## Biography on Reviewer

Robert P. Eramo is the Manager of the Commercial Lines Actuarial Department of the Hanover Insurance Companies. His department is responsible for independent product pricing and the production of various underwriting and marketing reports. Bob is an associate of the CAS and a member of the AAA. He has written a paper on "Money Credit and Federal Reserve Policy Changes" for the 1981 CAS call and he has served on various industry committees at the Insurance Services Office. He has maintained a long interest in the economy and investment matters and how such economic and investment conditions affect the insurance industry.

Review of Paper: Property and Casualty Insurance, Solvency and Investments - Playing the Game; Author - Paul Otteson

by Robert P. Eramo

Paul Otteson has presented a paper on investments and their implications in Property/Casualty insurance decision making. These investments also affect the "real" net worth of a company and a stock investor's decision to buy, sell or hold insurance equities. Paul covered a lot of territory and I would have hoped that some specific subjects would have been covered in more detail. But it was refreshing to read a paper from an actuary where he was primarily concerned with the asset side of the house. Most insurance professionals are very much involved in the underwriting, actuarial and marketing functions of an insurance operation. And unfortunately, in most insurance operations, assets are managed at a very long arm's length distance from the liability and operational sides of the house.

## Insurance Company Stock Values

First, let's look at the behavior of insurance company equities over the past 10 years and see if there are basic underlying values that influence their price.

The equity market in early 1973 began its worst bear market

since the late 1930's. Major equities lost half of their value. The Dow Jones industrials fell from the 1060 level in January of 1973 to a low in the 570's in the months of September 1974 and December 1974. Secondary issues behaved even worse. The American Exchange index lost almost 80% of its value. The insurance industry's stocks also faired poorly in the period. Part of their poor behavior was related to general equity market conditions, but basically economic fundamentals hit insurance stocks with a triple whammy.

Three developments assaulted the industry simultaneously. First, the stock market collapse adversely affected the assets of insurers. Secondly, underwriting results deteriorated because of a period of double digit inflation affecting settlement costs coupled with rate levels determined in 1972 that grossly underestimated the inflation. And thirdly, the early 70's witnessed the first bond market collapse. Long treasury bond interest rates which had been coasting at yield to maturities between 5.5% to 6% increased their yields sharply to a peak of 8.70% in September of 1974. As Paul adequately points out, traditional insurance securities analysis does not give much weight to the change of the market value of an insurance company's bond portfolio. The almost 30% drop in bond prices greatly affected the perceived "real" net worth of insurance companies. Since bond prices had been stable or only declining very slowly for almost 30 years, analysts had usually ignored bond market value.

Any equity tends to have its liquidation value as a floor to its market value. Officially stated policyholder surplus and GAAP stockholder equity have not provided an insurance analyst with such a floor value. Bonds must be valued at market and so also liabilities discounted to give a true picture of net worth. Back in the 1974 period there were many financial news stories about 50% of the equities on the New York Stock Exchange selling below book value. Unfortunately, if other industries shared accounting fantasies similar to our industry's valuation of bonds, the situation of many stocks selling below official book value was not surprising at all. Paul's exhibit on the Travelers for 6/30/1982 clearly shows what putting bonds at market can do to true net asset value.

Interest rates did peak in September 1974, but their subsequent decline through 1977 was modest. In fact the average yield to maturity on 30 year government bonds was 7.68%, far above what investers were used to prior to 1973. Although market value of existing bonds did decline, there was a silver lining for the P & C insurance industry. Older maturing bonds, whose coupons were 4% and less, were reinvested at the higher lush yields. Interest rates on 30 year T-bonds continued to inch up through mid 1979 to about 9.1%. The sharp march upward in investment income relative to premium volume really began a gallup. An underwriting profit plus these investment yields created the most prosperous rates of returns

for P & C insurers in history. Everybody soon wanted to get into the insurance business. With enormous capital being attracted to the industry, the conditions for an underwriting cycle turn existed. Price competition began and the cycle turned. The imposition of a monetarist policy on the part of the Federal Reserve banks led to a free market determination of interest rates. Combined with fears of high inflation, the new policy enabled creditors to demand as much as 15.2% on 30 year T-Bonds in October 1981. Insurance companies became primary beneficiaries of the high interest rates.

Even though from a "true" value balance sheet analysis many companies were technically bankrupt in 1981, the high net earnings from combined underwriting losses and investment income acted as a support or floor to insurance company common stock values. The present value of future earnings acted as a floor to the industry's common stock value in the bear market of 1981 to August 1982.

Paul's suggestion that insurance companies be judged by insurance analysts on other than traditional earnings basis has been a reality in the stock market for years. Simply looking at underwriting results, fictitious statutory policyholder surplus, GAAP stockholder equity or just combined operating earnings does not satisfy investors. Investors recognize the two values of real net worth and the present value of real future earnings in their decision to buy, sell or hold insurance equities. No one is

fooled by official accounting very long when that accounting no longer reflects reality.

## Judgment of Insurance Management

Judging the stocks of insurance companies is one thing, determining the performance of insurance executives is something else. Admittedly all factors affecting a company's true net worth or its earnings stream are its management's responsibility. But the question of whether or not a CEO should be judged in the same manner as his company's common in the market place must be answered with a very definite "NO".

Insurance managements have variable levels of control over the factors that affect a company's overall results. The operations today are primarily underwriting, pricing and marketing organizations. The technical expertise lies primarily in these functions and their performance primarily affects underwriting profit and/or growth. The behavior of the bond market, interest rates and the stock market are external givens to an insurance operation. Sudden changes in the stock and bond markets can rarely be predicted with any consistency; and, insofar as changes in these markets affect most companies similarly, their affects on a company should be less important in judging a company's executive staff. I am not agruing that executives should be oblivious to the economic forces

affecting the insurance business; I'm just saying that executives have less ability to anticipate and hedge against changes in stock and bond markets than they have an ability to alter marketing and underwriting policy.

As insurance management becomes more sophisticated a standard may develop where there is an explicit linkage between the asset and liability side of the house. If a company sets up its balance sheet with above the line liabilities of a certain duration* and if an equivalent amount of assets are set up with the same duration, the company would be indifferent to interest rate fluctuations insofar as its real net worth is concerned. A caveat has to be stated that one must know what "tomorrow's" spot yield curve will be to make this game work. The caluation of duration for the assets and liabilities may be the same under one yield curve assumption, but the asset & liability duration can be different under a different spot yield curve.

There may be a day where a matched duration strategy becomes a standard in our industry. If there is a sharp rise in interest rates and the duration of assets far exceeds the duration of liabilities a serious net long position in the credit market will lead to a major reduction of net worth. Could this be a reason for removal

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*See "Duration" by R. Ferguson for introduction to concept. Also see Drs. Elton & Gruber, chapter 19 of "Modern Portfolio Theory and Investment Analysis" for dependence of duration on yield curve.

of the CEO? It certainly isn't that way today.

Matching duration of assets and liabilities is an interesting idea that would virtually eliminate the net long position in the credit markets that most insurance companies find themselves in today. But what if interest rates continue to go down? A hedged duration strategy would prevent a company from capitalizing on such an economic eventuality. How does a Board of Directors judge a company's leadership whose main life style is to hedge your bets?

## Conclusion

Playing the game properly, really means having a strategy on which a company can capitalize on both the insurance and economic future. Management must be astute enough to make a forecast of both economic and insurance conditions; and, with this forecast, management must design an operational insurance program and an investment program that fits its most probable economic and insurance scenario. Admittedly insurance companies have more expertise on the insurance side of the house; but, there is no excuse for management not to forecast and act according to those forecasts.

Paul's paper gives us a taste of trying to manage assets intelligently. Actuaries should venture ahead and apply their high mathematical skills to the asset side of the house.