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INSURANCE COMPANY MANAGEMENT REPORTING

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o   What measures should be used in setting objectives and in evaluating performance for insurance companies and product lines?

o   What variations are appropriate for stock and mutual companies? --or United States and Canadian companies?

o   Qualitative considerations in interpreting and evaluating information by the management reporting system.

MR. THOMAS G. KABELE: I will discuss some of the reports used by the Guardian Life Insurance Company to monitor and control its life insurance business. The Guardian is organized by "profit centers," there are now profit centers for:

1.   Individual Life

2.   Individual Health

3.   Group Life and Health

4.   Equities (Variable Life and Annuities)

5.   Reinsurance Assumed

The newest profit center is Reinsurance Assumed, which I head.

For each profit center, a bottom-line budget based on statutory accounting is prepared. The profit centers do not correspond to Annual Statement columns (page 5, 6, exhibit 1 and exhibit 11). This is because the profit centers contain different mixes of business. For example, the individual life profit center also includes supplementary contracts and some old annuity business. The group profit center includes some wholesale business which is shown as individual life or individual health. The Reinsurance Assumed profit center includes several Annual Statement lines.

Also, the bottom-line budget combines several Annual Statement gain or loss lines in one category. For example, premiums and fund deposits are both included under premium. Surrender benefits, maturities, annuity benefits and reserves released on death are all included as increase in reserve. On the other hand, Exhibit 5 expenses are split into home office expenses, field representative salaries and agent expense reimbursement allowances. The Guardian has a salaried agency force. Salary is largely based on production, but is categorized as salary rather than in Exhibit 1 as commission. Like many New York licensed companies, the Guardian reports part of its first-year commissions to general agents as an expense reimbursement allowance (ERA). The ERA is also included in Exhibit 5, rather than in Exhibit 1.

In addition to what is shown on Chart 1, the bottom-line budget has several subsidiary charts which break premiums into first year, renewal, or single categories. Also shown are finer splits of other bottom-line budget items. The bottom-line budget shows not only the current and prior year actual data, but also the current and previous year budgeted numbers along with the percentage variation of actual from budgeted.

Annual Statement data is projected for four to five years into the future using an earnings model. The model was originally introduced by the Guardian's Chairman, Mr. John Angle, to explain variations from budget. I expanded his ideas into a one-year projection model. The one-year model started with projections of premium income and investment income. The premium income data was obtained from the various profit centers, and investment income was projected using a projection of interest rates and a projection of funds and cash values.

I projected expenses by using expense-to-premium ratios. Death claims less reserves released were projected as a percent of tabular cost. The percentage was loosely based on the page 6 (Analysis of Increase in Reserves) actual-to-expected ratio. This ratio was adjusted downward if new business was expected to increase. As we know, actual-to-expected ratios for page 6 are based on ultimate mortality tables (American Experience, 1941 Commissioners Standard Ordinary (CSO), 1958 CSO), while actual mortality is select-ultimate. Thus a large increase in term insurance can make it appear that the company has very favorable mortality even if the underlying experience is much worse than the pricing assumptions.

Surrenders and gains on surrenders were based on a percentage of the cash value, or a percentage of the excess of reserves over cash values. The Guardian used (and still uses) net level reserves for new business. Therefore, there were substantial gains on surrender, and the old problem that if business was bad it looked good and vice-versa. Apparently one other mutual company besides the Guardian uses net level reserves for new business.

Policyholder dividends were related to the formula used to calculate dividends. For example, one of the basic components of policyholder dividends was the excess interest credited to cash values. I therefore

CHART 1

BOTTOM LINE BUDGET — INDIVIDUAL LIFE
Sample — $ in millions

	1985	1984	DIFF
PREMIUM	$ 250	$ 215	$ 35
INVESTMENT INCOME	153	126	27
GAIN ON REINSURANCE	— 2	—1	—1
MISC INCOME	1	0	1
TOTAL INCOME	402	340	62
DEATH BEN LESS RESV REL	27	26	1
INCR IN RESERVE	187	158	29
COMMISSIONS	27	22	5
FIELD REP SALARIES	15	13	2
EXPENSE REIMB ALLOW	26	20	6
HOME OFFICE EXPENSE	21	18	2
TAXES, LICENSES, FEES	6	5	1
MISC EXPENSE	4	3	1
POLICYHOLDER DIVIDENDS	65	59	6
TOTAL CHARGES	378	324	54
FEDERAL INCOME TAX	13	9	4
GAINS AFTER TAXES	11	7	4

projected dividends as a percentage of cash values, and a percentage of policy loans.

Prior to 1982 mutual life companies were taxed on "taxable investment income," so I projected federal income taxes (FIT) as a percentage of investment income.

In recent years the model has been refined by the controller and profit center officers.

Two general techniques are used to allocate investment income by line of business. One is to grade on reserves, or to use some sort of needs-basis technique. The problem is to determine what the needs are. Also the needs-based allocation may overstate or understate actual profits and losses. The second technique is the fund method. The fund for a line of business is simply the accumulation of cash flow since the beginning of the line's existence.

The Guardian uses the fund method to allocate investment income. I used data from the 1950s and 1960s to compute the fund balances for the various profit centers.

The investment-year method and the segment method of allocating investment income are special cases of the fund method. In the segment method all investments, including bonds, stocks and real estate are allocated by lines of business. Under the investment-year method a particular investment may be allocated to several lines of business based on the percentages of cash flow in the year the investment was purchased.

The Guardian segments its investments into only two classes: policy loans and other investments. At the Guardian, we feel that we don't really need the investment-year method or the segment method because we have a very high portfolio turnover rate. For example, in 1984 we traded $3 billion worth of bonds on a portfolio of $1.4 billion. In other words, the average holding period was about five months.

We also do not sell group annuity contracts or other products usually associated with the investment-year method or segmentation. One reason we do not sell these products is that they would adversely affect our dividends to individual life policyholders. Under the 1959 and the 1984 Tax Laws the benefits of tax-exempt bonds and mortgages are reduced for companies selling large volumes of group annuities. Therefore, companies that market group annuities are essentially walled off from a large pool of investments. In fact, the volume of tax exempt bonds outstanding is 70-80 percent of the volume of corporate bonds outstanding.

By not selling group annuities we have been able to go in and out of the tax-exempt market. At the beginning of 1984 we sold large amounts of tax-exempt bonds. Then the market turned around and we pur-chased many back. Currently one-half of our investment income comes from tax-exempt bonds, mortgages, or from corporate stocks.

Not selling group annuities, including guaranteed interest contracts (GICS), has, however, caused us some problems. New York State has a surplus limit for mutual companies in Section 207, and now in Section 4219. The old version of the law limited the surplus to 10 percent of Exhibit 8 and Exhibit 10 reserves. Unfortunately all the health liabilities are in Exhibit 9 and Exhibit 11. Thus, if the law had continued unchanged, a mutual life company writing only health insurance would be required to hold zero surplus. The limit was finally changed to allow for health insurance, but the limit still makes no provision for subsidiaries or for group life insurance. Had the law continued unchanged we would have had to sell group annuities and to reduce dividends to individual policyholders.

I have also prepared balance sheets by profit center. The allocation technique is illustrated in Chart 2. The pooled investment items (bonds and stocks, and so on) are allocated by the fund balances. In fact, the funds for the company equal the ledger assets and ledger liabilities listed next to the word fund in Chart 2.

Policy loans are allocated directly. Reserves, claims, dividends, commissions and expense liabilities are allocated directly from the controller's worksheets. Surplus is then assets less liabilities. The mandatory securities valuation reserve (MSVR) is included as part of surplus.

The surplus allocation has been used to determine dividends for guaranteed cost lines of business. By guaranteed cost I mean a line of business for which sales illustrations do not use nonguaranteed illustrated values. Guaranteed cost lines include group life and health sold to small employers, and supplementary contracts. The surplus allocation is also useful in determining the equity add-on tax.

Our financial reports have been useful for:

1. dividend determination,

2. measuring capacity,

3. monitoring income and expenses.

For example, the balance sheets and the yearly profits and losses determine the overall margins on participating business and the margins for special dividends on guaranteed cost business.

The financial reports are useful in measuring our capacity to take capital losses, hire additional agents or assume additional reinsurance.

The reports have been used to compute premium growth rates and premium persistency. We use the investment exhibits to compute after-tax yield rates. The bottom-line budgets also show aggregate reinsurance costs, and give both claim ratios and ratios of agent's compensation to premium.

The contribution dividend formula was developed, over a century ago, by Mr. Sheppard Homans, one of the founders of the Society of

BALANCE SHEETS BY LINE OF BUSINESS
METHODS OF ALLOCATING ASSETS AND LIABILITIES

CHART 2

LEDGER ASSETS		1. RESERVES	direct
INVESTED	fund	2. HEALTH RESV	direct
FURNITURE, ETC	fund	3./5. EXH 10 RES	direct
OTHER	fund	4. CLAIMS	direct
NON LEDGER		7./8. DIVIDENDS	direct
INVESTED	fund	9./10. PREM	direct
PREMIUMS	direct	13. COMMISSIONS	direct
INVEST INCOME	fund	14. EXPENSES	direct
OTHER	direct	15. TAXES	direct
NON ADMITTED		15. FIT	special
INVESTED	fund	18. LEDGER	fund
FURNITURE, ETC	fund	20. LEDGER	direct
PREMIUMS	direct	25. REINSURANCE	direct
INVEST INCOME	fund	25. MISC	direct
OTHER	direct		
		25. MSVR	surplus

1.   The Fund for any line of business equals its share of
pooled ledger assets — pooled ledger liab

2.   BY "fund" WE MEAN THE FUNDS ARE USED TO ALLOCATE THE POOL
PORTION, AND THE BALANCE IS ALLOCATED DIRECTLY.

3.   FEDERAL INCOME TAX LIABILITIES ARE FIRST SPLIT BY TAX YEA
AND THEN EACH TAX YEAR IS ALLOCATED ACCORDING TO THE REVENUE
AGENT REPORT.

Actuaries. Mr. Homans derived what is now known as the "dividend-fund formula." That is, the dividend is equal to the policy premium plus investment income attributable to the policy minus the mortality charge and minus the end-of-year dividend fund. Mr. Homans' formula is stated in his original 1863 paper in the Journal of the Institute of Actuaries, Volume 11.

The fund formula was modified in the 1950s by Mr. Frank Weck, who built into the formula a provision for terminal dividends and acquisitions costs. In a more recent paper, Mr. Donald Cody extended the dividend formula by building in select mortality rates and lapse rates. In a discussion of his paper it was pointed out that the dividend fund is essentially a "type one" GAAP reserve, computed using GAAP. (Type one reserves are defined in Mr. Robert Posnak's book, GAAP, Stock Life Insurance Companies, published by Ernst and Whinney.)

Thus mutual companies using Mr. Cody's dividend refinements already have adjusted earnings. Mr. Cody's dividend formula is shown in Chart 3. The formula can be turned around to define the fund (F[t]) in terms of the dividend. The resulting equation is the formula for the type one GAAP reserve.

In a discussion of Mr. Cody's paper it was suggested that the fund be defined as a "type two" GAAP reserve. It is computed using conservative interest assumptions and has two components--benefits and expenses. The type one formula has three components--benefits, expenses and policyholder dividends--and the interest, mortality and expense assumptions are the best-estimate assumptions used to compute the dividends.

The Guardian did not use Mr. Cody's method for reconciling the individual life profit center figures with GAAP. In fact the dividend funds were not in a computer readable form.

Thus, at the Guardian, we defined adjusted earnings by making specific adjustments to statutory earnings. Also, adjusted surplus was calculated as statutory surplus with specific adjustments. We added MSVR to surplus. Next we reduced our reserves from the net level basis to cash values. Our cash values are fairly high. They are computed using the "New Jersey" method and they exceed the Commissioners Reserve Valuation Method (CRVM) reserves at all durations. We also included deficiency reserves as part of adjusted surplus, and added a provision for acquisitions costs which exceeds the provision made by the New Jersey reserve calculation. We are currently looking at making provisions for deferred taxes and terminal dividends.

There are similarities between our adjusted surplus and "equity" as defined in the 1984 Tax Law. Both adjusted surplus and equity include the MSVR, deficiency reserves, and reserve adjustments based on cash values. There are differences, however. The equity for tax purposes includes voluntary reserves (reserves which can be reduced without annual statement approval). Also, equity for tax purposes includes one-half the dividend provisions. Finally, there is an odd adjustment

ADJUSTED EARNINGS FOR MUTUAL COMPANIES.

THE MUTUAL DIVIDEND "FUND" EQUALS THE "TYPE ONE" GAAP RESERVE

Sheppard Homans (1863), Frank Weck (1950's), and Don Cody (1980's) have devised the dividend "fund" formula.

$$D[t] = P[t] + i (F[t-1] + P[t]) - qd (1000 - F[t]) - qw (CV[t] - F[t]) - F[t]$$

where

$CV[t]$	=	cash value including provision for Term. D
$D[t]$	=	annual dividend
$F[t]$	=	dividend fund
i	=	interest rate
$P[t]$	=	premium net of expenses
qd	=	dividend mortality rate
qw	=	dividend lapse rate

$\begin{bmatrix} \text{Terminal} \\ \text{Dividends} \end{bmatrix}$

for nonadmitted financial assets which may mean that, for tax purposes, common stocks must be carried at the greater of cost or market.

The formula for adjusted earnings for the Individual Health profit center is similar to the formula for individual life. For the Reinsurance Assumed profit center, we adjust statutory surplus by adding the absolute value of any negative experience account balance and subtracting deferred taxes. The experience account balance is an accumulation with interest of profits and losses from the inception of the reinsurance treaty. On many treaties, the ceding company must repay a negative balance in order to effect an early recapture. In other words, in computing adjusted earnings we generally assume that losses will be recouped. Specific adjustments are made where we feel that the losses are not recoverable.

We use marginal tax rates as developed by Mr. John Fraser in 1963 to allocate tax by lines of business. Charts 4-6 give marginal tax rate formulas under various tax laws.

We also use marginal tax rates to develop the tax equivalent yield (TER), which is used by the investment department in determining the relative attractiveness of tax-exempt bonds and fully-taxable bonds. For example, a TER of 1.307 means that the 10 percent tax-exempt bond will have the same aftertax yield as a 13.07 percent fully-taxable bond.

The charts show that the actuarial item "assumed interest" is subject to tax under the 1984 Act, TEFRA, and phase two negative of the 1959 Act. That is, if a company invests in tax-exempt bonds, the law imposes a tax on assumed interest.

The phase one formula of the 1959 Act imposed a tax on balance sheet items such as assets and reserves. Underwriting income was not taxed, and dividends were not deductible. The tax on tax-exempt bonds was determined by a different (more onerous) formula than used by phase two negative companies. Amazingly for nonpension reserves, there was a tax credit for assumed interest.

The new 1984 Tax Law may be the most complicated tax law ever developed. The marginal rate formulas are more complicated than both the phase one and phase two formulas for the 1959 Act. In fact, the 1984 Law distinguished three types of policyholder dividends: regular dividends; excess interest dividends on universal life and annuity contracts; mortality refunds on universal life contracts. My model company is presumed to have only regular dividends, in order to simplify the illustration.

Note that under the 1984 Act, dividends are not 100 percent deductible to the extent they are deemed to be funded in part by tax-exempt interest and dividends received from other corporations.

In Chart 6 I have calculated the maximum-dividend-interest rate under three different tax laws: phase one and phase two negative of the 1959 Law, and the 1984 Law. The calculation ignores the equity add-on tax.

PHASE TWO   TEFRA TAX FORMULA

VARIABLE		FORMULA	RATE	AMT	TAX
FULLY TAXBL INT	IT	CS+MINT	.875	60	52.50
TAX EXEMPT INT	INT	h PS	.375	20	7.50
UNDERWRITING	U	1	1.000	-40	-40.00
DIVIDENDS PENS	DP	1	-1.000	5	- 5.00
DIVID NON PENS	DN	.775	-.775	10	- 7.75
ASSUMED INT	AI	1-h	.250	40	10.00

TOTAL   17.25

$TAXC = IT + U - DP - DN = 5,$
$TAX = TAXC + (.225\ DN) + (PS\ INT) = 5 + 2.25 + 10 = 17.25$

$h = IT/I = .75,\quad PS = AI/I = .5$
If tax rate = .4; $TER=(1-MINT)/(1-MIT)= .85/.65 = 1.307$

PHASE ONE   1959 ACT

VARIABLE		FORMULA	RATE	AMT	TAX
ASSETS	A	h c K	.0096	1000	9.600
FULLY TAXBL INT	IT	MINT+CS	.72875	60	43.725
TAX EXEMPT INT	INT	h(PS-K)	.33375	20	6.675
RESV NON PENS	VNP	-h x(1-10x)	-.012	400	-4.8
RESV NP ASD INT	IVNP	- h x 10	-.600	20	-12.000
RESV PENSION	VP	- h c	-.06	200	-12.000
INTEREST PAID	B	- h	-.750	10	- 7.500

TOTAL   23.7

$TAX = IT + (PS\ INT) - REQ = 60 + 12.1 - 48.4 = 23.7$

$I = IT + INT = 80;\quad h = IT/I = .75;\quad a = c = x = I/A = .0$
$f = 1 + 10(IVNP/VNP) - x = 1 + 10(.05 - .08) = .70$
$k = a/c\ (f - 10\ x) = -.1$
$K = (VP + VNP\ k)/A = .16$
$REQ = (x\ f\ VNP) + (c\ VP) + B = 22.4 + 16 + 10 = 48.4$
$PS = REQ/I = 48.4/80 = .605;\quad CS = 1 - PS$
If tax rate = .4; $TER = (1-.1335)/(1-.2915) = 1.223$

1984 TAX LAW

VARIABLE		FORMULA	RATE	AMT	TAX
GROSS TAXBL INV	GT	CS+MINT	.87755	65	57.04
TAX EXEMPT INT	INT	s+PS(1−.9k)	.40375	20	8.07
UND & INV EXP	U−E	1	1.00000	−45	−45.00
DIVIDENDS	D	g k − 1	−.97989	15	−14.70
PREM − RESV INCR	P	g e k	−.00011	500	−0.06
ASSUMED INT	AI	k (1−e)	.25996	40	10.40
EQUITY	EQ	.078 MD	.07643	150	11.46
TOTAL					27.22

TAXC = GT + U − E − D = 65 − 40 − 5 − 15 = 5.
TAX = TAXC + (PS INT) + (.078 EQ) =
= 5 + (.52601 x 20) + (.078 x 150) = 5 + 10.52 + 11.7 = 27.22

h = INT/.9 G = 20/76.5 = .26144; k = 1 − h = .73856
ADD = .078 EQ = 11.7
e = (D−ADD)/(P+G) = 3.3/585 = .00564
g = (G−AI)/(P+G) = 45/585 = .07692
s = (1 −g)e k = .00136
PS = (AI + g (D−ADD)/.9 G = 40.25/76.5 = .52619
If tax rate = .4; TER = (1−.1615)/(1−.3510) = 1.291.

MAXIMUM DIVIDEND INTEREST RATE

| ITEM | AMT | MARGINAL TAX RATES | | | TAXES | | |
		PHASE 1	PHASE 2	1984	PHASE 1	PHASE 2	1984
A	100	.0038	0	0	0.38	0	0
IT	6	.2915	.3500	.3510	1.75	2.10	2.11
INT	2	.1335	.1500	.1615	0.27	0.30	0.32
VNP	100	−.0048	0	0	−0.48	0	0
IVNP	5	−.2400	.1000	.1040	−1.20	0.50	0.52
U	− 5	0	−.40000	−.4000	0	−2.00	−2.00

	PHASE 1	PHASE 2	1984
TAX	0.72	0.90	0.95
GAIN = IT + INT + U − TAX	2.28	2.10	2.05
MAX DIVD = GAIN/(1−MD)	2.28	3.04	3.37
DIVIDEND INT RATE = MAX DIVD + 5%	7.28	8.04	8.37
TAX EQUIV RATIO	1.223	1.307	1.291
TAX EQUIV RATE = (2% x TER) + 6%	8.45	8.62	8.58

NOTES.   1.   The above calculation assumes a 40% corporate tax
rate.
2.   If there were no tax, the company would not invest in tax
exempt bonds and assuming the tax exempt yield of 2.0 could be
increased by 30%, the maximum dividend would be 3.60
3.   A casualty company could pay a maximum dividend of 4.33.
Thus TAX = 0.4, GAIN = 2.6, MAX DIVD = 2.6/.6 = 4.33.

For stock companies, the 1984 Law generates a larger maximum dividend than the phase one or phase two formulas of the 1959 Act.

MR. WILLIAM D. BALDWIN: My view of insurance company management reporting is based on my situation as a member of management of a stock life insurance company owned by a single shareholder, with little or no background in financial institutions. Until last year, my company was part of a publicly-held group of diversified companies. In the midst of ownership changes, acquiring a smaller life insurance company and bringing up a brokerage distribution network that has become a major contributor to sales, the company has made the transition to universal life products, which constitutes, by almost any measure, the vast majority of its life insurance sales. Also, sales of a variable universal product have begun in the recent months. All of this activity and all of the constituencies represented reinforces the need for timely and useful management information. I will focus on how we at the Life Insurance Company of Virginia approach the reporting of information to management according to the perspective of the user.

Information reporting is a tool to serve two essential needs:

1. A valid and realistic assessment of how the company is doing--in a product line, a business area and as a total company.

2. To assist managers at various levels in achieving objectives.

These tools are developed in response to corporate profit objectives--to maximize the long-term realizable value of the company. While we are not at this session today to address profit criteria--much less to debate what the phrase "long-term" means in our business today--a comment on realizable value is in order. It is not just actuarial values of in-force business and of the distribution sales, not just current earnings, not just growth patterns in sales, premium and profits, not just historical and emerging experience versus assumptions. All of these, and more, are factored into the quality of earnings and value of the company.

Who are the publics to be served? They include shareholders, regulators, policyholders, managers, employees--each group with a desire for information, each requiring reassurance from its own perspective. Each is important, but I'd like to concentrate on two publics in particular, shareholders and internal company managers.

Shareholders: As I mentioned, my company is owned by a private company, perhaps the largest civil construction company in the world. They need information for internal and external financial reporting requirements and to determine the performance of the company. Now, life insurance professionals like ourselves often hold the view that people outside our industry just don't understand its complexities. But, I have a hard time believing that actuarial assumptions would mystify people who can build a tunnel under the Chesapeake Bay. So actuaries at my company work with management needs in addition to producing the detailed reporting information.

PANEL DISCUSSION

We actuaries prepare GAAP statements, as we have in the past. We prepare monthly statements of key performance data and expanded reports on a quarterly basis. Of course, these are always reconciled with our statutory statements. For instance, GAAP as applied under the current Audit Guide reflects purchase GAAP from the purchase by Continental Group in 1977, and now purchase GAAP resulting from the sale last year. And of course, a dominant feature in our financial reports is the universal life line of business.

Let's look at GAAP for universal life. Simply put, the Audit Guide deals with the matching of pretax revenues and pretax costs. An open problem with GAAP, according to the Audit Guide, is accounting for FIT. Even under the new tax law it is possible to have pretax gains and aftertax losses. This is very difficult to explain to shareholders! The desirability of matching revenues and costs was brought about by the basic economics of orthodox products where severe mismatching of internal revenues and costs was common. The initial forms of universal life differed substantially in their internal economics. They were, in fact, much more closely matched--for every outgo, there was a specific and related revenue. The result, under any reasonable application of GAAP, was emerging earnings which were much closer to those emerging under statutory.

As to the application of GAAP to universal life, let me cite a statement made recently, by our President, Mr. Samuel H. Turner, at a symposium on insurance earnings:

> ...any accounting position which would result in a materially different pattern or level of earnings emergence for universal life than for otherwise similarly configured orthodox life should be categorically rejected as nonsense.

This is not to deny that universal life offers some accounting complexities. With the emergence of the heavy back-end load universal life products, the truth of this statement is even more obvious. For with these products, it is orthodox economics revisited.

Back to the financial statements, we routinely update those on expected costs--benefits, acquisition, maintenance according to the GAAP assumptions for the product. These operating analyses are prepared by line of business. For shareholders, key operating ratios are highlighted.

As final comment on GAAP, does it fulfill the need of shareholders to make a realistic assessment of the company? Does it answer management's need to assess a product line or business area? I have difficulty basing the answers to these questions on GAAP financials.

Internal managers: We evolve our management information systems to assist managers in achieving objectives and to measure performance relative to their specific objectives. A fundamental element is to provide managers with information on those items/areas over which they have control. This requires differentiation between price variances and volume variances. For example, the new business area may be

responsible for carrying out their tasks at $X per policy. Underlying this price though is a volume expectation for which the new business area is not accountable for producing. The interdependencies of the various business areas is undeniable. Thus an important charge of management information is to provide credible information. This is a dynamic proposition and a dynamic budgeting process is a must.

The basic reference point for management information is the pricing model. Here are found the performance expectations and the deter-mination of value-added based on these expectations. As costs flow through the many statements and reports, we want consistency with our reference points. This requires a precision that can be achieved only through technology massaging huge amounts of data and delivering the information to us in usable form. It is vital that this is done in a timely manner. For us, Information Systems is a critical strategic resource, and we have the level of commitment to meet the imperative of speed, responsiveness and flexibility.

MR. PETER J. BONDY: Mr. Baldwin has made major points concerning the quality of reporting--timeliness, simplicity. He is faced with a special problem in that he is reporting to non-life insurance industry people. He apparently seems to be doing it successfully. When we actuaries talk about management reporting systems requiring modifica-tions or changes, I suspect quite often that means that the system in use is not understandable, simple enough or of a quality usable by nonactuaries.

MR. ALLAN W. RYAN: My remarks are intended to address this sub-ject from the perspective of the group life and health product line, operating as an independent profit center in a mutual life insurance company. Management reporting covers a wide range of topics; I will focus on how it applies to profit goals and objectives. Although the specifics will deal with group life and health, I think that the general concepts should apply to other product lines and to stock companies as well as mutuals, with appropriate modifications.

Profit objectives are reflected first in pricing. One can distinguish between two basic types of group insurance: fully-experienced rated (that is, eligible for dividends or experience refunds) and fully pooled. Between these two extremes there are, of course, various combinations, but for convenience I will consider only the two categories.

For experience-rated business, profit objectives might be expressed in the pricing as follows: profit charge (or normal profit) as a percentage of premium; investment, as the difference between anticipated invest-ment income and credits in the dividend formula; expenses, as the difference between expense charges and anticipated expenses. As an example, for expenses the goal could be to break even or have 15 per-cent of anticipated.

For fully-experienced rated business, over the long run, the morbidity/mortality gain is zero since the group is expected to pay its own way. An explicit risk charge can be assessed to, in the aggre-gate, cover the loss of cases terminating in a deficit position.

For fully-pooled business, the general principles are similar, but applied somewhat differently. A profit charge as a percentage of premium may be used, or alternately expressed as a percentage of expected claims. Actual expenses are expressed through provision in the premium rather than through the expense charges of the dividend formula. Similarly, investment income is expressed through a premium credit.

Profit objectives are set in the pricing of other types of products such as:

1. administrative service business, where fees are set to recover expenses plus perhaps an explicit profit charge;

2. stop-loss contracts (both individual and aggregate) on administrative service business, and

3. high-amount medical care contract pooling in experience-rated business.

The pricing objectives, combined with sales, in-force, expense, and investment income projections, can be used to develop overall profit goals. How goals are determined and expressed is a matter of corporate or product line philosophy and undoubtedly will be influenced by the external environment and competitive pressures.

The task of evaluating performance may be more difficult than setting goals. It involves comparing actual (or projected actual) to expected results for the various measures of profit. Management reporting must be able to do this by

1. evaluating the degree to which objectives are met;

2. more importantly, providing information which will assist in making decisions, and in taking corrective action where goals are not met;

3. providing feedback to the pricing function.

In order to meet these criteria, management reporting should be as simple as possible and still provide all data that is needed for decision making, and should rely on input which is readily available. The level of detail must be appropriate for the given use.

The Annual Statement is an example of a report which is macro (global) in nature, providing only an overall picture of profit. While it is probably useful to have an overall profit goal, knowing that this goal has been made or exceeded provides only limited information to management for purposes of decision making. It does not indicate whether or not specific objectives have been met, or whether or not overall goals have been met as intended.

A complete management reporting system contains the following reports:

1. Statutory Statement--This could include quarterly as well as annual reporting and a variance analysis of expected versus actual

results.   Ideally, it also could include projected calendar-year
results.

2.   GAAP or Adjusted Earnings Statement--This, like the statutory
      statement, provides a global picture, but attempts to provide
      management with a truer picture of earnings.   For the group life
      and health lines, the differences from statutory, in general, are
      less than for other lines, but possible adjustments could include
      removing reserve margins and treating the portion of deficits on
      experience-rated cases expected to be recovered as an asset.

3.   Large Case Monitoring Reports--This would include accrued and
      projected experience on large cases.

4.   Medical Claim Monitoring Reports--One example would be a report
      tracking claims per employee unit in order to analyze trends.
      This relates back to pricing in that developing expected claims
      involves a trend assumption.   Another example of this type of
      report would be a monthly estimate of incurred loss ratios.

5.   Earnings by Source Reports--This is perhaps the most important of
      all reports for group life and health, in that it attempts to break
      down actual results into the sources of profit, and therefore
      enables management to compare emerging experience with specific
      objectives as expressed in the pricing.

Earnings-by-source analysis, in effect, looks inside the Annual State-
ment to be able to tell management how profit goals were/weren't
achieved.   Exhibit 1 provides a very simplified summary of such a
report, the following comments about it are in order:

1.   It represents a summary of calendar-year results (it could be a
      projection based on nine months actual data, for example, of
      calendar-year 1985 actual results.   It should be noted that by its
      nature, this type of report will include estimates, whether or not
      projections are involved).

2.   It is simplified for the sake of presentation.   Further detail can be
      provided as desired to include

      a.   product line (for instance, medical, dental, life, and so on);

      b.   size of policy;

      c.   any special categorization desired;

      d.   pooling on experience-rated cases (life, medical care, and so
            on; here it is combined);

      e.   separate items of investment income on surplus;

      f.   geographical data.

3.   It is on a pretax basis (FIT projections are handled separately).

a.   Claim Gain (Loss) is based on pooled business only.
      Expected claims are provided for in the premium; actual
      includes cash plus change in reserve.

b.   Investment Gain (Loss) is the actual investment income earned
      less the amount credited to policyholders. Interest is
      credited through the dividend formula for experience-rated
      business; for pooled business, credits are expressed as a
      reduction in premium. Earnings on surplus may be included
      or excluded.

c.   Expense Gain (Loss) is based on expected expenses, which
      are experience-rated business dividend-formula charges
      (commissions and certain other expenses may be charged
      directly and would not give rise to gain or loss). For pooled
      business, a provision is made in the premium (determined as:
      premium less profit charge less expected claims plus
      investment credit).

d.   Service Gain (Loss) reflects administrative services, cost
      containment and so on; fees less actual expenses.

e.   Pooling Gain (Loss) is based on the pooled premium per
      dividend formula (for experience-rated business) less pooled
      claims.

f.   Experience Gain (Loss) is based on experience-rated business
      only. It represents net recoveries over new deficits plus
      the risk charge.

g.   Profit Charge is viewed as normal profit, as discussed
      earlier. It is based on a percentage of premium and may also
      include a percentage of fees.

The value to management of this report is that it provides data bottom-
line profit figures do not, specifically showing where objectives are or
are not met. For example, referring to Exhibit 1, the claim gain
(again, provided here in summary for the sake of simplicity) indicates a
substantial gain in excess of expected. Let us assume that in pricing,
3 percent of expected claims is the objective. These results indicate an
additional gain of almost $13.0 million, suggesting a review of pricing to
determine the causes of the gain and what, if any, action should be
taken. Were the pricing assumptions correctly implemented? Was the
better than expected experience the result of a cyclical decline in the
medical trend? Similar analyses can be made for the other elements of
gain/loss.

In addition to providing feedback to the pricing formula, earnings-by-
source analysis can aid in setting longer-range goals and monitoring
progress towards them. As an example, if this type of analysis shows
an expense gap (actual expenses consistently in excess of expense
charges), a plan could be instituted to gradually (given the competitive
environment) eliminate this loss over a period of, say, five years.

EXHIBIT 1

EARNINGS BY SOURCE

Group Life and Health Lines
Calendar Year 1985
($ Millions)

	Expected Claims	145
−	Actual Claims	128
=	Claim Gain (Loss)	17
	Actual Investment Income	34
−	Investment Income Credits	21
=	Investment Gain (Loss)	13
	Expense Charges	45
−	Actual Expenses	47
=	Expense Gain (Loss)	(2)
	Fee Income	13
−	Actual Expenses	14
=	Service Gain (Loss)	(1)
	Pooling Gain (Loss)	(2)
	Experience Gain (Loss)	3
	Profit Charge	9
	Total Profit	37

There are considerable practical difficulties in conducting this type of analysis. The existence of a good dividend record system is helpful, but is often not timely and provides only completed policy-year data.

Some of the difficulties include

1. converting policy-year data to calendar-year data;

2. projections, particularly case specific, for estimating experience gain on dividend-eligible business;

3. allocation of expenses, investment income, and reserve changes.

The techniques for calculating the various items in more detail is a separate topic beyond the scope of this discussion.

PANEL DISCUSSION

As a way of summarizing the entire process, a final step should be considered, namely, the reconciliation of earnings by source with statutory earnings, as shown on Exhibit 2. This allows the inclusion of items which, for whatever reason, have been excluded from the earnings-by-source analysis. Further, it provides a check on the entire process. Following are comments with respect to each line:

1. Statutory Gain Before FIT--Directly from the Annual Statement.

2. Reserve Changes--This is an item which allows isolation of spurious gain/loss effects. In this illustration it is assumed that the increase in statutory reserves is $4.0 million in excess of the change in reserves used in the determination of the claim gain/loss and the experience gain/loss. We are further assuming the latter to be true reserves so that the statement increase represents additional conservatism (or margin) which thus understates true earnings in the annual statement.

3. Other Adjustments--Various entries are possible here, depending on the philosophy of management, and the desire to exclude particular items from the earnings-by-source analysis such as extraordinary or nonrecurring items. A particularly obvious example would be correction of an error in the prior year's statement. In our example, this adjustment also represents an understatement, in the Annual Statement, of true earnings.

4. Adjusted Gains--This represents statement gain adjusted for all known items not considered in the earnings-by-source analysis.

5. Total Profit--From earnings-by-source analysis.

6. "Unexplained"--The difference between the above two items. The relative magnitude should provide some degree of confidence. Ideally, it will equal zero. However, the unexplained could be zero by chance, as the result of errors or omitted items cancelling out. Nonetheless, it does provide some indication of the accuracy of the entire reporting process.

MR. BONDY: Concerning the capitalizing of deficits--when they exist--do you use a limit, or do you just capitalize them because you expect to make them up next year?

MR. RYAN: Do you mean the adjustment I spoke about with the GAAP statement?

MR. BONDY: Yes.

MR. RYAN: The adjustment is some proportion that may come out to perhaps 30-40 percent of the current deficits at a given point in time. Let's say, as of the beginning of the year, you have $10 million in accumulated losses. You might have an asset of $4 million at that point in time. That is based on a theoretical analysis--the size of the deficit, the size of the case and so forth (in other words, the type of analysis you would do in developing a risk charge in theory). Then at

EXHIBIT 2

RECONCILIATION

Group Life and Health Lines
Calendar Year 1985
($ Millions)

	Statutory Gain Before FIT	33
+	Reserve Differences	4
+	Other Adjustments	2
=	Adjusted Net Gain	39
-	Total Profit From Earnings-by-Source	37
=	"Unexplained"	2

the end of the year you redo that calculation and the difference, the change in that asset, is an element in the GAAP statement.

MR. FRANKLIN C. CLAPPER, JR.: Mr. Kabele, when you are setting up the funds for allocating investment income, do you treat surplus as a separate line of business, and what do you do with capital gains and losses?

MR. KABELE: At my company, we don't have a separate corporate line of business, so the funds represent the assets side of the balance sheet. These funds are owned by the various profit centers, so each profit center owns a portion of its own surplus. Now, there is a movement afoot to have mutual companies set up a corporate line of business. As of yet the Guardian has not done that. As for your second question, we do reflect capital gains or losses in the fund development calculation. As of yet we don't put them in the bottom-line budget, but they certainly affect the overall surplus in the lines.

MR. ERNEST J. MOORHEAD: One of the panelists used the expression "imperatives of management reporting." It brought to mind a session very similar to this one, at a Society meeting, twenty years ago, at which the entire body of actuaries present were together compounding a very large mistake. I am not quite sure whether or not the present generation of experts on management reporting have solved that particular problem. I thought perhaps it might be worthwhile to bring it up because it hasn't explicitly turned up in anything I have heard this morning. One of the panelists at that particular session in 1965 pointed out that the problem was the dismal fact that, in general, the companies were offering savings plans at prices that informed buyers of the products could possibly be expected to accept. Nobody in the audience that day had anything to say about that particular remark. But this morning we have had a discussion of many performance comparisons. We've had performances compared with past years. We

have had performances compared to other companies. We have had performances compared with budgets or forecasts or profit goals. I think those three perhaps may be considered under one heading. We have not, I think, heard anything said about the responsibility, if it exists, for corporate actuaries to report performance in relation to the acceptability of the product to the public. Now possibly that problem is not as great as it was twenty years ago, but those who have seen the history of what went on in the years immediately following that previous session will, I think, recognize that the speaker had his finger on the major problem. I would be interested in comments any of today's speakers might make about the attention being paid in 1985 to the question of whether or not our products meet the test of the buyer, rather than the test of the company.

MR. BONDY: My personal observation as I look at the term insurance market is that we seem to be back-tracking a bit. I look at the universal life market and I see surveys of the interest rates credited, and the comments seem to be that the companies aren't backing off sufficiently yet. With respect to mortality, yesterday I had comments made to me to the effect we may need to pay more attention to the potential extra mortality from the disease AIDS at this point. On the expense side, inflation seems to have slowed down a bit, but I can think of one company that priced on a $25 per policy basis for maintenance and is in fact incurring $280. They are going to close the gap, but they need a lot of growth. I concur with your observation, Mr. Moorhead, that we need to keep that in front of us and need to be cognizant of it. I don't know that I feel that the problem is as serious today as it was when we were selling the traditional whole life product.

MR. KABELE: My company does publish in its advertisements the Linton Yield Rate using its own term plan, which is a rather low premium plan. The Linton Yield Rates are over 11 percent. The interest rate used in the dividend formula is actually higher. One problem that the life industry has always had is that we have always been paying horrendous proxy taxes that haven't been identified as such. For example, under the current tax law there is a proxy tax on assumed interest, if one has tax-exempt bonds. Casualty companies and banks don't have anywhere near as onerous a tax. We have the mutual company add-on, which is a proxy tax. Also, surrender charges are added back to our reserves. Banks don't have that. Also, on early surrenders, our policyholders cannot deduct the loss. There is talk about taxing the inside build-up. The fact is that it is already being taxed to a large extent. My own calculations show that if the inside build-up were to be taxed, we might get a refund for our policyholders or the company combined. That is a major problem. But even with that I believe we are crediting the policyholders with a very high rate, and I bought some policies myself.

MR. BALDWIN: I would like to address that point as well because I think, as both Mr. Bondy and Mr. Kabele have said, life insurance companies do a better job today than they did in 1965. As far as the acceptability that an informed buyer would find with the savings plans offered by life insurance companies, the question is still valid. In fact, it may in some ways be more valid today than it ever has been.

From a management reporting standpoint, which is the forum today, we, at my company, look each week at the position of our products as a savings vehicle relative to the other choices that a buyer would have. Those choices are offered by other institutions as well as other insurance companies. I think that in order to do a competitive job in developing a new product, part of the information we need is on how it stacks up against other choices the buyer might have. Earlier I mentioned a concern about the high back-end load universal products. I feel like as far as consumers are concerned, we may be taking a step backwards. We may be taking a vehicle that offers the opportunity to compete, and compete effectively, against other financial institutions and returning it to the same old high expense tolerance land that made the orthodox product so unattractive to so many investors many, many years ago. Whether or not that will prove to be the case is something else. But it is a concern.

MR. BONDY: Let me confuse the situation a little bit. I received a personal mailing from an A+ rated company offering mortgage insurance. The advertising was pretty much akin to the cancer insurance advertising that made headlines some years back. I consider myself a healthy risk; I am eligible for a standard rating. The mortgage insurance rates being offered to me were on a group basis--extremely high rates. You may be referring to that, Mr. Moorhead. As to how we look at that type of situation, I don't have an answer. I suspect it may come to the point where the authorities will do it for us as they have done with credit life. And we still may have problems on credit life and disability. But I don't have an answer for you on that one.

MR. EDWARD J. BONACH: I have questions, directed to Mr. Baldwin. You mentioned that you deliver or provide your owners some key operating ratios on a regular basis. I wondered if you could share a little more information about what those ratios are. Also, how did having noninsurance owners change, if at all, what ratios you provide? Another question is, would you also comment on any management reporting you do regarding available surplus or distribution of shareholders dividends.

MR. BALDWIN: As for the first question, I want to show a sample of one key-data report, Exhibit 3, which does not go to the shareholders, but which highlights a couple of things that may make the explanation a little more brief. Their interest, of course, simply put, is in how we are doing; not only how we are doing relative to other insurance companies, but also, because they have purchased us, and they have full born appraisal values, how we are doing relative to what they pay. Now this is an internal report, and the reason I haven't shown it before is that it is very difficult to read. We therefore will not show this to the management of our parent. They do have people, of course, who deal with these figures. The point I wanted to make on this is that we have segregated revenue, benefit costs and, down around the 18th line, we have a memo, expected benefit costs. Now those expected costs are based on an aggregation of the GAAP assumptions for that line of business. This one happens to be our universal life line. Likewise, under acquisition costs, the last entry is expected acquisition costs. Under maintenance costs, the same sort of

EXHIBIT 3

LIFE INSURANCE COMPANY OF VIRGINIA
INSURANCE OPERATING GAIN:
UNIVERSAL LIFE   As of 6/30/85
(Excluding Intercompany Reinsurance)

	Year-to-Date		
	Actual (000)	Prior Year (000)	% Inc.
1. REVENUE			
2. Premium - First Year.			
3. Single.			
4. Renewal.			
5. Other Income.			
6. Total Revenue			
7. BENEFIT COSTS			
8. Death Benefits			
9. Surrender Benefits.			
10. Matured Endowments			
11. Disability Benefits			
12. Other Benefits			
13. Total Benefits (line 8+9+10+11+12)			
14. Increase in Reserves.			
15. Interest Req. on Reserves			
16. Net Increase in Reserves (line 14-15)			
17. Total Benefit Costs (line 13+16)			
18. Memo: Expected Benefit Costs			
19. ACQUISITION COSTS			
20. Deferrable Acquisition Costs Incurred			
21. Incr. in Def'd Acquisition Cost Asset.			
22. Int. Required on Unamortized Balance			
23. Non-def. Acquisition Costs			
24. Total Acquisition Costs (line 20-21+22+23)			
25. Memo: Expected Acquisition Cost			
26. MAINTENANCE COSTS			
27. Home Office and Field Expenses			
28. Taxes (Other than FIT)			
29. Total Maintenance Costs (line 27+28)			
30. Memo: Expected Maintenance Costs			
31. OPERATING MARGIN (BEFORE TAX)			
32. Operating Margin (line 6-17-24-29)			
33. Memo: Expected Op. Margin (line 6-18-25-30) . . .			
34. EXCESS INVESTMENT INCOME			
35. Invest. Income Allocated to Line			
36. Invest. Income Req. on Reserves/Acq. Exp. Asset .			
37. Excess Investment Income (line 35-36)			
38. OPERATING GAIN BEFORE TAX (line 32+37)			

NOTE: "Expected" figures are based on GAAP assumptions which differ from those assumptions on which premiums are based in that GAAP assumptions contain a margin for adverse deviation.

thing. Down under investment income, we have what is allocated to the line. We also show the expected interest settlement down to the operating gain. Now that is all we really need that report for. But I wanted to point out that these numbers are in fact derived basically from GAAP assumptions. The GAAP assumptions provide the kind of consistency I talked about--pricing assumptions, plus known explicit margins, wherever possible for adverse deviations--so that we now know where we are as our expectations march through all of our financial statements.

I don't know if that answered your questions, but the expected-to-actual ratio is one of the key performance data items that shareholders look for. When you get to income available for shareholders--in fact, our aggregate financial statement is highlighted very simply for this purpose of revenues, premium and investments, other types of benefits, expenses, and so forth--the bottom-line is called income available to common shareholders. One of the preceding lines, of course, is dividends to preferred shareholders if, in fact, that is appropriate for the particular accounting period. Now, this available income is then put in with surplus, and we do analyses for them that show what the reasonable expectation would be as far as they are concerned, and we go through why the surplus is there, quantitatively, and how it has moved from one period to the next. But yes, we do go into detail with them about the available income. I am very happy to say that they also look at it with full recognition of our business requirements, our capital requirements for the growth objectives, and the growth of expectations that we have collectively made together. So it is reported in great detail, perhaps more detail than some of the other operating ratios I have talked about.

MR. FORREST ALLAN SPOONER: I have a question for Mr. Kabele. You talked about adjusting your surplus, among other things, for excess first-year expenses. There are a couple of definitions of what those are. The GAAP definition is narrow and talks only about expenses that vary directly with the production of new business. For our internal purposes, and I would imagine for your dividend fund purposes as well, we use something that's more a functional cost approach which refers to anything associated with the production of new business, whether or not it is directly variable. I was wondering which of those approaches you use in deciding how much to tack on and why.

MR. KABELE: I would say we use the more conservative of the two. It has to vary directly with and be related to new business. Furthermore, even some of those costs weren't included. For example, we didn't include agency convention costs. We pretty well restricted it to commissions and ERA only.