AMERICAN ACADEMY *of* ACTUARIES

Report on Aggregate Margins from the American Academy of Actuaries' Life Reserves Work Group

Presented to the National Association of Insurance Commissioners' Life and Health Actuarial Task Force

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Comparing aggregate margins

The LRWG is researching tools to measure the relative size of the aggregate margin included in the reserves. One such tool we are exploring is through the use of a number we are calling "Z", and is defined as follows:

Z = (Reserve held - Best estimate liability) / (present value of capital requirement)

The denominator (present value of capital requirement) is the present value of an annuity whose annual payment amount is the capital that must be held over and above reserves in connection with the liability each year in the future.

It can be shown that "Z" represents the amount by which the pre-tax return on capital is expected to exceed the return on invested assets. Given this connection with the return on capital, one can readily use judgment to grasp whether margins are within a reasonable range. This measure could be calculated on each valuation date.