Source of Industry Data*:

"Given the relative lack of data on the HMO industry easily available to researchers, the source of the industry data used in this study and its possible limitations need to be discussed. The data were originally obtained from a database compiled by American International Healthcare (since acquired by Healthcare Investment Analysts) from several sources including state regulators and the Federal Health Care Financing Administration's Office of Prepaid Health Care.

"Although, according to American International Healthcare, the database covers all HMOs in the industry, HMO filings with the state regulatory agencies are sometimes incomplete. Thus, there are missing fields in the database for many HMOs who may have data in other fields for some years. Altogether there were 616, 698, 680, and 520 HMOs for the years 1986–1989 on the database. Of this total, however, only 455 HMOs had complete financial statement data over the years 1987 to 1989; the discontinuities presumably exist because of mergers, failures, and other sources of turnover.

. . .

"An analysis of the database provides adequate evidence of the financial pressures exerted on the HMOs in the 1986–1989 period. For example, 45 HMOs reported negative net worth in 1986, while 162 did in 1987. These figures dropped to zero in 1988, and then increased to 60 in 1989. ... Evidence of an intensive recapitalization effort in 1988 can be gathered from the fact that none of the financial statements filed with the state regulatory agencies showed negative net worth in that year. ... The re-emergence of HMOs with negative net worth in 1989 provides prima facie evidence of the continuing competitive turmoil in the industry even at that late date."

And from footnote 13: "Detailed analysis of the data for the states with minimum net worth standards in effect provides some additional insight. Seventy-five HMOs violated their respective net worth standards in 1987 only, one in both 1987 and 1988, 61 in both 1987 and 1989..., and three in both 1988 and 1989. However, 20 HMOs were in continuous violation from 1987 to 1989. Follow-up data on the fate of these HMOs after 1990 are not available, but the fact that they continued in existence suggests that state regulators in the eight states in which these 20 operated may have been rather lenient in enforcing the standards."