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CONVERTING INVESTMENT RATES (AND CAPITAL GAIN AND LOSS RATES) FROM RATES BASED UPON PERIODS OF ORIGINAL CONTRIBUTION TO RATES BASED UPON DOLLARS OF ORIGINAL CONTRIBUTION

by
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(Author's Note: In a paper entitled "Using Cash Flows to Allocate Investment Income" (ARCH 1979.1) reference was made to the conversion of investment rates (and capital gain and loss rates) from rates based upon periods of original contribution to rates based upon dollars of original contribution. Thus arose the topic of this note.)

The process of converting investment rates (and capital gain and loss rates) from rates based upon periods of original contribution to rates based upon dollars of original contribution is the process of breaking down the net cash flow for a period of measurement into its net inflow and net outflow of cash. The net inflow of cash represents new investment by "depositors" --both new and old depositors. The net outflow of cash represents disinvestment by previous periods' depositors.

The deposits of any one period may be disinvested in any future period (until exhausted). The current investment for any of these future periods should earn the current investment rate under the investment-year approach to allocating investment income.* By noting a period's disinvestment of deposits in future periods and charging the period for the proper potential investment income for each of these future periods, the period's investment-year rate based upon periods of original contribution may be converted to a rate based upon dollars of original contribution. Of course, this says that the potential investment income calculated for this period is the same under both sets of rates. Thus, in any current period, the investment-year rates may be converted starting with the rate for the current period and working backwards through all select periods, ending with the rate for an ultimate period or, if none, the earliest select period.

The reader will note that the above process results in a comparison of the turnover of assets to the turnover of liabilities. Comparing the rates based upon periods of original contribution to the rates based upon dollars of original contribution will give an indication of how well the turnover of assets has kept up with the turnover of liabilities...which is also an indication of how well the investment-year approach to allocating investment income is working.

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* Generically speaking, the investment-year approach is any method which assigns an investment rate to each period of investment for allocating investment income.