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## Presentation of Comprehensive Income Takes Center Stage

*Illustrations of the application of the emerging standard on accounting for insurance contracts*

By Jim Milholland

While not ignoring the income statement, the discussions of accounting for insurance until now have emphasized the measurement of liabilities. Presentation in the statement of comprehensive income is now taking center stage. This paper provides illustrations of an approach to presentation of income and expenses that may be applied to long duration contracts, i.e., those that are measured by the building blocks approach for the emerging new standard on insurance contracts. The paper reflects the author's view of the direction of the Financial Accounting Standards Board and of the International Accounting Standards Board (FASB or IASB respectively, or the boards collectively) at the time it is written. Until the standard is adopted, it is not possible to know if the approach in this paper will in fact be compliant with the standard.

As the examples show, the key to the presentation of profit and loss is to analyze the movement in the insurance liability and to recognize:

- as revenue, those amounts that are released from the liability that relate to performance under the insurance features; and
- as expense, the actual benefits and costs incurred in the period.

The starting point then is to understand the measurement of insurance liabilities and how they are reconciled from the beginning of the accounting period to the end of the period.

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The examples are intended to allow the reader to understand the concepts and the issues by visualizing the presentation. The paper addresses many important topics, such as discount rates and risk margins, only to the extent necessary to show how they factor into the measurement of liabilities and in turn affect comprehensive income. This limited scope means that there is no attempt to explain how to determine, for example, a discount rate that meets the requirements of the standard.

The margin in this paper is a composite margin, as is favored by the FASB. The IASB favors a two-part margin comprising a risk adjustment and a residual margin. The approach in this paper would work as well for a measurement with a risk margin or a margin (composite or residual) amortization technique that differs from the examples.

This paper introduces the approach with an example of a five-year term product. It then shows a more realistic example of a 20-year endowment product, to illustrate the approach when there is a significant investment component. The policyholder's value (referred to herein as the cash value) that is paid on cancellation, maturity or death is treated like a withdrawal or maturity of accumulated deposits and is referred to as a repayment. This treatment emphasizes the financial nature of the investment component and is similar to accounting for financial instruments.

The approach in the examples is like the expanded margin approach that has been presented in various staff papers from the boards, except that here the revenue is based on the expected benefits in the movement of the liability, not the actual benefits. The IASB's exposure draft *Insurance Contracts* of July 2010 (the ED) proposed something different, namely a summarized margin approach for presentation in the statement of comprehensive income. The FASB's discussion paper *Preliminary Views on Insurance Contracts* of September 2010 (the DP) also considers, among other possibilities, a summarized margin approach. The difference between a presentation using a summarized margin and one using an expanded margin is discussed in the first example.

At the same time that the boards are re-deliberating the ED and the DP, they are nearing completion of a joint project on revenue recognition. In their respective exposure drafts on revenue recognition, which are substantially the same, the boards articulate the principle that revenue is recognized as performance in a contract with a customer. Hence revenue relates not to activity, but rather to satisfying a performance obligation by delivery of goods or services. Entering a contract creates a performance obligation. As performance occurs, the performance obligation is reduced by the proportional value of the services provided or goods transferred to the customer. Revenue is recognized accordingly as the liability for the performance obligation decreases.

Insurance contracts are not in the scope of the proposed standard for revenue recognition. Nonetheless, as the examples illustrate, the idea that revenue is recognized in relation to the performance and the corresponding decrease in the liability can be applied to insurance contracts. The examples demonstrate that the concepts underlying the measurement of insurance liabilities and of revenue recognition are compatible. Anticipating the decisions of the boards, the examples show premiums as deposits. The liability is the accumulated deposits less benefits, administrative costs and repayments. Revenue is associated with the release of those elements of the liability that provide for insurance benefits and costs.

Remeasuring the margin and the possibility of actual experience differing from expected are topics for a later paper. The possibility that comprehensive income may be split between profit and loss and OCI will also be part of those discussions.

As is often the case when values are rounded to whole numbers, the tables that follow have differences attributable to rounding effects.

## THE FIRST EXAMPLE – A FIVE-YEAR TERM LIFE INSURANCE PRODUCT

The essential concepts are illustrated by considering a five-year level-premium term life insurance contract.

There is no investment component in this contract. The expected cash flows are shown in Table 1.

Table 1: Cash Flows					
Year	1	2	3	4	5
Premiums - beginning of year	120	120	120	120	120
Benefits - end of year	50	75	105	140	180
Investment income @ 5%	6	10	13	14	14
Net cash flow	76	55	28	-6	-46
Cumulative cash flow = invested assets	76	131	158	152	106

Amounts are not realistic, but they do reflect the nature of life insurance in that a level premium charged for an increasing benefit is a common structure. For simplicity, the first example does not consider either the possibility that some policyholders will cancel their contracts or decrements to face value due to death. The first example does not consider acquisition costs, administrative costs or cancellations. Benefits are short-tailed, so the possibility of recognizing revenue in part as claims develop is not considered here.

## THE LIABILITY

To illustrate how the movement in the liability gives rise to the presentation in the statement of comprehensive income, the insurance liability is first calculated and then reconciled from the beginning of the year to the end of the year.

Table 2 shows the calculation of the liability.

Table 2: Measurement of the Liability						
Year	Inception	1	2	3	4	5
PV Benefits	463	436	382	297	171	0
Margin	83	66	50	33	17	0
PV Premiums	546	447	343	234	120	0
Liability	0	55	89	95	68	0

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Because the present value of premiums exceeds the present value of benefits, there is a margin in the contract. The margin forms part of the initial liability and is systematically released over the term of the contract. The margin in this example is released pro-rata. However, it is not the illustration's intent to suggest how the initial margin should be released or to imply that there should be a composite margin (FASB) rather than a combination of a risk adjustment and a residual margin (IASB).

The movement in the liability is shown in Table 3 below.

In this reconciliation of the beginning and ending liability, the premium is in effect a deposit to the liability account. Interest credited is on the beginning liability minus the margin and plus or minus cash flows for the

year. The margin released each year in the example is simply one-fifth of the initial margin. The liability is reduced by the expected benefits. To be sure, the analysis of the movement in the liability is made simple by the assumption that actual experience is the same as expected. As already stated, the complications arising from experience differing from assumptions are subjects for a later paper.

Note that at the time this paper is being written, it is uncertain if the release of the margin would consider the time value of money. Considering the time value of money would slow the release of the margin and may have a significant effect on the pattern of revenue and of comprehensive income.

## PRESENTATION IN COMPREHENSIVE INCOME

The movement in the liability (Table 3) provides the elements for presentation in comprehensive income. The contract revenue comprises the amounts of liability released as the insurance coverage is provided, namely the expected insurance benefits and costs (none in this example) together with the margin released for the period.

Table 4 (left, bottom) shows the statement of comprehensive income. Contract revenue is taken from the movement in the liability found in Table 2. Investment income is the interest on net cash flows from Table 1.

The contract revenue in year one is the margin released of 21 plus the expected benefits of 50. The boards may decide that the components of contract revenue should be shown separately.

Table 5 (pg. 7, top) shows an analysis of comprehensive income that shows that income is the sum of:

- the excess of interest earned over interest credited, and
- the margin released.

Although the earned rate is the same as the credited rate, there is an excess of interest earned over interest credited because:

- the margin is backed by invested assets that earn interest, but the margin is not credited with interest; and
- after the first year, there are surplus assets earning interest.

Year	1	2	3	4	5
Beginning liability	0	55	89	95	68
plus premium	120	120	120	120	120
plus interest credited	2	5	8	9	9
minus expected benefits	50	75	105	140	180
minus margin released	17	17	17	17	17
Ending liability	55	89	95	68	0

Year	1	2	3	4	5
Revenue					
Contract revenue	67	92	122	157	197
Investment income	6	10	13	14	14
Total revenue	73	101	134	171	210
Expenses					
Benefits	50	75	105	140	180
Interest credited	2	5	8	9	9
Total expenses	52	80	113	149	189
Comprehensive income	21	21	21	21	22

For this term contract, comprehensive income is driven by the release of margin. The ratio of comprehensive income to contract revenue is declining, although, in this example at least, the ratio of comprehensive income to premium is fairly level. In other words, the patterns of revenue and relationships to net income are different from those in US GAAP.

If the statement of comprehensive income were to use the summarized margin approach, it would appear as shown below in Table 6 (Right, bottom).

The bottom line comprehensive income is not affected by the choice between a summarized margin presentation and an expanded margin presentation. The two approaches present different views on profitability. The summarized margin approach treats all amounts released from liabilities, other than margins, as repayments of deposits. A profit is made if the amount of margin released together with investment income exceeds the sum of deviations in actual cash flows from those expected plus interest credits. This presentation is very different from conventional approaches (US GAAP, for example), which present the amounts of benefits and expenses in the statement of comprehensive income. The expanded margin approach treats amounts released from liabilities that relate to insurance benefits and costs as revenue and presents actual benefits and administrative costs as expenses. A profit is made if the insurance revenue for the period plus the investment income exceeds benefits and costs for the period. For the remainder of this paper, the expanded margin approach is used.

In reality there would be other sources of comprehensive income. Differences in actual benefits and costs from the expected amounts would affect comprehensive income. Potentially the most significant additional contributor to profit results from the difference between the rate earned on investments backing liabilities and the discount rate. Changes due to re-measurement may also affect comprehensive income.

## THE SECOND EXAMPLE – A 20-YEAR ENDOWMENT PRODUCT

This example illustrates liability measurement and presentation of comprehensive income for a product that

Year	1	2	3	4	5
Interest earned less interest credited	4	4	5	5	5
Margin released	17	17	17	17	17
Total income	21	21	21	21	22

Year	1	2	3	4	5
Revenue					
Margin released	17	17	17	17	17
Investment income	6	10	13	14	14
Total revenue	23	26	29	31	30
Expenses					
Deviation of actual from expected cash flows	0	0	0	0	0
Interest credited	2	5	8	9	9
Total expenses	2	5	8	9	9
Comprehensive income	21	21	21	21	21

contains a significant cash value. The product is cancellable and surrenders are considered in the example. The example uses realistic mortality rates to keep the insurance component and the financial component in realistic proportions. The assumed cancellation rates are 10 percent of contracts in the first year and 5 percent of remaining contracts each year thereafter. Cancellations are assumed to occur at the end of the year. The contracts mature at the end of the 20th year for an amount equal to the death benefit.

The face amount is level and the cash values are fixed. The amount paid on death is the face amount, which is the sum of the cash value and the net amount at risk (NAR). The payment of the cash value on death is treated in the Statement of Comprehensive Income as repayment to the policyholder of accumulated deposits. The insurance benefit is based on the net amount at risk. Unlike the term example, the insurance benefit is not level, it is decreasing.

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This example considers administrative costs. As with the first example, acquisition costs are not considered. Table 8 (below, bottom) shows the expected cash flows. The premium is 31 per unit paid at the beginning of each year.

Table 7 shows the contract values and parameters.

Table 7: Contract Values and Parameters								
Year	1	2	3	4	5	...10	...15	...20
Face amount/unit	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
CV/unit (Beginning of year)	29	59	91	124	159	362	622	952
CV/unit(End of year)	30	62	95	130	167	380	653	1,000
NAR/unit	970	938	905	870	833	620	347	0
Withdrawal rates	0.1	0.05	0.05	0.05	0.05	0.05	0.05	1.0
Contracts								
Lx - beginning	10,000	8,997	8,543	8,111	7,700	5,926	4,538	3,448
Deaths	3	4	5	6	6	9	13	17
Cancellations	1000	450	427	405	385	296	226	3,431
Lx - ending	8,997	8,543	8,111	7,700	7,309	5,621	4,299	0

Table 8: Cash Flows								
Year	1	2	3	4	5	...10	...15	...20
Premium collected 000's	31,000	27,890	26,483	25,144	23,870	18,370	14,069	10,689
Death benefits 000's	339	396	467	505	540	556	464	0
Repayments								
-on death	11	26	49	76	108	342	872	1,716
-on cancellation	3,023	2,788	4,070	5,283	6,428	11,253	14,765	343,101
Total repayments	3,034	2,814	4,119	5,358	6,537	11,595	15,637	344,817
Administrative costs	500	450	427	406	385	296	227	172
Net contract cash flows	27,127	24,231	21,470	18,875	16,408	5,922	-2,259	-334,300
Interest on cash flows	1,525	2,805	4,087	5,299	6,445	11,297	14,910	17,544
Net cash flow	28,652	27,035	25,557	24,174	22,853	17,219	12,651	-316,756

Table 9 (below, top) shows the movement in the liability. The elements of movement are the same as for the term product with the added element of the repayments. The present value of premiums is 266,582 and the present value of benefits, expenses and repayments is 257,686, so the initial margin is 8,895. The margin has

been set to a constant percentage of the present value of insurance benefits and expenses.

Table 10 (below, bottom) shows the statement of comprehensive income.



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Table 9: Movement in the Liability								
Year	1	2	3	4	5	...10	...15	...20
Beginning liability	0	27,883	54,107	78,772	101,994	198,951	268,904	318,033
plus premium	31,000	27,890	26,483	25,144	23,870	18,370	14,069	10,689
plus interest credited	1,080	2,338	3,597	4,784	5,905	10,607	14,029	16,420
minus administrative costs	500	450	427	406	385	296	227	172
minus insurance benefits	339	396	467	505	540	556	464	0
minus margin released	324	344	403	437	470	527	517	153
minus repayments	3,034	2,814	4,119	5,358	6,537	11,595	15,637	344,817
Ending liability	27,883	54,107	78,772	101,994	123,836	214,953	280,158	0

Table 10: Comprehensive Income								
Year	1	2	3	4	5	...10	...15	...20
Revenue								
Contract revenue	1,163	1,190	1,297	1,348	1,395	1,380	1,208	326
Investment income	1,525	2,805	4,087	5,299	6,445	11,297	14,910	17,544
Total revenue	2,688	3,994	5,384	6,647	7,840	12,677	16,117	17,870
Expenses								
Benefit costs	339	396	467	505	540	556	464	0
Interest credits	1,080	2,338	3,597	4,784	5,905	10,607	14,029	16,420
Administrative costs	500	450	427	406	385	296	227	172
Total Expenses	1,920	3,183	4,491	5,695	6,829	11,460	14,720	16,592
Comprehensive income	769	811	893	952	1,011	1,217	1,397	1,277

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Contract revenue is the total amount released from the liability for obligations provided for, namely insurance benefits and expenses, plus the margin released, taken from Table 9. For the first year, this is shown below.

Item	Amount
Insurance Benefits	339
Expenses	500
Margin released	324
Total	1,163

The amount of contract revenue grows for a number of years and then declines. The decline is a result of the combination of cancellations and reducing net amounts at risk. The pattern of contract revenue is different from premium income patterns associated with traditional life insurance, but it is fairly similar to contract revenue for universal life type contracts.

Table 11 shows an analysis of comprehensive income.

Year	1	2	3	4	5	...10	...15	...20
Interest earned less interest credited	445	467	490	515	541	690	881	1,124
Release of margin	324	344	403	437	470	527	517	153
Comprehensive income	769	811	893	952	1,011	1,217	1,397	1,277

Another possibility for presentation would be to treat payments of cash values as insurance benefits. In this case the statement of comprehensive income would show a greater amount of revenue and a greater amount of benefits. The amounts are substantial. The amounts of the repayments in the example are 3,034 in the first year and rise to 15,637 in the 15th year, at which time they exceed premiums. The biggest conceptual issue with including the repayment of the investment component in expenses is that it seems inconsistent with accounting for financial liabilities. By comparison to accounting for financial instruments, revenues and expenses would appear inflated.

It should be noted that the cash values are not equal to the liabilities. A difference between actual and expected cancellation rates creates a gain or loss that must be reflected in comprehensive income. Despite the fact that repayments are not shown in the presentation of comprehensive income, it cannot be said that comprehensive income is not affected at all by the investment component. As already stated, the topic of experience deviations is saved for a later paper.

It is also important to note that premiums are not a part of revenue and that, regardless of whether repayments are shown in revenue or not, contract revenue does not follow a pattern associated with traditional products. Contract revenue typically is substantially less than premiums for many years.

## SUMMARY

The analysis of the movement in the liability is key to preparing the statement of comprehensive income under the new standard on accounting for insurance contracts. The examples in this paper illustrate the presentation of comprehensive income and address several important topics. There are at least a few conclusions that can be reached from considering just these two examples.

- Patterns of revenue recognition and of net income may be very different from those in current accounting regimes.
- Amounts of revenue and benefits may be much less than the amounts that have been recognized under current accounting regimes, especially for contracts with significant investment components.
- Actuarial models are more important than ever to financial reporting. Contract revenues will come from models rather than from transaction accounts. To say the least, models must be very robust and must operate in a strong control environment.
- The boards' upcoming decisions about the release of margin are critical to the patterns of revenue and of comprehensive income. ■