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Value added (continued from page 1)

The calculation of the value of insurance in force begins with an estimate of distributable cash in each future year. It is derived as follows: projected future cash flows for each remaining year the policies are in force, plus annual adjustments that reflect the runoff of statutory reserves and required surplus over the remaining life of the policies.

The present value of this stream of distributable cash, at the shareholders' risk rate of return, is the value of the insurance in force. The shareholders' risk rate of return is the cost of capital for the insurance company; i.e., the rate that shareholders expect to receive on their invested capital given the riskiness of the business.

Next, the annual "profit" amount is determined by calculating the difference between the embedded value at two points in time.

Once the capital and "profit" are known, the value added during the year can be calculated. The value added during the year can be defined as the excess of (a) over (b) where

(a) equals the "annual" profit, i.e., the difference between the beginning and ending embedded values; and

(b) equals that portion of the increase in value represented by applying the shareholders' risk rate of return to the beginning embedded value. This item can be referred to as "the annual cost of capital."

If the difference is positive, value has been created. If it is negative, value has been destroyed.

General business application

Value added analysis provides insight into the key drivers of value in all businesses, not just insurance. Through its use, companies can understand where capital is employed and which products, services, or business units are providing an adequate return on that capital. Since capital is increasingly scarce, such a tool can provide the competitive edge that distinguishes the successful companies from the rest.

Actuaries are uniquely positioned to implement, calculate, and interpret the results of value added performance measurement systems. We are skilled at using judgment and analysis of past experience to make assumptions about future scenarios. We have learned to reflect risk and uncertainty through sensitivity analyses by varying levels of required surplus and by using appropriate discount rates. Our communications should allow management to make informed decisions regarding the future direction of a company, since the financial impact of each of the following activities can be assessed through the use of value added:

- Selling new business
- Eliminating or adding products
- Entering or exiting certain markets
- Acquiring or selling portions of the business
- Altering distribution strategies

The paper, "Capital Projects," by C.G. Lewin, S.A. Carne, and others, explores a similar theme and was presented in November 1994 to the Institute of Actuaries and the Faculty of Actuaries in the United Kingdom. It summarizes current knowledge about the appraisal and control of capital projects in all industries and identifies the useful contribution that actuaries can make to the process. This paper is in the Society of Actuaries library and is available for loan.

Sue A. Collins is a principal of Tillinghast, a Towers Perrin company, and is manager of the Hartford life office.

New specialty guide available

by Peter Duran

A new Professional Actuarial Study Guide (PASG), "Distribution Costs and Compensation," edited by Marshall Lykins, is now available from the Society. The guide is enclosed with this issue of *The Actuary* for members of the Product Development Section. Other Society members may obtain a copy by calling the Books Department at 708/706-3526. Also, the guide is available through Actuaries Online, the Society's electronic bulletin board.

PASGs are intended for actuaries who want to become familiar with various specialized areas of practice. They describe the area and the role of the actuary within the area. References covering all the major topics are provided.

Topics covered by the guide, "Distribution Costs and Compensation," include the financial management and cost of agency distribution systems, field compensation, profitability of field organizations, and New York expense limitations.

A revision of PASG H-1-91, "Life Insurance Company Investments," also is available and is enclosed with this issue for members of the Investment Section.

Peter Duran, partner at Ernst & Young LLP, New York, is chairperson of the Life Insurance Specialty Guides Committee.