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Report to the Chairman, Subcommittee on Oversight and Investigations, Committee on Energy and Commerce House of Representatives

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INSURANCE REGULATION

Shortcomings in Statutory Asset Reserving Methods for Life Insurers

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The Honorable John D. Dingell
Chairman, Subcommittee on Oversight
and Investigations
Committee on Energy and Commerce
House of Representatives

Dear Mr. Chairman:

An adequate asset reserve is crucial to insurer solvency and for early identification of deteriorating financial conditions. Inappropriate asset reserving methods can mask an insurer's true condition and the potential need for regulatory intervention. At your request, we reviewed the new methods of calculating statutory asset reserves for life insurers to determine the extent to which these new methods overcome the shortcomings of the old method, the mandatory securities valuation reserve (MSVR), which we summarized in an earlier report.[1] The National Association of Insurance Commissioners (NAIC) had responded that our criticisms of the MSVR in that report were "moot" because NAIC had replaced the MSVR method with the asset valuation reserve (AVR) and the interest maintenance reserve (IMR) methods.

The new AVR serves to buffer capital against fluctuating asset prices caused by changes in the credit quality of an insurer's portfolio. The new IMR serves to buffer capital against realized gains and losses caused by general interest rate changes. State regulators required life insurers to begin reporting the new reserves on the 1992 annual statutory financial statements that were filed in March 1993.

This report evaluates the extent to which the AVR and IMR methods overcome the MSVR's shortcomings, which were that the MSVR (1) did not cover all types of risky investments and accumulated slowly, using an industrywide formula that did not correspond to an individual insurer's loss experience; (2) buffered capital and surplus from changes in the value of assets, masking the true financial condition of the insurer; and (3) had a poorly defined purpose, hindering regulators' assessment of capital adequacy.

[1]Insurance Failures: Regulators Failed to Respond in Timely and Forceful Manner in Four Large Life Insurer Failures (GAO/T-GGD-92-13, Sep. 9, 1992) and Insurance Regulation: Weak Oversight Allowed Executive Life to Report Inflated Bond Values (GAO/GGD-93-35, Dec. 9, 1992).

Results in Brief

The new AVR and IMR methods cover investments not previously covered by the MSVR method; however, they retain the other shortcomings of the MSVR. While the MSVR covered only corporate and municipal bonds and stocks, the AVR widens coverage to include other types of risky assets, including mortgages and real estate. The AVR, like the MSVR, accumulates gradually over time using an industrywide formula that is based on average default and price variability experience rather than on an individual insurer's own loss experience. The AVR lags substantially behind any increases in the reported value of assets subject to reserving. For securities, the AVR formula is still based on average default and price variability experience in those markets. Thus, the formula understates the potential loss for insurers with higher-than-average security risk and overstates the potential loss for those with lower-than-average security risk. For other asset categories, the AVR formula uses ad hoc estimates and could provide a false sense of accuracy in predicting loss exposure. Therefore, the AVR method offers little or no assurance that reserves are sufficient to cover losses on risky and troubled assets.

Like the MSVR method, the AVR and IMR methods are designed to buffer insurers' reported capital from fluctuations in the market value of assets. Both the AVR and IMR capture current investment gains and losses and release them into capital over time. By delaying the impact of credit-related investment losses on capital, the AVR masks the impact of losses for insurers with deteriorating investments. The IMR also allows insurers to delay the impact of interest-related losses on capital, thus masking their true financial condition in a manner reminiscent of regulatory accounting practices for thrifts in the 1980s.

Together, the AVR and IMR methods, like the earlier MSVR method, have multiple purposes and can hinder the assessment of an insurer's capital adequacy. Because the AVR and IMR still combine an allowance for losses on troubled assets, an accumulation of capital gains and losses, and contingency reserves, regulators have difficulty assessing when an individual insurer is approaching insolvency.

Background

The asset values life insurers report on their statutory financial statements and the asset reserves insurers maintain in connection with those assets are key variables in determining insurer solvency. In 1992, the life insurance industry reported assets of $1.6 trillion that included bonds, $863 billion; preferred stock, $10 billion; mortgages, $238 billion; common

stock, $62 billion; real estate, $40 billion; and other investments, $28 billion.[2]

Life insurers' use of a uniform formula to calculate loss reserves for security holdings started in 1951, when state insurance regulators working through NAIC adopted the MSVR. The impetus for the MSVR was the growth of private placements and several widespread drops in bond prices.[3] Ten times between 1907 and 1953, regulators adopted emergency valuation rules to keep widespread bond losses from draining life insurers' capital and leaving large numbers of insurers insolvent. Originally, the MSVR was intended to smooth the impact of fluctuations in bond and stock prices on insurer capital and solvency, while providing a contingency reserve for investment losses on securities carried at cost.

The MSVR formula specified maximum reserve levels as percentages of the reported value of an insurer's securities holdings. These percentages were based on NAIC's determination of risk and varied from 1 percent for high-quality bonds to 33-1/3 percent for common stock. The MSVR formula was designed to accumulate to the maximum level over decades—10 to 20 years for bonds and more than 30 years for stocks—with an increment added annually to the past year's MSVR balance. Gains and losses on securities carried at market value—impaired bonds, lower-quality preferred stock, and all common stock—were charged against the MSVR. Because capital losses tended to be larger than the annual increments, the MSVR balance actually decreased when an insurer had bond and stock losses.

We disagreed with NAIC's assertion that the MSVR method was inherently conservative because it covered the whole portfolio of stocks and bonds, not just troubled security holdings. We noted the MSVR's failure to cover all types of insurers' risky investments. Also, the MSVR method, with its formula based on marketwide default and price variability experience, was not directly linked to current market values and did not correspond to the risk of loss in an individual insurer's bond and stock portfolio. Further, because the MSVR accumulated over many years, a growing insurer with a deteriorating portfolio would be unlikely to have accumulated sufficient reserves to cover its investment losses. Because the MSVR formula was based on historical marketwide averages, even reserves at the maximum

[2]Other investments are reported on Schedule BA of the annual life insurer statutory financial statement and include joint ventures and partnerships. The remaining assets—cash, policy loans, premium notes, collateral loans, and income receivables—are not investments and are not covered by the AVR.

[3]Private placements are securities that insurers and other investors have purchased in private transactions with the issuers.

levels might have been insufficient to cover an individual insurer's actual losses.

On the basis of our reviews of other financial institutions, we have identified several criteria for sound asset reserving methods. Asset reserving methods should (1) result in financial reports that reflect an insurer's true financial condition, (2) support regulatory supervision of insurer capital adequacy, and (3) facilitate prompt regulatory action for insurers in danger of insolvency. To be adequate, an asset reserve must provide for timely identification and recognition of losses on individual troubled assets and quantitative analysis of other losses inherent in an insurer's portfolio. The quantitative analysis should be based on the individual insurer's loss experience and on current market conditions.

In June 1991, an industry advisory committee charged by NAIC with examining the purpose and suitability of the MSVR method reported that the MSVR focused on too few assets and failed to distinguish between credit-related and interest-related gains and losses on investments. The advisory committee also reported that the MSVR had an unclear and potentially misleading purpose because the reserving method combined a smoothing device for investment gains and losses, an allowance for known losses, and capital set aside to cover unexpected losses. At the recommendation of the advisory committee, NAIC replaced the MSVR method with the new AVR and IMR methods. NAIC's intent was to expand the assets subject to reserving and provide an adequate cushion for volatile asset losses, while minimizing the impact of gains and losses from changing interest rates on policy reserves and insurer capital. (Appendix I provides an overview of the AVR and IMR.)

Objective, Scope, and Methodology

To evaluate the extent to which the new AVR and IMR methods address the shortcomings of the old MSVR method, we analyzed NAIC documents on the MSVR and the new reserves. We also attended NAIC meetings on the development of the AVR and IMR and interviewed regulators and industry advisers involved in the development of these asset reserving methods. In addition, we analyzed documents from industry and professional organizations and insurance analysts. Finally, we reviewed MSVR, AVR, and IMR data reported in the 1992 annual statutory financial statements for the 20 largest U.S. life insurers, as measured by asset size. These companies composed nearly 53 percent of total life insurer assets reported to the NAIC in 1992. As described in appendix II, we compared the growth in statutory asset reserves with the increase in assets subject to reserving. Because of

concerns about inadequate mortgage reserves in recent financial institution failures, we attempted to assess the extent of 1992 mortgage reserves reported by these 20 insurers.

The purpose of this review of the new AVR and IMR methods was limited to assessing the extent to which these asset reserves address the shortcomings of the earlier MSVR method, and it did not extend to making specific recommendations concerning new reserving methods. We are now evaluating loan reserving methods for federally regulated financial institutions and could assess their applicability to the life insurance industry when that work is complete.

We did our work in Washington, D.C.; New York; Boston; Chicago; Nashville; and Hartford between January 1993 and June 1993 in accordance with generally accepted government auditing standards.

NAIC provided written comments on a draft of this report. NAIC's comments, included in appendix III, are evaluated on pages 13 to 15.

AVR Method Covers More Assets but Does Not Ensure Adequate Reserves

Unlike the MSVR method that covered only corporate and municipal bonds and stocks, the AVR method extends coverage to mortgages, real estate, and other investments, including partnerships and joint ventures. Increasing statutory asset reserves to cover these additional investments is a significant improvement because these types of investments accounted for nearly 20 percent of the reported value of all assets held by life insurers in 1992. However, we question whether the AVR method will provide adequate reserves for losses from risky and troubled assets. The AVR's gradual accumulation results in reserves lagging behind any change in assets subject to reserving and in the quality of an insurer's portfolio. The AVR maximum reserve factors are based on industry and marketwide data rather than on the insurer's own loss experience.

Like the MSVR formula, the AVR sets maximum reserve levels as a specified percentage of the reported value of an insurer's holdings in each asset category. Table 1 compares the AVR's and MSVR's maximum percentage factors. The IMR is not included in table 1 because it does not include factors for reserving against the risk in an insurer's current portfolio; it only changes when an asset is sold.

Table 1: Comparison of Maximum Reserve Factors for Asset Categories Under the AVR in 1992 and the MSVR in 1991

Asset categories	AVR maximum factors	MSVR maximum factors
Bonds[a]	1%-20%	1%-20%
Preferred stock	3%-22%	5%-20%
Mortgages	1.75%-10.5%	Not included
Common stock	15%-30%	20% to 33-1/3%
Real estate	7.5%	Not included
Other[b]	20%	Not included

Note: An asset category may have a range of possible maximum factors. See appendix I for more details.

[a]Because they do not have credit risk, U.S. government securities are exempt from the MSVR and AVR. Gains and losses on trading these securities are now covered by the IMR.

[b]Other invested assets include partnerships and joint ventures.

Source: Purposes and Procedures of the Securities Valuation Office of the National Association of Insurance Commissioners, January 1, 1992 and December 31, 1992.

Accumulation Lag Undermines AVR Sufficiency

Like the MSVR, the AVR accumulates gradually over time. For this reason, an insurer may not build up sufficient asset reserves to cover its losses. The MSVR was calculated by adding a formula-based increment to the past year's MSVR and then adding the investment gains and deducting investment losses for the current year. The MSVR formula had a multiplier to accelerate the annual increment when an insurer's MSVR was less than 50 percent of the maximum level or to decelerate the annual increment if the MSVR was at least 75 percent of the maximum level. However, the MSVR's formula-based annual increments did not reflect current-year investment experience.

In contrast, the AVR's accumulation is linked more closely to current-year investment experience and to the gap between current and maximum reserve levels. The AVR—described in more detail in appendix I—accumulates by first adding the current year's credit-related gains and deducting the current year's losses from the past year's AVR and then adding 20 percent of the difference between this accumulated balance and the maximum reserve. Although the AVR formula might have accelerated accumulation, NAIC slowed the process by providing a 3-year phasein. Life insurers were required to add only 10 percent of the difference in 1992, 15 percent in 1993, and the full 20 percent beginning in 1994.

In our review of the annual statutory financial statements for the 20 largest U.S. life insurers, we found that the AVR's gradual accumulation and phasein contributed to reserve growth that was significantly less than the increase in the reported value of assets subject to reserving. While the reported value of assets subject to reserving increased by 53 percent from 1991 to 1992 for the 20 largest life insurers in our sample, their composite AVR of $11.3 billion reported in 1992 was only 12 percent greater than their composite MSVR reported in 1991.[4] We would not expect a one-to-one correspondence between the growth in reported assets subject to reserving and the increase in reserves. However, we question the extent of the lag in light of the riskiness of the newly covered assets, including mortgages and real estate. Even though the AVR accumulation is supposed to be more closely tied to current investment experience, our sample of 20 life insurers reported net credit-related losses of $2.3 billion in 1992, but the insurers were only required to accumulate asset reserves of $1.6 billion.

Because the AVR accumulation may not provide adequate asset reserves, 16 of the 20 largest life insurers set aside amounts in addition to the required AVR to cover investment losses. The financial statements we reviewed showed that 10 of the 20 life insurers contributed more than the required accumulation to their AVRs, and 12 of the 20 life insurers reported voluntary investment reserves in addition to their AVRs.[5] Without the voluntary contributions of $1.6 billion, the 1992 composite AVR would have been lower than the 1991 composite MSVR for the 20 life insurers. The 1992 composite AVR of $11.3 billion, including voluntary contributions, represents only 47 percent of the composite maximum AVR of $23.9 billion for the 20 sample life insurers. The proportion of actual AVR to the maximum for the individual insurers ranged from less than 20 percent to more than 90 percent.

The Formula-Driven AVR Method Does Not Correspond to Individual Insurers' Loss Exposure

Like the MSVR method, the AVR is a formula-driven method and unlikely to reflect an individual insurer's risk of loss. In developing the reserve factors for the AVR formula, NAIC assumed that current and future credit risk could be projected from past market behavior. This assumption may be reasonable for standardized, publicly-traded assets with long histories, such as corporate securities. Also, like the MSVR, the AVR reserve factors for

[4]Including the IMR, the 20 largest life insurers' assets subject to reserving increased by 64 percent, while their composite AVR and IMR were only 31 percent greater than their 1991 MSVR.

[5]Five companies not only contributed more than required to their AVRs but also set up additional voluntary reserves.

bonds and stocks depend upon the average rate of default for classes of securities and the variability of common stock prices over extended periods. For other assets, when historical marketwide data were not readily available, NAIC used ad hoc estimates and subjective judgments to set the AVR factors.

The AVR methodology offers little or no assurance that a life insurer will have adequate asset reserves to cover its investment losses. Even for securities, the reserve factors would represent only an insurer with the "average" portfolio. Consequently, the formula understates the potential loss for insurers with higher-than-average risk in their securities portfolios, and the formula overstates the potential loss for those with lower-than-average risk. For other investments, the AVR formula could provide a false sense of accuracy in predicting losses.

Because the AVR formula applies an "average" reserve factor to a category of assets with varying default experience, an insurer may have an incentive to hold riskier than "average" assets. For example, the AVR formula has six bond classifications with a single reserve factor for each class. The highest quality class of bonds ranges from the least risky AAA-rated bonds to the riskier A-rated bonds. Because A-rated bonds typically have higher risk—and thus higher returns—but do not require higher reserves than AAA-rated bonds, an insurer can increase its after-reserve return by choosing the riskier A-rated bonds. Similarly, the AVR formula uses a single reserve factor for real estate regardless of the riskiness of individual properties. For common stock and mortgages, the AVR formula adjusts the reserve factor to reflect the loss experience of the individual insurer.[6] Because NAIC capped these factors, however, insurers using maximum factors can take on increased risk with no corresponding increase in their reserve factors.

When historical default or price variability data were limited, NAIC used ad hoc estimates and subjective judgments for the AVR reserve factors. For example, NAIC set the standard mortgage factor at 3.5 percent on the assumption that mortgage risk falls between the risk of investment grade bonds with a 2-percent factor and noninvestment grade bonds with a 5-percent factor. The actual AVR maximum factor ranges from 1.75 percent to 10.5 percent, depending on an individual insurer's mortgage default rate relative to the life insurance industry's rate. NAIC plans to refine the AVR mortgage factor using a recent Society of Actuaries' study designed to

[6]Appendix I discusses in detail the reserve factors for common stock and mortgages.

create an historical base of insurers' mortgage losses for predicting current and future mortgage risk.

As we observed in our report on bank examinations, however, historical averages of marketwide losses are misleading when applied to an individual company's mortgage portfolio.[7] Differences in loan underwriting policies, administrative practices, portfolio composition, and geographic dispersion of properties cannot be considered using market or even industry averages. Thus, generalized formula-based asset reserves are no substitute for reviewing an insurer's own portfolio to assess the need for loss reserves or other market valuation adjustments. Historical loss averages also can be misleading because the past may be a poor predictor of the future for investments with limited markets, such as private placements and real estate, or for investments with little or no history, such as collateralized mortgage obligations and other derivative products. The difficulty regulators face in modifying the AVR formula to cover new investment types is illustrated by NAIC's continuing efforts to refine the new reserve factor for mortgages.

New Reserving Methods Buffer Capital and Mask Insurers' True Financial Condition

In conjunction with reporting assets at cost, the AVR and IMR buffer insurer capital from fluctuation in investment values.[8] This delays the impact of an insurer's investment losses and masks its true financial condition. These statutory asset reserving methods delay the impact of declining market values for risky and troubled assets on the assumption that insurers hold long-term liabilities and will not have to liquidate their assets before values recover.

We discourage reporting financial results that assume that all declines in asset prices are temporary. Regardless of whether the decline is the result of interest rate increases or an asset market downturn, life insurers cannot always hold their assets until values recover, and history illustrates this point. For instance, as interest rates soared in the late 1970s and early

[7]Bank Examination Quality: FRB Examinations and Inspections Do Not Fully Assess Bank Safety and Soundness (GAO/AFMD-93-13, Feb. 18, 1993).

[8]Under statutory accounting practices specified in the insurance laws and regulations of the various states, insurers generally carry their assets at cost. Whether an asset is carried at cost is determined by the security type, by NAIC's Securities Valuation Office (SVO), or by the individual insurer. Publicly traded common stocks are carried at market value. Bonds are carried at cost unless SVO determines that they are impaired. Impaired bonds are carried at SVO-assigned market values. Noninvestment grade preferred stocks are carried at cost or SVO-assigned market value, whichever is lower. For other investments carried at cost, including mortgages and real estate, insurers have latitude in determining when an asset is impaired and the value at which impaired assets are reported on the statutory financial statements.

1980s, insurers were forced to liquidate assets at market prices to pay policyholders who surrendered or borrowed on low-yielding policies. Today, some insurers face a liquidity problem caused by the commercial real estate downturn. Insurers issued 5- to 7-year balloon mortgages in the late 1980s to support guaranteed investment contracts (GICs)—similar to 5- to 7-year certificates of deposit. Now that the GICs are coming due, many insurers cannot readily collect on the mortgages at their original value.

The AVR Method Delays the Impact of Credit-Related Investment Losses

The AVR method delays the impact of credit-related investment gains and losses by capturing them when they occur and gradually releasing them into capital. For assets carried at cost, investment gains and losses are captured by the AVR when the assets are sold. For assets not carried at cost, all credit-related fluctuations in value are captured by the AVR as they occur. Investment losses are deducted from the past year's AVR balance, before calculating the current year's 20-percent accumulation. Through this accumulation process, 80 percent of a loss will be absorbed by the AVR, and only 20 percent will have an impact on insurer capital in the year the loss occurs. The remainder of the loss will be released to capital over succeeding years in decreasing amounts.[9]

Insulating capital from credit-related investment gains and losses has inherent dangers. In 1951, NAIC's rationale for such insulation of capital was to protect the industry from the numerous insolvencies that would have otherwise resulted from sudden declines in asset values in the first half of the century. However, using asset reserves to insulate capital masks increases in insurers' credit-risk exposure and individual insurer losses resulting from deteriorating asset quality.

The IMR Method Delays the Impact of Interest-Related Investment Losses

The IMR method buffers capital by deferring the impact of realized capital gains and losses caused by changes in general interest rates. These gains and losses are amortized into an insurer's income over the remaining life of the assets sold.[10] The IMR's purpose is to ensure adequate insurance policy reserves and to limit insurers' use of realized gains to inflate surplus.

[9]See table I.4 for an example of this loss delay. If the past year's AVR balance is smaller than the current year's losses, more than 20 percent of the current year's losses will have an impact on capital. If additional gains in the current year raise the AVR over its maximum, more than 20 percent of the gains will flow into capital.

[10]See app. I for a more detailed description.

By capturing net capital gains, the IMR is supposed to adjust overall policy reserves to reflect changed asset yields. In theory, an insurer's assets back long-term policy liabilities. When interest rates fall, an insurer can sell an asset paying a higher rate at a gain. However, the insurer would have to reinvest in an asset with the lower yield, a yield too low to support the insurer's policy liabilities. In theory, the insurer's capital gain represents a potential shortfall in policy reserves. On the other hand, when interest rates rise, an insurer would realize a loss selling assets paying lower rates. However, these proceeds could be reinvested at the higher yield, a yield higher than the insurer promised to pay its policyholders. Again, in theory, the insurer's capital loss represents a potential excess in policy reserves.

However, the IMR strategy presumes that an insurer will invest in a new security at the higher yield, and that higher yields will compensate for an insurer's investment loss—a presumption reminiscent of regulatory accounting practices for thrifts. When interest rates soared in the late 1970s and early 1980s, thrifts holding low-interest mortgages had to offer competitive rates on deposits to survive. As a result, thrifts were driven to replace low-yielding, long-term mortgages with higher-yielding variable rate mortgages. Because capital losses on old mortgage sales would have caused the insolvency of many thrifts, regulators allowed thrifts to amortize the losses over the mortgages' original maturity. This regulatory reporting practice of deferring net losses masked the true financial condition of the thrifts and delayed the regulatory takeover of insolvent institutions.

The IMR is also designed to limit the practice of insurers using interest-related gains to obscure credit-related losses. An insurer may hold assets declining in market value to avoid recognizing losses on these assets. Instead, the insurer can "cherrypick" its portfolio by selling those assets whose market prices have risen. The IMR reduces an insurer's incentive to cherrypick because it requires interest-related gains to be amortized over an asset's remaining life. Although the IMR's deferral of the impact of gains seems conservative, the IMR conversely delays the impact of realized losses—a decidedly unconservative reporting practice.

In our view, the IMR's effectiveness is undermined by NAIC's arbitrary rules for separating the IMR's interest-related gains and losses from the AVR's credit-related gains and losses. The IMR captures as interest-related all gains and losses on the trading of U.S. government securities. However, the IMR does not cover common stock and real estate, even though changing interest rates can produce gains and losses on sales of these

assets. For corporate and municipal bonds, preferred stock, and mortgages, these arbitrary rules may allow credit losses to be amortized through the IMR. For example, a bond loss is considered interest-related unless NAIC determines that the bond is in default or has declined by more than one credit quality class. As a result, an investment-grade BBB-rated bond could drop to a noninvestment-grade BB rating, and the resulting loss could still be amortized through the IMR. To the extent that insurers can defer losses through the IMR, the new asset reserves will continue to obscure losses and mask an insurer's true financial condition.

New Asset Reserving Methods Hinder Assessment of Capital Adequacy

Even though an industry advisory committee reported that the MSVR's purpose was unclear and potentially misleading, NAIC failed to correct this fundamental shortcoming in the new statutory asset reserves. Like the earlier MSVR method, the AVR and IMR methods have a threefold purpose: to provide an allowance for current losses on risky and troubled assets, to accumulate investment gains and losses, and to set aside contingency reserves for future losses. These multiple purposes lead to conflicting uses of statutory asset reserves in assessing an insurer's capital adequacy. Life insurers are required to report the entire AVR and IMR as liabilities on their statutory financial statements. In theory, this practice would tend to understate insurer capital by the amount of funds set aside for contingencies. To compensate for this distortion, industry analysts, rating agencies, and regulators add the AVR back to statutory capital and surplus in assessing capital adequacy.[11] However, the latter practice provides an overstated measure of capital adequacy, masking an insurer's true financial condition.

The insolvency of Executive Life and its subsidiary, Executive Life of New York, illustrates the problem with counting investment loss reserves as capital. These insurers wrote off only $335 million in known bond losses in their 1989 statutory financial statements and did not disclose $435 million in additional known impairments. Regulators monitoring the troubled insurers determined that the insurers' MSVR in 1989 was adequate to cover these additional losses. Even though the $435 million in impairments would have reduced the insurers' MSVR by nearly 60 percent, regulators then added the entire MSVR to the Executive Life companies' surplus in assessing capital available to cover further losses.

[11]Under NAIC's new risk-based capital requirements for 1993, the AVR is to be included in calculating a life insurer's capital base.

Even when regulators recognize the need for supervisory action, their ability to intervene can be hampered by statutory accounting practices they designed to buffer insurer surplus from market fluctuations. Regulators may take corrective action against a troubled insurer they determine to be in danger of becoming insolvent, but that determination may be difficult because the AVR and IMR do not realistically reflect an insurer's ability to absorb declining asset prices and investment losses. The AVR and IMR increase the likelihood that an individual insurer in severe financial distress because of declining asset values will still appear solvent on the basis of statutory accounting practices.

Conclusions

The new statutory asset reserving methods for life insurers cover investments not covered under the old MSVR method; however, the AVR and IMR still fail to address the MSVR's other shortcomings. Because statutory asset reserve methodologies fail to meet fundamental criteria for sound reserving practices, they do not result in financial reports that fairly reflect an insurer's true financial condition. Instead of the inherently conservative reserving methods NAIC envisions, the AVR and IMR will likely undermine regulators' ability to assess capital adequacy and the need for intervention in cases where insurers are in danger of insolvency.

Developing specific recommendations concerning life insurer asset reserving methods was beyond the scope of this report. However, we have some general observations about reserving methods that may improve regulators' ability to assess capital adequacy and the need for regulatory intervention. For example, we believe asset reserves should be more closely linked to market values of an individual insurer's risky and troubled assets and should fully reflect investment losses at the time they occur. Further, we believe allowances for current losses on risky and troubled assets should not be counted as capital.

Agency Comments and Our Evaluation

We received written comments on a draft of this report from NAIC. In its comments, NAIC said that this report was tainted by a bias toward market value accounting. NAIC said that current asset values are immaterial because life insurers hold their assets until maturity to match their long-term insurance liabilities. NAIC also implied that conservative liability calculations can compensate for statutory asset valuations that do not reflect current market conditions. NAIC further suggested that market value accounting for all insurer assets would be disruptive because of fluctuations due to changing interest rates.

Our report does not imply support for using market value accounting for all assets of life insurers. We believe that linking asset reserves to the fair values of an insurer's risky and troubled assets would result in financial reports that better reflect the insurer's true financial condition. Delaying the impact of asset losses on capital undermines the conservatism inherent in other statutory accounting practices. We discourage financial reporting practices that assume declining asset prices are temporary because life insurers cannot always hold their assets until values recover. Since the late 1970s, life insurers have sold more liquid, interest-sensitive products with higher rates of return to compete with the product offerings of other financial institutions. To maximize rates of return and manage interest rate risk, life insurers actively manage their portfolios rather than holding all their assets until maturity.

In its letter, NAIC agreed that an asset should be marked to market when its long-term value is in question or can fluctuate widely. NAIC also expressed concern about giving insurers more opportunities for subjective analysis in assigning values to assets that do not have readily obtainable market values. However, life insurers already have latitude in determining when various assets are impaired and in setting the statutory reporting values for such impaired assets. In the two largest life insurance failures, Mutual Benefit and Executive Life of California, the insurers had inadequate statutory asset reserves to cover losses on their troubled assets.

NAIC said that we analyzed the AVR and IMR out of the overall context of solvency regulation and did not consider other regulatory initiatives. Our objective was to evaluate the extent to which the new statutory asset reserves overcome the shortcomings of the previous MSVR. We found that the AVR and IMR, although covering more assets, do not overcome the other methodological shortcomings of the MSVR and do not result in financial statements that fairly reflect an insurer's true financial condition. We recognize NAIC is working to improve state solvency regulation, and we considered the effects of various improvements in our analysis. However, we do not believe that these regulatory initiatives can compensate for the shortcomings in statutory asset reserving practices. For example, the success of improved financial analysis of insurer-reported data will likely be limited because statutory asset reserving practices result in financial reports that do not reflect an insurer's true financial condition. Also, NAIC's risk-based capital requirements for life insurers use real estate and mortgage risk factors similar to those used in the AVR calculations and also assume that insurers have adequate reserves for their risky and troubled assets.

Finally, NAIC said we misstated the purpose of the AVR and IMR. But, we never say, as NAIC suggested, that predicting losses in an insurer's investment portfolio should be the goal of statutory asset reserving. To the contrary, it is the AVR's formula-driven methodology that assumes the ability to predict current losses from historical data. We, however, do not believe that any reserving formula based on industrywide data could predict an individual insurer's losses. Instead, we believe that asset reserving should be based on the insurer's loss experience and on current market conditions.

According to NAIC, the AVR and IMR serve to build "a general reserve to absorb future unexpected adverse deviation and performance of insurer investment." Further, NAIC said that these statutory asset "reserves are not intended to be a substitute for reviewing an insurer's own portfolio to assess the need for loss reserves or other market valuation adjustments." However, in practice, regulators use statutory asset reserves both as a contingency reserve and as an allowance for current losses on impaired assets. We believe that such multiple and conflicting uses of the AVR and IMR will likely undermine regulators' ability to assess capital adequacy.

Appendix III includes NAIC's detailed comments and our evaluation of those comments.

We are sending copies of this report to the Executive Vice President of NAIC, the chairmen and ranking minority members of selected committees of Congress, and other interested parties. We will also make copies available to others on request.

This report was prepared under the direction of Lawrence D. Cluff, Assistant Director for the Insurance Group, who may be reached on (202) 512-8023 if you have any questions about this report. Other major contributors are listed in appendix IV.

Sincerely yours,

James L. Bothwell
Director, Financial Institutions
and Markets Issues

Contents

Abbreviations

AVR	Asset Valuation Reserve
GIC	Guaranteed Investment Contract
IMR	Interest Maintenance Reserve
MEF	Mortgage Experience Factor
MSVR	Mandatory Securities Valuation Reserve
NAIC	National Association of Insurance Commissioners
SVO	Securities Valuation Office

Overview of the AVR and the IMR Methods

Life insurance companies report an asset valuation reserve (AVR) and an interest maintenance reserve (IMR) as liabilities on their annual statutory financial statements that are filed with state insurance regulators. Effective year-end 1992, the AVR and IMR methods replaced the mandatory securities valuation reserve (MSVR) method, which had been part of the annual statutory statements since the early 1950's. The new AVR formula reserves for changes in the values of insurers' assets that are caused by fluctuations in the credit worthiness of the assets; the new IMR captures realized capital gains and losses caused by interest rate changes.

The AVR Method

The MSVR covered only corporate and municipal bonds and stocks, but the AVR covers other investments, including mortgages, real estate, and other invested assets. The AVR has two major components—a default component and an equity component. The default component covers bonds, preferred stock, and mortgages. The equity component covers common stock, real estate, and other invested assets.

The AVR method retains the MSVR's core methodology of a formula-based asset reserve to offset the risk of investment loss. The AVR formula sets maximum reserve levels as a specified percentage of the reported value of assets, with the reserve levels varying with the levels of risk. The AVR maximum percentage factors for each risk category were developed by NAIC's AVR/IMR Study Group (a body of state insurance regulators) with technical assistance from an industry advisory committee. The study group based the maximum percentage factors for bonds and stocks on historical default and price variability data. For mortgages and real estate, investments that often lack historical data, the study group used ad hoc estimates of default probabilities.

Bonds and Preferred Stock Reserve Factors

In setting reserve levels for bonds, the AVR retains MSVR's risk rating categories and maximum percentage factors. NAIC's Securities Valuation Office (SVO) rates bonds according to six categories of default risk. The maximum factors are tied to the historical default rates for each bond class. The lowest maximum factor is assigned to investment grade bonds in SVO classes 1 and 2, while noninvestment grade bonds range from 5 percent to 20 percent. The AVR also extends the use of the six-category rating system to preferred stock. For each SVO category, the maximum factor for preferred stock is 2 percent higher than the factor for bonds, reflecting preferred stock's greater risk. Table I.1 shows the maximum

factors for bonds and preferred stock under the AVR in 1992 and the MSVR in 1991.

Table I.1: Maximum Percentage Factors for Bonds and Preferred Stock: 1992 AVR and 1991 MSVR

	Quality classification[a]			Maximum percentage factor	
Type of asset	SVO Class rating	Standard & Poor's rating	Moody's rating	AVR in 1992	MSVR in 1991
Bonds[b]	1	AAA,AA,A	Aaa,Aa,A	1%	1%
	2	BBB	Baa	2	2
	3	BB	Ba	5	5
	4	B	B	10	10
	5	CCC,CC,C	Caa,Ca,C	20	20
	6[c]	CI,D	Caa,Ca,C	20	20
Preferred stock	1	AAA,AA,A	aaa,aa,a	3	5-20
	2	BBB	baa	4	5-20
	3	BB	ba	7	5-20
	4[c]	B	b	12	5-20
	5[c]	CCC	caa	22	5-20
	6[c]	CC,C,D	ca,c	22	5-20

[a]Equivalent ratings by Standard & Poor's and Moody's rating services are provided for comparison.

[b]U.S. government securities are exempt from the AVR.

[c]Bonds in SVO class 6 and preferred stock in classes 4 through 6 are reported at the lower of cost or market value.

Source: Purposes and Procedures of the Securities Valuation Office of the National Association of Insurance Commissioners, January 1, 1992, and December 31, 1992.

None of the maximum factors, including those for bonds and preferred stock, compensate for additional risk resulting from a concentration of investments in a geographic area, industry, or single company. We found that the Executive Life companies, First Capital, and Fidelity Bankers failed, in large part, because of a concentration of risky bond holdings with inadequate asset reserves to cover investment losses. Also, we previously reported that flawed SVO valuations allowed Executive Life to overstate the quality of its bond holdings in calculating its MSVR.[1] We are concerned that SVO rating procedures underlying the bond and preferred

[1]Insurance Failures: Regulators Failed to Respond in Timely and Forceful Manner in Four Large Life Insurer Failures (GAO/T-GGD-92-43, Sep. 9, 1992) and Insurance Regulation: Weak Oversight Allowed Executive Life to Report Inflated Bond Values (GAO/GGD-93-35, Dec. 9, 1992).

stock reserve factors may not produce an accurate picture of an insurer's portfolio.

Common Stock Reserve Factors

The MSVR set a single maximum percentage factor for publicly traded unaffiliated common stock. In contrast, the AVR factor is tied to the price variability of an individual insurer's common stock portfolio as measured by its beta coefficient. A beta is a comparison of the price variability for a single stock or a portfolio of stocks relative to volatility in a broad market index, such as Standard and Poor's 500 Stock Index. The AVR maximum factor is 20 percent of an insurer's weighted average beta coefficient for the last quarter of the previous year and the first three quarters of the current year. An insurer can use a standard factor of 30 percent instead of calculating its beta coefficient. Table I.2 shows the maximum percentage factors for common stock under the AVR in 1992 and the MSVR in 1991.

Table I.2: Maximum Percentage Factors for Common Stock: 1992 AVR and 1991 MSVR

	Maximum percentage factors	
Type of common stock[a]	**AVR in 1992**	**MSVR in 1991**
Unaffiliated publicly traded	15-30%[b]	33-1/3%
Unaffiliated privately placed	25	33-1/3
Affiliated life companies with an AVR (MSVR)	0	0
Other affiliated companies	20-25	20

[a]Common stock are carried at market value.

[b]Actual factor varies according to the level of price variability in an insurer's portfolio.

Source: Purposes and Procedures of the Securities Valuation Office of the National Association of Insurance Commissioners, January 1, 1992, and December 31, 1992.

The common stock factor may understate the price variability in an individual insurer's stock portfolio because the beta coefficient is limited to a maximum value of 1.5. Thus, an insurer with a variability measure greater than 1.5 would not have to reserve against the additional volatility in its portfolio. Likewise, the minimum beta value of .75 for common stock may overstate price variability for an insurer with a less volatile portfolio.

Mortgage Reserve Factors

Since historical data on mortgage defaults are limited, the study group developed an ad hoc estimate of average mortgage risk. The advisers to the study group described their choice of the mortgage risk factor as follows:

"We postulate that a credit risk rating between that for BBB and BB bonds is reasonably appropriate for most commercial loan portfolios held by life insurance companies. This subjective assessment of the average risk level would indicate that the standard maximum AVR would be 3.5%."

The actual AVR maximum percentage factor ranges from 1.75 percent to 10.5 percent, depending on an individual insurer's mortgage delinquency rate. Each insurer calculates its own maximum factor for mortgages by multiplying the standard factor times a mortgage experience factor (MEF).

An insurer's MEF is the ratio of its average mortgage delinquency rate for the previous 2 years relative to the life insurance industry's average mortgage delinquency rate for the same period; the MEF is unlikely to reflect an insurer's mortgage delinquencies in the current year. The annual mortgage delinquency rate is calculated as mortgages foreclosed or in the process of foreclosure plus mortgages more than 90 days delinquent in interest payments, divided by current mortgages plus foreclosures in that year. The mortgage delinquency rate does not reflect restructuring of past due loans, which provides an incentive for an insurer with troubled mortgages to forbear rather than foreclose. NAIC started collecting data on restructured loans in the 1992 annual statutory financial statement and plans to include mortgage restructures when calculating future delinquency rates.

With its elaborate calculations, the AVR maximum factor for mortgages provides a false sense of accuracy in predicting an insurer's loss exposure for four reasons. First, the AVR formula applies a single maximum factor to an insurer's entire mortgage portfolio, including residential mortgages backed by mortgage insurance and uninsured commercial development loans. Second, the standard factor of 3.5 percent is based on the study group's best guess as to the average mortgage risk. Third, the MEF is not a measure of an insurer's own delinquency experience; instead, the MEF measures the deviation between the delinquency rates for an individual insurer and the life insurance industry overall. As a result, the AVR mortgage reserve formula will systematically underreserve when the life insurance industry as a whole has high delinquency rates. Finally, the maximum factor is 10.5 percent regardless of how high an insurer's mortgage delinquency rate is.

Table I.3 shows the maximum factors for mortgages as they would have been calculated in 1992 using various insurer delinquency rates. As the table shows, an insurer with the same delinquency rate as the life

insurance industry would be required to reserve at the standard level of 3.5 percent, regardless of the absolute delinquency rate. An insurer with an average delinquency rate of 16 percent or higher would have used a maximum factor of 10.5 percent in its 1992 AVR calculation.[2]

Table I.3: Comparison of an Insurer's Delinquency Rate With Its Maximum Percentage Factor for Mortgages in 1992

Insurer's delinquency rate	Industry delinquency rate[a]	Insurer's MEF[b]	Maximum percentage factors[c]
5.32%	5.32%	1	3.5%
10.64	5.32	2	7
15.96	5.32	3	10.5
21.28	5.32	4	10.5

[a]The 2-year industry average—measured by the SVO—used in the 1992 AVR calculation was 5.32 percent; the industry mortgage delinquency rate was 4.32 percent in 1990 and 6.23 percent in 1991.

[b]The MEF is the ratio of the insurer's delinquency rate relative to the life insurance industry rate.

[c]The maximum percentage factor is calculated by multiplying an insurer's MEF times the standard factor of 3.5 percent; the maximum factor is capped at 10.5 percent.

Source: Purposes and Procedures of the Securities Valuation Office of the National Association of Insurance Commissioners, December 31, 1992.

Real Estate Reserve Factor

The study group also used an ad hoc estimate of price variability in the real estate market to set the AVR real estate factor. On the basis of the limited historical research available, the industry advisory group reported that real estate market prices had varied with a standard deviation of about 9 percent. The advisers proposed a maximum percentage factor of 10 percent with a provision for insurers to periodically revalue their property. However, regulators and the industry were unable to agree on an appraisal procedure. In the end, they compromised on a single maximum factor of 7.5 percent. Unlike common stock, the real estate factor does not measure price volatility in an insurer's holdings relative to the market. Also, the same 7.5-percent reserve factor applies to the gamut of properties held by life insurers, including insurers' home offices, real estate acquired in foreclosure, and undeveloped land.

Other Investment Reserve Factors

For assets listed on Schedule BA of the annual statutory financial statement, regulators adopted a "look through" approach in determining

[2]In 1992, insurers had to put up only 10 percent of their maximum mortgage reserve. Thus, insurers with the worst mortgage portfolios were required to accumulate at most only 1.05 percent of their mortgage portfolios in the AVR.

the appropriate maximum percentage factor. For partnerships and joint ventures, an insurer is to apply the AVR maximum factor that applies to the type of assets held by the partnership or venture. For example, an insurer is to apply the AVR real estate factor to a real estate limited partnership. For other assets, such as mineral rights, that cannot use the "look through" approach, an insurer is to apply the standard maximum factor of 20 percent.

This new approach is an important improvement over the MSVR. Previously, an insurer could reduce its MSVR by holding low-quality securities in a partnership. However, the "look through" approach does not recognize that a partnership in which the insurer has limited control may be riskier than direct ownership of the underlying assets.

The AVR Accumulation Process

The AVR builds up gradually with its accumulation linked to the gap between current and maximum reserve levels. An insurer first adds the current year's credit-related capital gains and deducts the losses from the past year's AVR and then adds 20 percent of the difference between this accumulated balance and the maximum reserve.[3] The maximum AVR is calculated by multiplying the reserve factor for each asset class by the reported value of the assets in that category. According to industry advisers to NAIC's study group, the AVR is expected, in theory, to accumulate to half of the maximum reserve level and then oscillate around this midlevel, with capital gains and losses offsetting each other.

Through the accumulation process, the AVR absorbs 80 percent of an insurer's capital gains and losses in the current year, allowing only 20 percent of the gain or loss to have an impact on capital in that year. The remainder of the gain or loss will be released to capital over succeeding years in decreasing amounts. Because the AVR cannot go below zero, any loss in excess of the beginning AVR balance would immediately reduce capital, and any gain that would increase the AVR beyond its maximum reserve level would immediately increase capital.

Table I.4 illustrates the AVR's loss amortization through the AVR balances and capital changes over a 10-year period for two hypothetical insurers. Insurers A and B both begin the first year with an AVR balance of $3,000, a maximum AVR of $5,000, and $10,000 in capital. At the end of year 1, insurer A has no investment gain or loss, but insurer B has an investment

[3]The AVR captures (1) credit-related realized gains and losses on assets sold; (2) unrealized losses on those securities carried at market value—all common stock, as well as defaulted bonds and noninvestment grade preferred stock; and (3) other permanent impairment write-downs.

loss of $1,000. In subsequent years, neither company has investment gains or losses. Insurer A adds 20 percent of the difference between its AVR balance and its maximum AVR, or $400, for an AVR balance of $3,400 in the first year. If no other change occurs, insurer A's capital declines by $400—the amount of the increase in its AVR. Insurer B first deducts its $1,000 loss from its beginning AVR balance, for an accumulated balance of $2,000, and then adds 20 percent of the difference between its accumulated balance and its maximum AVR, or $600, for an AVR balance of $2,600. Even though insurer B had a $1,000 loss, its capital at the end of the first year is only $200 less than insurer A's capital. In effect, 80 percent of the loss is absorbed by the AVR, and the remaining 20 percent has an impact on insurer B's capital. As table I.4 shows, the gap between insurer A's and insurer B's capital will grow as insurer B's original loss is amortized into capital. By the third year, insurer B's capital falls $488 behind insurer A's, as almost half of the loss is amortized into insurer B's capital. By the sixth year, over 75 percent of the loss will be amortized, and insurer B's capital is $738 less than insurer A's. By the tenth year, 10 percent of the loss still has not been reflected in insurer B's capital, which is only about $900 less than insurer A's capital.

Table I.4: The Impact of Credit-Related Loss on Insurer Capital Over Time: An Hypothetical Example

	Insurer A			Insurer B		
Year	AVR balance	20-percent accumulation	Capital balance	AVR balance	20-percent accumulation	Capital balance
0	$3,000	N/A	$10,000	$3,000	N/A	$10,000
1	3,400	$400	9,600	2,600	$600	9,400
2	3,720	320	9,280	3,080	480	8,920
3	3,976	256	9,024	3,464	384	8,536
4	4,181	205	8,819	3,771	307	8,229
5	4,345	164	8,655	4,017	246	7,983
6	4,476	131	8,524	4,214	197	7,786
7	4,581	105	8,419	4,371	157	7,629
8	4,665	84	8,335	4,497	126	7,503
9	4,732	67	8,268	4,598	101	7,402
10	4,786	54	8,214	4,678	80	7,322

Note: Insurers A and B begin the 10-year period with an AVR balance of $3,000, a maximum AVR of $5,000, and $10,000 in capital. At the end of year 1, insurer A has no investment gain or loss, but insurer B has a $1,000 investment loss.

Even though the AVR already accumulates gradually and delays the impact of capital gains and losses, NAIC provided a 3-year phasein. In 1992, insurers were to add only 10 percent of the difference between the accumulated balance and the maximum reserve and only 15 percent of the difference in 1993. Beginning in 1994, insurers are to add the full 20 percent. In addition to the required accumulation, insurers can voluntarily contribute additional amounts up to the AVR maximum level but cannot later reduce the AVR to recover these amounts. In 1992, an insurer could transfer its 1991 MSVR for bonds and stock one-for-one to those AVR categories and start the mortgage and real estate categories with a zero balance. Or, an insurer could prorate its 1991 MSVR among all of the asset categories. Also, an insurer could add any voluntary investment reserves held in addition to the MSVR in 1991 to the AVR starting balance.

The Interest Maintenance Reserve Method

The IMR accumulates interest-related realized gains and losses and amortizes them into an insurer's income over the remaining life of the investments sold. In the year an asset is sold, the insurer adds the gain or loss to its IMR and sets up an amortization table. Each year the insurer amortizes the gain or loss by transferring the appropriate amount to income. In 1992, the IMR balance started at zero. The IMR cannot have a negative balance, and any negative amount is to be listed as a nonadmitted asset.

The IMR has three methods of amortization. First, an insurer may amortize each asset separately; the insurer amortizes the difference between the income that would have been reported if the asset had not been sold and the income that would have been reported if the asset was repurchased at its sale price. NAIC prefers asset-by-asset amortization but recognizes that the calculations are too difficult for some insurers. The second method allows an insurer to amortize groups of assets based on average maturity dates using standard amortization tables developed by SVO. In addition to these two methods, an insurer may use other amortization or investment income allocation methods allowed by regulators in its state of domicile.

Unlike the AVR and its predecessor, the MSVR, the IMR covers U.S. government securities and direct and guaranteed securities of agencies backed by the full faith and credit of the U.S. government. Obligations of the U.S. government do not have credit risk, but their values respond to fluctuating interest rates. Like other securities, the value of U.S. government securities will decrease as interest rates increase. The IMR phases in coverage of U.S. government securities over 3 years. In 1992,

only 50 percent of net realized gains on U.S. government securities and the direct or guaranteed securities of agencies that are backed by the full faith and credit of the U.S. government had to be captured in the IMR; the other 50 percent continued to be recognized immediately as income. In 1993, 75 percent of these net realized gains will be captured in the IMR, and all gains and losses on U.S. government-related securities in 1994 will be captured in the IMR.

Realized gains and losses on two types of transactions cannot be amortized through the IMR and must be reflected immediately in income. First, an insurer must recognize the net gain or loss on assets sold along with the related block of policies to another insurer. Second, an insurer cannot amortize losses on assets sold to provide cash during a policyholder run.[4]

Separating Capital Gains and Losses Between the AVR and IMR

NAIC uses arbitrary rules to separate the AVR's credit-related gains and losses from the IMR's interest-related gains and losses. On one hand, NAIC's rules expressly exclude all gains and losses on real estate and common stock from the IMR, even though changing interest rates affect these markets. For example, low interest rates usually result in a general buildup in value of common stock and real estate unrelated to the specific characteristics of the individual holdings.

On the other hand, NAIC's rules do not effectively exclude credit-related losses on corporate and municipal bonds, preferred stock, and mortgages from the IMR. For example, the loss on a bond issue dropping from an investment grade BBB rating to a noninvestment grade BB rating would be classified as an interest-related loss, irrespective of any change in interest rates, even though securities typically increase in value during periods of declining interest rates, such as in 1992. The rules for separating mortgage gains and losses allow similarly illogical results. Gains or losses on mortgages with interest more than 90 days overdue, in process of foreclosure, in voluntary conveyance, or restructured in the past 2 years, as well as write-downs for permanent impairments, are classified as credit-related and go to the AVR. All other realized gains and losses on mortgages go to the IMR. As a result, the loss on a mortgage only 90 days overdue but with little chance of the mortgagee paying could be classified as an interest-related loss.

[4]For the IMR, NAIC defines a policyholder run as when policy withdrawals exceed 150 percent of the average of the three previous quarters.

To the extent that insurers can defer losses through the IMR, the new asset reserves will continue to obscure losses and mask insurers' true financial conditions. An insurer has an incentive to report credit-related losses in the IMR rather than reducing its AVR balance. Even though both reserves are reported as balance sheet liabilities, analysts, rating agencies, and regulators treat the AVR as a contingency reserve or designated surplus and add the AVR to an insurer's capital to assess solvency. Thus, investment losses that reduce the AVR effectively reduce an insurer's perceived capital base. Insurers would have further incentive to manipulate reporting of credit-related losses if NAIC were to allow the IMR to carry a negative balance. Without a floor of zero, there is no limit to an insurer's ability to use losses to increase its reported capital.

Analysis of Statutory Asset Reserves Reported by the 20 Largest U.S. Life Insurers

We reviewed Mandatory Securities Valuation Reserve (MSVR), Asset Valuation Reserve (AVR), and Interest Maintenance Reserve (IMR) data reported in the annual statutory financial statements of the 20 largest U.S. life insurers as measured by asset size.[1] These companies composed 52.6 percent of total life insurer assets reported to the NAIC in 1992. Using the 1992 data, we compiled composite data to illustrate how the AVR and IMR were calculated by the 20 life insurers. We also compared the growth in statutory asset reserves with the expansion of the reported values of assets subject to reserving. Finally, because of concerns about inadequate mortgage reserves in recent financial institution failures, we attempted to assess the extent of 1992 mortgage reserves for the 20 life insurers.

Calculating the AVR

In 1992, the 20 large life insurers in our sample reported composite AVRs totaling $11.3 billion as liabilities on their statutory balance sheets. Table II.1 sums the detailed AVR calculations of the 20 life insurers, including a breakdown between various asset categories, similar to the detailed AVR worksheet in the annual statutory financial statement. The 20 life insurers started with a balance of $10.3 billion, which included their 1991 MSVR balance, and almost $500 million of voluntary investment reserves. They then deducted their credit-related net capital losses of $2.3 billion from their beginning AVR balance to determine the accumulated balance.[2] As required, each of the 20 life insurers then added 10 percent of the difference between its accumulated balance and its maximum reserve level. The maximum reserve was calculated by multiplying the maximum reserve factors (described in appendix I) by the reported value of the 20 life insurers' assets. The maximum reserve level for the 20 life insurers was $23.9 billion. In addition to the $1.6 billion required AVR accumulation, 11 of the 20 life insurers voluntarily contributed another $1.6 billion, in aggregate, to the AVR. The 10-percent accumulation, voluntary contributions, and other adjustments[3] totaled $3.2 billion. This amount was added to the accumulated balance to calculate the 1992 AVR balance of $11.3 billion.

[1]We did not include Sun Life Assurance Company of Canada and Confederation Life Insurance Company in our sample because they are Canadian companies.

[2]If an insurer's reserve balance, after adding capital gains, exceeds the maximum reserve level for an asset category, the insurer is to transfer the excess amount to another category or to surplus. Four of the sample insurers made transfers between the common stock and real estate categories.

[3]A life insurer is to add reserves if the AVR level is below zero or to reduce reserves if the AVR level exceeds the maximum. Seven life insurers in our sample had to adjust their AVRs; six companies had to add reserves to the mortgage, common stock, or real estate categories, and one company had to reduce its common stock reserve to the maximum AVR level.

Table II.1: Calculation of the AVR for the 20 Largest Life Insurers in 1992

Dollars in millions

	Asset Categories				
	1	2	3	4	5
Calculation steps	**Bonds, preferred stock, and short-term investments**	**Mortgages**	**Common stock**	**Real estate and other invested assets**	**Total amount[a]**
1. Transfer from 1991 MSVR and voluntary investment reserves	$3,963	$2,066	$2,491	$1,807	**$10,327**
2. Realized capital gains (losses)	(562)	(990)	709	(375)	**(1,218)**
3. Unrealized capital gains (losses)	226	(65)	(1,303)	109	**(1,032)**
4. Balance before transfers (sum of lines 1-3)	3,628	1,012	1,897	1,541	**8,077**
5. Transfers	0	0	(454)	392	**(62)**
6. Accumulated balance	3,628	1,012	1,443	1,933	**8,015**
7. Maximum reserve	7,895	5,625	5,231	5,145	**23,895**
8. 10 percent of (line 7-line 6)	427	461	379	321	**1,588**
9. Voluntary contributions	10	1,335	0	267	**1,612**
10. Adjustments	0	2	22	14	**38**
11. Sum of lines 8 through 10	437	1,798	401	602	**3,238**
12. 1992 AVR balance (lines 6+11)	4,065	2,810	1,844	2,535	**11,253**

Note: Detail may not add due to rounding and aggregation.

[a]The total amount is the sum of asset columns one through four.

Source: 1992 annual statutory financial statements.

Calculating the IMR

Like the AVR, the IMR is reported as a liability on a life insurer's balance sheet with a detailed amortization worksheet included in the annual statutory financial statement. In 1992, life insurers started their IMRs with zero balances and then added their interest-related net realized capital

gains. Because 1992 was a period of declining interest rates, the 20 life insurers in our sample had $2 billion in net interest-related realized gains covered by the IMR. Of these gains, $161 million (8 percent) were amortized into income, leaving an IMR balance of just under $2 billion for 1992.

Reserve Growth Has Not Kept Pace With Increase in Assets Subject to Reserving

NAIC has extended coverage of statutory asset reserves to investments not covered by the MSVR. However, the reserve growth from 1991 to 1992 was incommensurate with the increase in assets subject to reserving. For the 20 life insurers, their composite AVR in 1992 was only 12 percent greater than their composite MSVR in 1991, but their assets subject to reserving increased by 75 percent from 1991 to 1992. This lag in reserve growth is attributable, in part, to the AVR's gradual accumulation and 3-year phasein. The 1992 composite AVR of $11.3 billion represents 47 percent of the composite maximum AVR of $23.9 billion for the 20 sample insurers. The actual AVR, relative to the maximum for the individual insurers, ranged from less than 20 percent to more than 90 percent. Even though the 20 life insurers reported net credit-related losses of $2.3 billion in 1992, they were only required to accumulate asset reserves of $1.6 billion—70 percent of their 1992 losses.

We also calculated the reserve growth including the IMR, because some of the realized bond gains and losses it captures previously went into the MSVR. The composite AVR and IMR for the 20 life insurers was only 30 percent greater than their 1991 composite MSVR, while their assets subject to reserving increased by 90 percent from 1991 to 1992. However, the IMR is not a reserve against an insurer's current portfolio but is instead an accumulation of gains and losses realized on assets sold.

Table II.2 compares the AVRs to the assets subject to reserving for our sample life insurers from 1988 to 1992. In that period, assets increased by over 132 percent, but the corresponding reserves increased by only 30 percent. Again, the lag in reserve growth is due, in part, to the gradual reserve accumulation, as well as to the fact that AVRs decrease when insurers have investment losses. In addition, table II.2 shows a considerable decrease in AVRs as a percentage of assets in 1990 and 1992—years when NAIC changed the reserving formula.

Table II.2: Comparison of Reported AVRs With the Assets Subject to Reserving for the 20 Largest Life Insurers: 1988-1992

Dollars in billions

Years	Assets subject to reserving	Asset valuation reserves[a]	Reserves as a percent of assets
1988	$253.4	$8.7	3.42%
1989	284.6	9.7	3.41
1990	310.9	8.1	2.61
1991	337.1	10.1	2.98
1992[b]	589.5	11.3	1.91

[a]The AVR figures are from the MSVR for 1988 to 1991, and the AVR in 1992.

[b]Including the IMR and government securities covered by the IMR, the last row of the table would have been assets, $641.8 billion; asset reserves, $13.1 billion; and the ratio, 2.04 percent.

Source: Annual statutory financial statements.

Table II.3 compares the 20 largest life insurers' AVRs as a percentage of each asset category in 1991 and 1992. For 1992, the AVRs were 1.8 percent of mortgages and 5.1 percent of real estate and other assets. Because some insurers transferred a portion of their 1991 MSVR to the new AVR asset categories, which is allowed under NAIC guidelines, reserves against the 20 life insurers' bond holdings actually declined from 1991 to 1992.

Table II.3: Asset Reserves as a Percentage of Reported Value by Asset Category for the 20 Largest Life Insurers: 1991 and 1992

Dollars in billions

	Reported value		Asset reserves		Reserves as a percent of assets	
Asset category	1991	1992	1991	1992	1991	1992
Bonds and preferred stock	$313.0	$354.9	$5.8	$4.1	1.8%	1.2%
Mortgages	177.0	160.1	N/A	2.8	N/A	1.8
Stocks	24.1	24.9	4.1	1.8	16.8	7.4
Real estate and other assets	45.4	49.6	N/A	2.5	N/A	5.1

N/A = Not applicable.

Source: Annual statutory financial statements.

The 20 largest life insurers' 1992 composite AVR of $11.3 billion represents 22 percent of their investment in risky bonds and delinquent mortgages, as

shown in table II.4. Again, because some insurers prorated their MSVRs into the new AVR categories, the 20 insurers' 1992 bond reserves decreased to 11 percent of their noninvestment grade bonds. The AVR mortgage reserves represent 18 percent of the delinquent mortgages reported by the 20 insurers.

Table II.4: Asset Reserves as a Percentage of Certain Risky and Troubled Assets for the 20 Largest Life Insurers: 1991 and 1992

Dollars in billions

	Reported values		Reserves as a percent of risky assets	
Asset category	**1991**	**1992**	**1991**	**1992**
Noninvestment grade bonds and preferred stock[a]	$35.0	$36.0	16.5%	11.3%
Delinquent mortgages[b]	12.3	15.3	N/A	18.3

N/A = Not applicable.

[a]Bonds and preferred stock in SVO quality classes three through six are defined as noninvestment grade.

[b]Delinquent mortgages are defined by NAIC as those (1) foreclosed during the year, (2) in the process of foreclosure, and (3) more than 90 days overdue.

Source: Annual statutory financial statements.

Mortgage Reserves

In our work on thrifts and banks, we found that failed institutions had inadequate loss reserves against the risk of mortgage defaults and declining real estate prices.[4] The failures of Mutual Benefit Life in 1991 and Fidelity Mutual Life in 1992 have been attributed to an overexposure to troubled mortgages and overvalued real estate.

Estimates of the extent of insurers' troubled mortgages vary depending upon the definition of a troubled mortgage. The AVR mortgage factor defines delinquent mortgages as those mortgages foreclosed, in process of foreclosure, and with interest more than 90 days overdue. Under this definition, troubled mortgages represent 9.6 percent of the 20 insurers' 1992 mortgage portfolios. In contrast, Standard and Poor's rating service defines troubled mortgages as including foreclosed and restructured mortgages, those in process of foreclosure, mortgages with payments more than 30 days overdue, and an additional amount identified as

[4]Thrift Failures: Costly Failures Resulted From Regulatory Violations and Unsafe Practices (GAO/AFMD-89-62, June 16, 1989) and Failed Banks: Accounting and Auditing Reforms Urgently Needed (GAO/AFMD-91-43, Apr. 22, 1991).

potentially troubled—a so-called watchlist. The watchlist is the larger of 50 percent of the other troubled categories or an amount supplied by the insurer. Using this definition for life insurers at year-end 1992, Standard and Poor's reported that, on average, troubled mortgages made up 31 percent of the mortgage portfolios of the 25 largest mortgage holders.

The financial statements we reviewed showed that life insurers used varying approaches to establishing their AVR mortgage reserves. In 1992, the 20 life insurers in our sample started with a composite AVR mortgage balance of $2.1 billion: 4 started with a zero balance; 13 with a portion from their 1991 MSVR; 2 with a portion from their MSVR plus some 1991 voluntary investment reserves; and 1 with only 1991 voluntary investment reserves. Even though the 20 life insurers reported net mortgage losses of almost $1.1 billion in 1992, they were required to accumulate mortgage reserves of only $461 million that year —less than 44 percent of their losses. Ten of the 20 sample life insurers also voluntarily contributed a total of $1.3 billion to their AVR mortgage reserve in 1992. As shown in tables II.3 and II.4, the composite AVR mortgage reserve of $2.8 billion represented less than 2 percent of the 20 insurers' overall mortgage portfolios and about 18 percent of their delinquent mortgages.

In addition to their AVR mortgage reserves, insurers may set aside additional investment reserves outside the AVR to cover mortgage losses. Unlike voluntary contributions to the AVR, an insurer has latitude to reduce these other voluntary investment reserves from year to year. The financial statements we reviewed showed that 12 insurers wrote in voluntary investment reserves as a balance sheet liability or used contra-assets to reduce reported mortgage values. Because the annual statements did not explain the basis for these other investment reserves or asset adjustments, we do not know if these are allowances for known investment losses or contingency reserves for unexpected losses.

We cannot assess the adequacy of the 20 insurers' mortgage reserves without reviewing the quality of their mortgage portfolios. Yet, we question whether the AVR formula provides for adequate reserves given that required AVR reserves represent only 36 percent of the total mortgage reserves we identified in the 20 insurers' statutory financial statements. Table II.5 shows the required AVR reserves,[5] voluntary contributions to the AVR, and other mortgage reserves reported by the 20 insurers in 1992.

[5]We calculated the required AVR reserves in 1992 as the difference between the AVR mortgage balance and voluntary mortgage contributions to the AVR.

Table II.5: 1992 Mortgage Reserves for the 20 Largest Life Insurers

Dollars in millions

Type of reserves	Number of insurers	Amount of reserve	Percent of all mortgage reserves
Required AVR	20	$1,475	36.0%
Voluntary additions to the AVR	10	1,335	32.6
Voluntary outside the AVR	12	1,284	31.4

Source: Annual statutory financial statements.

Comments by the National Association of Insurance Commissioners

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

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February 22, 1994

Mr. James L. Bothwell
Director, Financial Institutions and Markets Issues
United States General Accounting Office
Washington, DC 20548

RE: Draft Report: Insurance Regulation: Shortcomings in Statutory Loss Reserving for Life Insurers' Assets

Dear Mr. Bothwell,

The National Association of Insurance Commissioners (NAIC) appreciates the opportunity to comment on the draft report on the NAIC's Asset Valuation Reserve/Interest Maintenance Reserve (AVR/IMR) system. We have a few general comments about the report, as well as some specific comments.

GENERAL COMMENTS

The Report Is Tainted by an Unwarranted Bias Toward Market-Value Accounting

See pp. 13-14.

Clearly the authors of the report have a distinct bias for market-value accounting. This bias taints the analysis. The bias is derived, it seems, from the authors' experience with the regulation of other financial institutions. However, on this issue, comparisons to various banking institutions are not particularly fruitful because banks' liabilities are primarily demand liabilities backed by assets that are, because of their liability structure, quite different from life insurers.

As the NAIC has made clear on a number of occasions, both to the GAO and in congressional testimony, market value accounting for all assets of insurers is not in the best interests of insurance consumers. While I will not endeavor to cover all aspects of this complex issue, I will address briefly the fallacy of the underlying premise of the report that market-value accounting for insurers is preferable to statutory accounting principles.

The existing reporting and accounting rules for life insurance companies use conservative, non-market assumptions for the calculation of liabilities. This conservative approach recognizes that the liabilities of a life insurer represent a variety of obligations ranging from those that consumers can demand at any time to those the insurer has committed to

pay over long periods of time. The liquidity needs for these various liability types vary significantly.

This conservatism on the liability side is mirrored in the rules governing the reporting of assets, which tend to focus on the insurer's intention and ability to hold the asset over time. The valuation of assets is inextricably tied to the valuation of liabilities. Frankly, it is not material to decide precisely what a life insurer's assets are worth today if, in fact, they will not be demanded for use today and will be kept until maturity. The exception to this non-market reporting of assets is where the long-term value of an asset is in question or can fluctuate widely, thereby impairing its ability to support maturing liabilities. Such assets must be marked to market.

Marking insurers' assets to market value cannot be done without also requiring that insurers' liabilities be marked to market. To mark only assets to market would cause insurers' surplus to fluctuate meaninglessly in response to changes in interest rates. Yet, marking both assets and liabilities to market would result in the loss of much of the conservatism in the current system for calculating insurers' liabilities. Furthermore, only about one-third of the assets in most companies have a readily obtainable market value. This means that any individual market value assignations would involve some level of subjectivity, and give insurers a greater opportunity for subjective analysis than they now have.

See p. 14.

The Report Ignores Important Regulatory Tools that Complement AVR/IMR

The report attempts an analysis of AVR/IMR in a vacuum and out of context, ignoring the many other tools designed by the NAIC to protect consumers and policyholders from threats to insurer solvency. Some of the complementary solvency regulation tools overlooked by the report include:

- Life/Health and Property & Casualty Risk Based Capital requirements;
- improved financial examinations;
- improved financial analysis by the states and the NAIC's Financial Analysis Division;
- limitations on low grade investments, adopted as a model law by the NAIC in 1990 and adopted in 26 states;
- improved credit for reinsurance requirements;
- annual independent CPA audits;
- cash flow and asset testing via actuarial models;

- the Investments of Insurers Model Act, currently under development by the NAIC; and
- other asset-related accounting rules, such as non-admitted asset requirements, reserves for reinsurance recoverables over 90 days past due, limitations on goodwill, and a prohibition of the deferral of policy acquisition costs.

The report places far too much trust in, and too heavy a burden on the power of accounting systems to solve financial reporting problems for financial institutions. There are very real limits to accounting, as any skilled financial professional knows.

The AVR and IMR were not intended to be the ultimate weapon in the war on insurer solvency problems. To ignore so many asset-monitoring regulatory tools and then conclude, as the report does, that the reserves "do not result in financial reports that fairly reflect an insurer's true financial condition" is to predetermine the report's conclusion.

The Report Misstates the Goals of the AVR/IMR System

See pp. 14-15.

See comment 1.

At a fundamental level, the authors of the report misstate the purposes of AVR/IMR. They compound this error by then comparing what the reserves do against these misstated purposes and, not surprisingly, conclude that the reserves are not adequate to achieve their purposes.

Now on pp. 7-8.

The AVR/IMR system was not developed for the purpose of "predicting loss exposure" of insurers' investment portfolios, as claimed on page 13. Rather, it was developed to build a general reserve to absorb future unexpected adverse variation and performance of insurer investments.

Indeed, the report's assumption that these reserves should predict the loss exposure of a current investment portfolio is a product of its assumption that insurance regulators should use market-value accounting, an assumption that the NAIC rejects.

SPECIFIC COMMENTS

Now on p. 2.

Page 3

See comment 2.

The report claims that the use of industry-wide experience in the calculation of the AVR "provides a false sense of accuracy in predicting loss exposure." Setting aside the already-discussed problem that predicting loss exposure is not the purpose of AVR, this statement would be true only of the most naive, untrained regulators. No trained regulator would presume that the results of the AVR, without reference to any other regulatory tools, provide an accurate predictor of loss exposure.

Now on p. 2.
See comment 3.

Page 3

By stating that "by delaying the impact of credit-related investment losses, the AVR masks the impact of losses for insurers with deteriorating investments," the report ignores the fact all credit related losses are charged to the AVR in the year of occurrence, hardly a delayed impact.

Now on pp. 6-7.

Page 11

To support its argument that AVR's accumulation mechanism undermines reserve sufficiency, the report implies that changes in the reserves of the 20 largest life insurers from 1991 to 1992 resulted from switching to AVR/IMR from the previous Mandatory Securities Valuation Reserve (MSVR).

See comment 4.

The methodology underlying this argument is fatally flawed, and the report does not credibly establish a correlation between the two events. There are many variables that might effect any company's reserve regardless of whether they use the MSVR or AVR/IMR.

Some of these other factors are:

- composition of insurers' portfolio;
- credit-worthiness of issuers;
- economy of marketplace; and
- recent dispositions and acquisitions of investments.

There are two ways to establish the correlation that the report implies: (1) to identify each variable other than the change in reserving systems and to make sure that each such variable did not change from 1991 to 1992; or (2) perform a "what-if" analysis holding all the variables constant. There is absolutely no evidence that the report's authors did either, a failing that renders this "finding" meaningless. This is particularly true in a year in which insurers were making unprecedented changes in their balance sheets to accommodate incoming Risk Based Capital standards and in which the AVR was in the low portion of its percentage phase-in.

Now on pp. 6-7.

Page 11

See comment 5.

To criticize IMR/AVR for permitting a three-year phase-in is careless in our view. It demonstrates a lack of appreciation of the damage that can result from sudden, significant

accounting changes. The important consideration is that the phase-in period is defined and of a reasonable duration.

Now on pp. 7-8.

Page 13, et seq.

See comment 6.

The report argues that it is inappropriate to base the reserve factors on industry averages because they do not reflect individual company results. By doing so the report overlooks the fact that the use of industry averages eliminates many of the opportunities for abuse that would be available to companies if they were to develop their own factors.

See comment 7.

Furthermore, the report criticizes the use of arbitrary factors for assets that do not have historical data on which to develop averages. This raises the question of how one could develop a better factor without the benefit of historical data. It would seem that the only alternative would be to ignore those assets until there is some historical basis for a factor to be developed -- which, in this case, is not a responsible regulatory approach.

See comment 8.

Clearly the report's authors prefer the asset-specific reserves used by banks and thrifts to formula-based reserves used by insurers. Yet, this nation's experience, particularly in the 1980s, has shown that the latter have been more effective than the former. Indeed, it is notable that the report makes no effort to show that alleged problems with either the MSVR or the AVR were in any way related to insurer insolvencies.

Now on p. 8.

Page 14

See comment 9.

By suggesting that differences in reserves should be required among A, AA, and AAA securities, the report's authors ignore what insurance regulators did not -- that the relatively minor distinctions between these various investment-grade securities are of virtually no utility in assessing whether a company's solvency is at risk.

Now on p. 9.

Page 14

See comment 10.

The NAIC has determined that the cost of reviewing each and every mortgage on insurers' books would far exceed the benefits.

Now on pp. 8-9.

Page 14

See comment 11.

The report's complaint about the impact of the capping of reserve factors is mitigated by the fact that extreme risks, or "outliers," would most likely be captured by risk based capital and other tools designed to enhance solvency.

Now on p. 9.

Page 15

See pp. 14-15.

Here again, the report predetermines its conclusion by treating the AVR/IMR reserves as the only solvency tools available to insurance regulators. The reserves are not intended to

See p. 15.
See comment 1.

be a substitute for reviewing an insurer's own portfolio to assess the need for loss reserves or other market valuation adjustments.

Page 20

Now on pp. 11-12.

The report overlooks the fact that, as to common stocks, a higher risk factor is used.

See comment 12.

Finally, one major point the draft fails to report is that the NAIC and state insurance regulators have stated repeatedly -- most recently in the case of risk-based capital -- that these new reserves are not the last word. They contain certain improvements over the prior system and will continue to be studied for future improvements once we've had a chance to study how they work.

See comment 13.

CONCLUSION

See pp. 14-15.

The Asset Valuation Reserve and the Interest Maintenance Reserve accomplish what they are supposed to accomplish -- building a general reserve to absorb future unexpected adverse variation in and performance of insurer investments. When viewed in context with recent dramatic improvements in solvency regulation and with upcoming enhancements, they are a valuable new tool for protecting consumers from insurers' asset-related troubles. They have broadened the array of assets subject to asset reserving and have elevated the regulators' level of knowledge about the financial condition of insurers.

Again, we appreciate the opportunity to contribute our comments to your report. We look forward to continuing to help the GAO better understand the regulation of insurance.

Sincerely,

David B. Simmons
NAIC Executive Vice President

DBS/tgg

The following are GAO's comments on NAIC's letter dated February 22, 1994.

GAO Comments

1. In its letter, NAIC commented that we misstated the goals and purposes of the AVR and IMR. We believe their comments reflect the general confusion resulting from the multiple and conflicting roles served by statutory asset reserves—discussed in detail on pages 12-13. Also, NAIC said that the AVR and IMR serve to build "a general reserve to absorb future unexpected adverse variation and performance of insurer investments." We recognize that the insurance regulatory approach requires an insurer to set aside a portion of its capital and surplus as a contingency reserve for future investment losses. However, any contingency reserve must be in addition to separate allowances for current asset losses if an insurer's financial statements are to fairly reflect its true condition.

NAIC further said that statutory asset reserves are not intended to be a substitute for reviewing an insurer's own portfolio to assess the need for loss reserves or other market valuation adjustments. However, in its comments on our earlier report about Executive Life's bond overstatements,[1] NAIC said that statutory asset reserves calculated against an insurer's portfolio would probably be larger than selective reserving against known problem assets. Thus, NAIC has implied that the general statutory asset reserve could substitute for marking impaired bonds to market values in addition to providing a cushion for future losses.

As discussed in our report, an NAIC advisory committee reported that combining reserves for expected losses with contingency reserves for unexpected losses in the old MSVR was potentially misleading. Yet, statutory asset reserves continue to commingle current losses with capital allocations, thus providing a distorted measure of capital adequacy. For this reason, we believe that the multiple and conflicting uses of statutory asset reserves will likely undermine regulators' ability to assess capital adequacy and the need for intervention in cases where insurers are in danger of insolvency.

2. In our report, we say the use of industrywide or historical market experience in the AVR formula understates the potential loss for insurers with higher-than-average risk and overstates the potential loss for insurers with lower-than-average risk. We revised the text to reflect that the AVR's use of ad hoc estimates—when industrywide or historical data were not

[1]NAIC's comments and our evaluation are contained in appendix II of Insurance Regulation: Weak Oversight Allowed Executive Life to Report Inflated Bond Values (GAO/GGD-93-35, Dec. 9, 1992).

available—could provide a false sense of accuracy. Whether based on industrywide experience or on NAIC's estimates, the AVR formula offers little or no assurance that statutory asset reserves are sufficient to cover losses on an insurer's risky and troubled assets.

NAIC also implied that knowledgeable regulators would not rely on the AVR formula to produce accurate asset reserves. Without an accurate measure of an insurer's ability to absorb declining asset values and investment losses, however, regulators cannot readily determine that an insurer is in danger of becoming insolvent. Even though NAIC believes that regulators can overcome this hurdle, others—including rating services, industry analysts, and policyholders—also rely on statutory financial reports.

3. We revised our report to clarify that the AVR and IMR delay the impact of the asset losses on capital. Although credit-related losses are charged to the AVR, the accumulation process results in the AVR absorbing 80 percent of the current year's gains and losses, allowing only 20 percent of the gain or loss to affect capital in that year.

4. Our objective—discussed on pages 4 and 5 of the report, as well as in appendix II—was to compare the growth in statutory asset reserves to the increase in assets subject to reserving for the 20 largest life insurers. We recognize that the percentage of reserve growth would not correspond on a one-to-one basis with the increased asset base. We do not imply that the lag in asset reserves was attributable solely to the AVR's accumulation process. In its letter, NAIC agreed that the phasein of the AVR's accumulation accounted for part of the lag.

NAIC suggested several alternative factors that also may have contributed to the reserving lag, such as the composition of an insurer's portfolio. We agree, for example, that improvements in the portfolio quality and composition would contribute to low asset reserve growth. However, financial data for the 20 largest life insurers did not indicate that their exposure to risky and troubled assets decreased from 1991 to 1992. Table II.4 shows that the 20 largest life insurers' aggregate holdings of noninvestment grade bonds and preferred stock, as well as delinquent mortgages, increased over the year.

5. We disagree that without a phasein the AVR would have represented a sudden accounting change. As described in detail in appendix I, the AVR is designed to accumulate gradually, thus delaying the impact of investment losses on capital. The 3-year phasein of the AVR slows the accumulation

process, and thus further increases the likelihood that an insurer may not build up adequate asset reserves to cover its losses. We believe that asset reserves should fully reflect investment losses as they occur and that any process for accumulating reserves over time undermines reserve adequacy.

6. We recognize that formulas allow less insurer subjectivity than alternative reserving practices. Formulas can provide a uniform reserving method that is simple for regulators to implement consistently across all institutions. As discussed on page 4, to be adequate, asset reserving practices must provide for timely identification and recognition of losses on individual troubled assets, as well as for quantitative analysis of other losses inherent in an insurer's portfolio. Quantitative analysis, including any formulas, should be based on an individual insurer's loss experience and current market conditions.

However, any formula based on historical industry or market averages is misleading when applied to an individual company's portfolio. Differences in loan underwriting policies, administrative practices, portfolio composition, and geographic dispersion of properties cannot be considered using market or even industry averages. For this reason, we believe that tinkering with the AVR's industrywide risk factors is unlikely to ensure adequate reserves against an insurer's risky and troubled assets.

7. We agree that failing to reserve against assets for which historical data are unavailable would not be a responsible regulatory approach. We were concerned that elaborate calculations based on arbitrary factors could convey a false sense of accuracy. Further, the arbitrary factors in the AVR formula ignore individual insurer experience and current market conditions.

8. NAIC misinterpreted that we prefer the current reserving practices of banks and thrifts over formula-based reserving. In our reviews of failed thrifts and banks, we concluded that the flexible accounting rules used to recognize and measure loan losses were a major factor in those institutions reporting inflated asset values and capital levels to their regulators.[2] We have recommended that the federal regulators develop and

[2]Our reports discussing inadequate asset loss reserves of failed institutions include Thrift Failures: Costly Failures Resulted From Regulatory Violations and Unsafe Practices (GAO/AFMD-89-62, June 16, 1989); Failed Banks: Accounting and Auditing Reforms Urgently Needed (GAO/AFMD-91-43, Apr. 22, 1991); Depository Institutions: Flexible Accounting Rules Lead to Inflated Financial Reports (GAO/AFMD-92-52, June 1, 1992); and Bank and Thrift Regulation: Improvements Needed in Examination Quality and Regulatory Structure (GAO/AFMD-93-15, Feb. 16, 1993).

implement a sound methodology to quantify risks in assessing the adequacy of asset loss reserves and reserving methods.

While we recognize the advantages of asset reserving formulas in general, we are concerned that NAIC's current AVR formula does not correspond to an individual insurer's exposure to investment losses. In our review of the failures of Executive Life of California, its subsidiary Executive Life of New York, First Capital, and Fidelity Bankers, the four insurers had inadequate statutory reserves to cover their investment losses. The case of the Executive Life companies—discussed on page 12—illustrates that the statutory asset reserves did not reflect the extent of the insurers' known losses, thus hindering regulators trying to assess capital available to absorb further losses.

9. We used the bond rating example to illustrate that applying an average reserve factor to a category of assets with varying risk provides incentives for an insurer to hold riskier assets without assessing the need for higher reserves. We do not suggest that NAIC should develop a reserve factor for each bond classification.

10. We do not recommend that insurers should review each and every mortgage on an individual basis. We believe that, to be adequate, reserving practices must provide for timely recognition of losses on individual troubled mortgages and quantitative analysis of other inherent losses in an insurer's mortgage portfolio.

11. Any capping methodology provides incentives for an insurer to take on more investment risk without assessing the need for increased asset reserves. NAIC's new risk-based capital requirements for life insurers also impose caps on risk factors for various asset categories. For this reason, we question how risk-based capital will address extreme asset risk outlying the average factors.

12. We discuss the AVR's common stock factors on page 8 of the report, and in more detail in appendix I. The IMR does not cover common stock.

13. We recognize that NAIC plans to refine the risk factors in the AVR formula. In our report, we discuss NAIC's plans to replace the current ad hoc factor for mortgages.

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