STAFF PAPER

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Project	**Insurance contracts**		
Paper topic	**EXPLORING A METHOD OF MEASURING EARNED PREMIUMS**		
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Overview of paper

Background

1. At their October 2011 meeting, the boards tentatively decided that an insurer applying the building block approach should present premiums, claims, benefits and the gross underwriting margin in the statement of comprehensive income. One board member suggested a method of deriving measures of 'earned premiums' from the liability measurement. The boards tentatively decided to give consideration to such a method and asked the staff to develop it further for future consideration.

Purpose of paper

2. This paper explores in more detail the method of measuring earned premiums that was suggested at the October 2011 meeting.

3. Agenda Paper 2B / FASB Memo 84B *Background* supports this paper. It reminds the boards of:

(a) the decisions that they have reached to date; and

(b) alternative volume measures discussed at previous meetings, namely 'premiums due' and 'premiums written'.

4. This paper does not discuss the presentation of acquisition costs. This matter is discussed in Agenda Paper 2D for the June IASB meeting.

Staff conclusions

5. The staff conclude that an earned premiums presentation described in this paper has advantages but could give rise to some operational challenges. We think that the boards should explore further the usefulness of the information and the extent of any operational difficulties. We intend to ask for feedback from the Insurance Working Group, which includes users among its members, and to provide that feedback to the boards before asking you to make any further decisions.

Questions for board members

6. This paper asks board members:

(a) for views on the usefulness of the information provided by an earned premium presentation (relative to the alternatives);

(b) whether there are any specific matters that you would like us to explore further with the members of the Insurance Working Group; and

(c) whether there is any other information you need to reach a decision on presentation at a future meeting.

Structure of paper

7. This paper :

   (a) explains the objectives of an earned premium presentation (paragraphs 8-16);

   (b) describes the components of earned premiums (paragraphs 17-21);

   (c) describes a possible method of measuring earned premiums (paragraphs 22-48);

   (d) presents simple examples that illustrate this method (paragraphs 49-70);

   (e) summarises the advantages and disadvantages of an earned premium presentation (paragraphs 71-74); and

   (f) presents tentative staff conclusions (paragraph 75).

The objective of an earned premium presentation

8. Any measure of premiums used in the financial statements should satisfy two basic objectives:

   (a) the amount of premium presented over the life of the contract should equal the total premiums received from the policyholder (after disaggregating any investment component and adding the effect of interest accretion); and

   (b) the measure of the premiums should be consistent with the other measures in the same financial statement. Any reconciling items should be readily explainable and have a meaning within the statement.

9. In addition, any measure of *earned* premiums should also satisfy the objective of presenting a volume measure for contracts accounted for using the building block approach that is consistent with the measure of earned revenue presented for contracts accounted for using the premium allocation approach.

10. The objective in both cases is to provide a volume measure that is similar to the measure of revenue that results from applying the requirements proposed in the exposure draft *Revenue from Contracts with Customers* ('the draft Revenue standard'). Earned premiums are measured at an amount that reflects the consideration (premiums) to which the entity is entitled for the performance obligations that it has satisfied in the period, ie for the goods or services (eg insurance coverage) that it has transferred to the customer (policyholder) in the period.

11. An insurance contract typically satisfies the criteria in paragraphs 35 and 38 of the draft Revenue standard for recognising revenue over time:

    (a) typically, the insurer's performance does not create an asset with alternative use to the insurer; and

    (b) typically at least one of the following criteria is met:

        (i) the policyholder simultaneously receives and consumes the benefits of the insurance coverage;

        (ii) another insurer would not need to re-provide the coverage provided to date if that other insurer were to fulfil the obligations for remaining coverage; or

        (iii) the insurer has a right to payment for coverage provided to date and it expects to fulfil the contract as promised. (Insurance premiums are typically paid in advance of the provision of insurance coverage. If an insurance contract is cancelled by either party, the insurer is typically entitled to keep premiums charged for coverage to the point of cancellation.)

    (c) typically, an insurer can reasonably measure its progress towards complete satisfaction of its performance obligations. (It has evidence of factors such as mortality rates, life expectancy and lapse rates on which to base its estimates of future outflows.)

12. Applying the proposals in the draft Revenue standard, an insurer would recognise earned premiums over time by measuring the progress towards complete satisfaction of each performance obligation. The draft Revenue standard discusses both output and input methods of measuring progress. In the context of insurance, output methods directly measure the value to the policyholder of the coverage and other services provided in each period, ie the price the insurer would have charged (and the policyholder would have paid) if the insurer had issued a contract for the services provided in that period only. Input methods recognise revenue on the basis of the entity's efforts or inputs (claims and expenses) for each period relative to the total expected inputs.

13. A method of measuring earned premiums that satisfies all of the objectives set out above is one that measures the premiums by reference to the initial estimates of the pattern of the services provided in each period, eg by reference to the *expected* claims and other benefits (fulfilment costs) in each period as estimated at the time of pricing the contract.

14. This method of measuring earned premiums reflects a view that the service that the insurer transfers to the customer is insurance coverage. The insurer priced the premiums at the start of the contract on the basis of the estimates of expected claims and benefits at that time. The amount of premiums recognised as earned in each period approximates the amount that the insurer would in theory have charged for each period of coverage had it issued separate contracts for each period on the issuance date of the actual contract. This amount would rationally be the present value of the expected cash flows for the period plus a margin.

15. Any difference between the actual claims incurred and the amount previously recognised in the statement of comprehensive income reflects an experience adjustment in the period the claim is incurred. It does not change the amount of revenue that the insurer has earned in each period.

16. There are different views among the staff as to whether the amount of premiums allocated to each period would change if there is a change in expectations regarding the *pattern* of benefits provided in future periods. If the boards decide to pursue an

earned premiums presentation further, the staff will analyse this question in more detail for future discussion.

The components of earned premium

17. In this section, we present a simplified overview of the components of earned premium. We assume that there are no expenses other than claims and that any investment component has been excluded from the premium to be presented in the statement of comprehensive income. We ignore the possibility of changes in estimates of the timing and amount of the future cash flows and we consider experience adjustments only in the context of cash outflows. We address the complications arising from changes in estimates and premium experience adjustments later in the paper (paragraphs 30-44).

18. An earned premium presentation recognises similar gains and losses to those recognised applying the summarised margin presentation proposed in the insurance contracts exposure draft. However, it combines them differently.

19. The summarised margin presents the gains and losses according to their source. The exposure draft proposed the following presentation:

Summarised margin presentation	**Currency units**
Release of risk adjustment (IASB only)	A
Release of residual or single margin	B
Underwriting margin	A+B
Experience adjustments (differences between expected C and actual cash flows D)	C-D
Interest accreted on insurance contract liability	-E
Profit or loss on insurance contracts	A+B+C-D-E

20. An earned premium presentation recognises the same gains and losses but separately aggregates inflows and outflows:

Earned premium presentation	Currency units
Earned premiums	A+B+C
Actual claims and expenses incurred	-D
Interest accreted on insurance contract liability	-E
Profit or loss on insurance contracts	A+B+C-D-E

21. Notes:

(a) the measure of earned premiums includes all amounts that the premiums charged (the inflows) are intended to cover according to the insurance contract measurement, ie expected cash flows (C), the margin required for bearing risk (A) (for the IASB) and a profit margin (B).

(b) for the purposes of a summarised margin presentation, the exposure draft defined experience adjustments as being the differences between actual cash flows and previous estimates of those cash flows. So claims experience adjustments would refer to claims *paid*. For the purposes of a premium allocation approach the amounts recognised as claims and expenses would be the amounts incurred, rather than paid. Hence the amounts labelled as C and D would not be exactly the same in the two presentations.

(c) expected claims (C) and actual claims (D) are measured at their present value at the date on which claims are incurred, ie when coverage is provided. These amounts include both the discounted amounts used to measure the initial contract liability and the interest accreted between then and the period in which the coverage is provided. If premiums are received

in advance of coverage, the result is that over the life of the contract, the total measure of earned premiums is greater than the cash premiums received.

(d) an earned premium presentation does not separately identify the sources of the overall profit from insurance contracts, ie release from risk (A), earning of residual margin (B) and experience gains or losses (C-D). The boards could require the earned premiums amount to be disaggregated. However, at the joint meeting in October 2011, the boards indicated a preference for combining amounts in a way that would make insurers' statements of comprehensive income as similar as possible to those of other types of entities. If not disaggregated in the statement of performance, these individual amounts could be specified as amounts that must be disclosed in the notes. They could be disclosed as part of the reconciliation of opening and closing balances or separately.

Reconciliation of insurance contract liability (for contracts already recognised at start of period)	**Currency units**
Liability at start of period	**X**
Premiums received	F
Interest accreted on insurance contract liability	E
Claims	-D
Experience adjustments	-(C-D)
Release of risk margin (IASB only)	-A
Release of single or residual margin	-B
Liability at end of period	**X**

A method of measuring earned premiums

Measuring the change in the liability

22. There is a simple relationship between customer consideration amounts reported in the statement of financial position, statement of total comprehensive income and statement of cash flows. If the customer pays in advance (as is typical with an insurance contract) the relationship is:

Unearned consideration (liability) at start of period.	+	Consideration received (cash flow)	+	Interest accreted (expense)	-	Consideration earned (income)	=	Unearned consideration at end of period

Or, using insurance terminology:

Unearned premiums (insurance contract liability) at start of period	+	Premiums received (cash flow) [1]	+	Interest accreted (expense)	-	Earned premiums (income)	=	Unearned premiums (insurance contract liability) at end of period[2]

23. The draft Revenue standard prescribes a method of measuring the revenue (consideration) earned, ie the amount reported *in the statement of comprehensive income*. An entity applying that standard could then determine the liability at the end of the period as the balancing figure—equalling consideration received plus accretion of interest less revenue earned.

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[1] Because the measurement of the liability includes the present value of future benefits less the present value of future premiums, when premiums are received there is an increase in the liability.

[2] As noted in the introduction to this section of the paper, this formula does not take into account the effect of changes in estimates of incurred claims. Because the premium methodology being developed in this paper is based on the expected claims, any changes in expectations regarding as of yet incurred claims would affect the insurance contract liability and also need to be considered (ie does it represent a change to the liability for remaining coverage?).

24. In contrast, the proposed standard for insurance contracts prescribes a method for measuring the insurance contract liability, ie the amount reported *in the statement of financial position*. Consequently, an insurer could measure the earned premium as a difference between premiums received plus accretion of interest less the liability at the end of the period.

Measurement of earned premiums	**Currency units**
Premiums received	F
Accretion of interest on liability	E
+/- decrease/increase in liability	-G[3]
Earned premiums	F+E-G

Claims incurred but not paid

25. The period over which the proposed standard requires insurers to allocate earned premiums might depend on the boards' views regarding the nature of the services transferred by the insurer. Taking the view that the service is the provision of insurance coverage, the appropriate period would be the coverage period. (If the service was the payment of claims and benefits or the protection against uncertainty in cash flows, the appropriate period might include both the coverage period and the claims settlement period.)

26. Recognising premiums as being earned over the coverage period would be consistent with the requirements of the premium allocation approach.

27. To recognise premiums as being earned over the coverage period, an insurer would measure them by reference to the change in the liability for *remaining coverage*.

[3] The table following paragraph 21(d) defines G=F+E-C-A-B. If we substitute these amounts for G in the table, we prove that earned premiums are equal to A+B+C, or in other words the expected claims for the period plus margins.

Consequently, the first step in measuring earned premiums would be to divide the total insurance contract liability into two components:

(a) the liability for remaining coverage; and

(b) the liability for incurred claims.

These two components are equivalent to the two amounts measured separately by entities applying the premium allocation approach. (In addition, unlike for the premium allocation approach, the building block approach requires an insurer to update its estimate of the cost of future claims. Any related liability created before the occurrence of the insured event might be viewed as a sub-component of the liability for remaining coverage or as a separate component altogether.)

28. Unlike the premium allocation approach, the building block approach does not require an insurer to measure its liability for remaining coverage separately from its liability for incurred claims. Consequently an earned premium presentation could require insurers to disaggregate amounts that the building block approach does not otherwise require them to disaggregate.

29. Insurers are likely to have the data they need to disaggregate the cash flows into two components—they track the claims that have been reported and maintain estimates of claims that have been incurred but not yet reported. However, measuring the two components (including, for the IASB, the risk adjustment) separately could add some complexity.

Operational consequence 1

To allocate earned premiums over the coverage period, an insurer applying the building block approach would need to separate the liability for remaining coverage from the liability for incurred claims.

Changes in estimates of future outflows

30. In previous paragraphs, we have not considered the impact of a change in estimates on the measure of premiums earned.

31. Suppose at the end of one period, an insurer increases its estimates of cash flows for future claims. It recognises the increase as an expense in the period and an increase in the liability for remaining coverage[4]. Applying the formula in paragraph 24, this would result in reduction of the measure of earned premiums for the period.

32. However, as explained in paragraph 14, we are seeking to measure earned premiums in each period by reference to the expected cash flows for *that* period, ie the premium that the insurer would have charged for that period had it priced each period's coverage separately. An increase in future claims implies that future periods' cover will be less profitable, not that the current period's revenue has reduced. We would not want an increase in the liability caused by an increase in expected future claims to reduce the current period's earned premiums.

33. Accordingly, we need to refine our formula. We need to exclude from the measure of the changes in the liability any changes arising from changes in estimates of future claims that have been recognised in profit or loss.

34. We also need to exclude the effects of the *reversal* of these changes in estimates in later periods when the increased claims are incurred. In these later periods, the liability for remaining coverage will reduce by an amount that includes both the original estimates of expected cash flows and the subsequent adjustments. However, the premium charged for the period reflected only the original estimates, and the measure of earned premium should not be inflated by the additional claims

[4] The increase would be recognised as an expense unless it is offset against the residual margin.

35. Accordingly, the formula is refined as follows:

Measurement of earned premiums	**Currency units**
Premiums received	F
Accretion of interest on liability for remaining coverage	E
+/- decrease/increase in liability for remaining coverage	-G
-/+ decrease/increase in liability for remaining coverage caused by changes in estimates and reversals of changes in estimates	H
Earned premiums	F+E-G+H

36. To make the necessary adjustments for reversals in changes in estimates, the insurer will have to maintain records that separate the expected cash flows for each period into two components—the amount originally estimated and later adjustments. Tracking previously recognised gains or losses to the period in which the claim is incurred might require insurers to maintain some form of memo account.

37. Similar steps might be necessary to account for changes in estimates of risk (IASB only).

38. Furthermore, there are different staff views as to whether an adjustment should be made to reallocate revenue if there is a change in the expected pattern (as opposed to amount) of future benefits. If the boards decide to pursue an earned premiums presentation further, the staff will analyse this question in more detail for future discussion.

Operational consequence 2

To identify reversals in changes in estimates, an insurer will need to separate the expected cash flows and risk adjustments for each future period into two components—the amounts originally estimated and subsequent adjustments—and track both amounts until they reverse in the future period.

39. These adjustments for changes in estimates and their reversal would be required only if the change is recognised in the statement of comprehensive income and thus affects the liability for remaining coverage. If the change is instead offset against the residual margin—ie, treated as a transfer between the components of the total liability rather than as a change in the liability and thus not recognised in the statement of comprehensive income—no adjustment is required. Consequently, fewer adjustments might be needed applying the IASB's tentative decision to 'unlock' the residual margin for changes in estimates of future cash flows, than would be required applying the FASB's tentative decision not to unlock the single margin. However, adjustments would be required for those changes that are not offset against the residual margin, such as increases in estimates of future cash flows that exceed the residual margin and are immediately recognised as losses in the statement of comprehensive income (ie if contracts become onerous).

Changes in estimates attributable to changes in premiums received

40. It might not be appropriate to exclude from the measure of earned premium all effects of changes in estimates.

41. Suppose for example, that lapse rates in a period are lower than expected. An insurer receives premiums totalling CU100 more than expected. As a result of these higher premiums, the insurer incurs and pays additional claims of CU40 in the current period and expects to incur and pay additional claims of CU60 in the following period.

42. At the end of the period, the insurer has an additional liability for expected cash outflows of CU60.

43. The insurer has received more premiums than expected. We might think that 40 of this premium should be recognised as earned in the current period, and 60 in the next period. However, our formula does not produce this result:

Measurement of earned premiums	**Currency units**
Premiums received	+100
Accretion of interest on liability (ignored for simplicity)	-
- increase in liability for remaining coverage:	-60
+ increase in liability for remaining coverage caused by changes in estimates.	+60
Earned premiums	+100

44. A possible solution might be to treat higher-than-expected premiums in the same way as new contracts—essentially the additional premium reflects consideration received for additional coverage. The additional liability for expected cash outflows could be added to the amounts recorded for *original estimates* of future expected cash flows, rather than the amounts recorded for changes in estimates of future expected cash flows. The premiums would then be recognised as earned as the liability reduces.

Operational consequence 3

An insurer might need to treat changes in estimates differently depending on their source. Some changes might need to be treated as if they were original estimates and others as subsequent adjustments.

Changes in discount rates

45. Adjustments to the basic formula are also required if a change in discount rate affects the measure of the liability.

46. Consider a contract in which premiums are received in advance. The liability is measured by reference to the present value of the future claims. If the discount rate reduces at the end of one period, the liability for remaining coverage increases. Without any adjustment to the basic formula, the measure of earned premiums for the current period would decrease by the same amount. However, a change in the discount rate applied to future cash flows should not affect the measure of revenue earned to date. Therefore, it is necessary to exclude from the measure of the earned premiums the effects of a change in discount rates.

47. However, we think that there might not be a need for later adjustments to reverse the effects. As explained in paragraph 21(c), the expected claims used to measure revenue are measured at their present value when the claims are incurred. The amounts are the same irrespective of the discount rates applied before then, ie between initial recognition of the liability and the claims being incurred. A reduction in discount rates during the course of the contract would increase the liability measured at that time, but reduce the interest accreted in the period up until the claims being incurred. Our formula would reflect this effect: it would include a bigger reduction in the liability as coverage is provided, but a correspondingly smaller amount of accreted interest, the combination of which would not affect earned premium.

Summary of adjustments

48. Taking into account all of the matters discussed in this section, the formula for measuring earned premiums by reference to the change in liability could have all of the following components:

Measurement of earned premiums by reference to change in liability	Currency units
Premiums received	F
Accretion of interest on liability for remaining coverage	E
+/- decrease/increase in liability for remaining coverage	-G
-/+ decrease/increase in liability for remaining coverage caused by changes in *some* (but not other) estimates and reversals of changes in estimates	H
+/- reduction/increase in liability for remaining coverage caused by change in discount rates	I
Earned premiums	F+E-G+H

Illustrative examples

49. This section includes two simple examples to illustrate the effects of changes in estimates of expected future cash flows on the presentation of earned premiums by insurers applying the building block approach. The changes in estimate would be recognised either in the statement of comprehensive income or, for the IASB, by offsetting some changes against ('unlocking') the residual margin.

50. The financial results are different depending on whether the changes are recognised in the statement of comprehensive income or offset against the residual margin. So the examples illustrate both situations.

51. The examples in this section do not represent any particular type of contract. They are designed only to illustrate very simple generic contracts. The appendix to this paper includes additional more detailed examples for three types of contracts—whole life

insurance, term life insurance and immediate annuities. For each of these products there are two examples. The first shows the earned premiums when the claims follow expectations. The second shows how the earned premiums change following an experience adjustment or change in expected future claims.

Illustrative example 1: changes in estimates of outflows

52. Consider a portfolio of five-year contracts with premiums of CU1,500 and expected claims at inception of CU500, which arise evenly over the contract. For simplicity, we ignore the time value of money and changes in the risk adjustments. It is assumed that services are transferred evenly over the contract. Consequently, the margin (single or residual) is allocated on the basis of the passage of time. Earned premiums would be measured as follows:

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Premiums earned	300	300	300	300	300	1,500
Expected claims	(100)	(100)	(100)	(100)	(100)	(500)
Underwriting result	200	200	200	200	200	1,000

53. At the end of year 3 the insurer expects an increase of future claims in years 4 and 5 as follows:

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Expected claims	(100)	(100)	(100)	**(250)**	**(250)**	(800)

54. The change in estimates results in an increase in expected claims and a decrease in expected contract profitability of CU300. The insurer would account for those two situations differently, depending upon whether the margin is locked at inception or unlocked. The insurer would recognise different underwriting results in years 3-5.

Underwriting result	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Margin locked[5]	200	200	(100)	200	200	700
Margin unlocked	200	200	200	50	50	700

*Presentation of the changes in the estimates in the statement of comprehensive income when margin is **locked***

55. When the margin is locked, the margin established at inception is not adjusted for changes in estimates. Instead, the insurer accounts for the increase in the estimates of the future claims by an increase in the insurance contract liability and by recognising a corresponding expense in the statement of comprehensive income.

[5] The FASB proposes that the release pattern of the single margin would change in the periods after a change in estimate if the change affected the pattern of reduction in the variability of the cash flows. For simplicity, this example assumes that the change in estimates does not affect this pattern.

56. The table below presents the insurance contract liability recognised if the margin is locked. It disaggregates the total liability into three components to present how the measure of earned premiums is derived from the statement of financial position. Disaggregating the liability in this way ensures that earned premium is measured by reference to the change in the liability for remaining coverage only (see paragraphs 27-28) and excluding the effects of changes in estimates of future cash flows (see paragraphs 33).

57. The example assumes that claims are paid in the period after they are incurred.

	Inception	Year 1	Year 2	Year 3	Year 4	Year 5
Liability for remaining coverage - unearned premiums	1,500	1,200	900	600	300	0
Liability for remaining coverage - changes in estimates	0	0	0	300	150	0
Liability for incurred claims	0	100	100	100	250	250
Insurance liability	1,500	1,300	1,000	1,000	700	250

58. The table below presents how changes in estimates might be presented in the statement of comprehensive income when margin is locked.

	Year 1	Year 2	Year 3	Year 4	Year 5	*Total*
Earned premiums	300	300	300	300	300	*1,500*
Claims incurred	(100)	(100)	(100)	(250)	(250)	*(800)*
Adjustment for reversals of changes in estimates. (See paragraph 34)				**150**	**150**	*300*
Income (expense) from changes in estimates			**(300)**			*(300)*
Underwriting result	200	200	(100)	200	200	*700*

59. Premiums earned consist of the following:

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Expected claims	100	100	100	100	100	*500*
Release of margin	200	200	200	200	200	*1,000*
Premiums earned	300	300	300	300	300	*1,500*

*Presentation of the changes in the estimates in the statement of comprehensive income when margin is **unlocked***

60. If the margin is unlocked, the changes in estimates are offset against the margin (the present value of the fulfilment cash flows increases but the residual margin decreases by the same amount). The effect of the change in estimates is therefore recognised in the statement of comprehensive income only when the margin is released.

61. The table below presents the insurance contracts liability when the margin is unlocked.

	Inception	Year 1	Year 2	Year 3	Year 4	Year 5
Liability for remaining coverage - unearned premium	1,500	1,200	900	600	300	0
Liability for remaining coverage - changes in estimates[6]	0	0	0	0	0	0
Liability for incurred claims.	0	100	100	100	250	250
Insurance liability	1,500	1,300	1,000	700	550	250

[6] If the margin had been exhausted, any further increases in the estimates of future cash flows would increase the liability. The accounting would be similar to that for a locked scenario (or for an onerous contract under the premium allocation approach).

62. The table below presents how the changes in estimates might be presented in the statement of comprehensive income when the margin is unlocked and allocated based on the same allocation pattern as that originally estimated, ie the passage of time.

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Earned premiums	300	300	300	300	300	*1,500*
Changes in estimates	0	0	0	0	0	0
Claims incurred	(100)	(100)	(100)	(250)	(250)	*(800)*
Underwriting result	200	200	200	50	50	*700*

63. Earned premiums consist of:

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Expected claims	100	100	100	250	250	*800*
Margin release	200	200	200	50	50	*700*
Earned premiums	300	300	300	300	300	*1,500*

64. When changes in estimates are offset against the residual margin, the insurer might not need to track the reversals of the changes in estimates in order to measure earned premiums—the premium could be allocated based on the revised estimates of the claims and margin. However, if the margin has been used up, any further increases in net outflows would be recognised in profit or loss. They would need to be tracked in the same way as changes in estimates for the "locked" approach.

Illustrative example 2 - changes in estimates of inflows

65. Changes in cash inflows would affect the amount of premiums to be allocated to an accounting period. The changes in inflows that are related to a decrease or an increase in coverage provided would result in accounting similar to the accounting for the premium allocation approach. A decrease in coverage provided would result in fewer premiums being allocated in the periods for which the coverage decreased. An increase in coverage provided would result in more premiums being allocated using the same method as the allocation of the previous coverage. This effect is presented in the example below.

66. The fact pattern is the same as the original estimates in the previous example, except that the premiums are paid annually.

    (a) Expected claims CU 500 expected evenly (CU 100) over 5 years

    (b) Expected margin CU 1,000 expected to be released evenly (CU 200) over 5 years

    (c) The expected premiums CU 1,500 are expected to be paid annually (CU 300) rather than all at inception.

67. In year 3, the insurer changes expectations related to inflows in year 4 and 5, It expects that half of the policyholders will not pay premiums because they will not renew their contracts. The expected cash inflows would decrease by CU 300 (CU 150 for each year). The insurer therefore would not have to pay claims for those policyholders (CU 50 for each year) and would not earn margin on those contracts (CU 100 for each year). The staff believe that the outcome of changes in inflows should be the same for both approaches (locked and unlocked margin).

68. The amounts presented in the statement of financial position are included in the table below:

	Inception	Year 1	Year 2	Year 3	Year 4	Year 5
Liability for remaining coverage[7]	0	0	0	0	0	0
Liability for incurred claims.	0	100	100	100	50	50
Insurance liability	0	100	100	100	50	50

69. The amounts for the statement of comprehensive income are included in the table below:

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Premiums earned (= premiums received, because there is no change in the liability for remaining coverage)	300	300	300	150	150	*1,200*
Claims incurred	(100)	(100)	(100)	(50)	(50)	(400)
Underwriting result	200	200	200	100	100	*800*

70. Some were concerned that the allocation of premium could result in negative premiums being recorded for accounting period. The staff believe that the measure of earned premiums could be negative only if there is a decrease in expected cash inflows related to those already recognised as premiums earned in the statement of comprehensive income. Such a situation should be extremely rare as premiums are usually received in advance, not in arrears. However, it could arise if insurers are required to recognise revenue to offset acquisition costs.

[7] This example ignores the fact that the benefit provide in each period is both coverage against an insured event in that period and an option to renew the contract for the next period.

Staff analysis

71. Any analysis of an earned premiums presentation needs to compare that presentation with the alternatives, such as:

    (a) the summarised margin approach proposed in the IASB exposure draft; and

    (b) other 'premium' presentations, such as premiums due or premiums written.

    IASB agenda paper 2B / FASB memo 84B *Background* includes a reminder of these alternatives and their respective advantages and disadvantages.

Advantages of an earned premium presentation

72. An earned premiums presentation has several advantages over other premium approaches (ie premiums written and premiums due):

    (a) the earned premiums line is equivalent to the revenue line presented by entities in other industries, if the method of calculating earned premiums reflects the value to the policyholder of the service provided in the period. So an earned premium presentation could make insurers' financial statements more comparable with those of other industries and understandable to non-specialist users. Although information about premiums due or written in the period might be useful (and if so, should be disclosed), these measures are not standard volume measures for a statement of comprehensive income. No other industries present as an item of income either amounts invoiced (premiums due) or amounts receivable over the duration of contracts to be fulfilled in future (premiums written), if these amounts can differ from earned revenue.

    (b) the boards propose to require insurers applying the premium allocation approach to present earned premiums in their statement of comprehensive income. Presenting comparable amounts for contracts accounted for using the building block approach would enable insurers with both types of contract to meaningfully combine their results in a single statement of comprehensive income.

(c) the volume information is derived from the measure of the insurance contracts liability in the statement of financial position. Therefore it can be directly reconciled to the net profit recognised as a result of applying the measurement requirements of the building block approach. The reconciling items can be explained: they are changes in estimates of the present value of the probability-weighted fulfilment cash flows and reversals of those changes. Theoretically, these adjustments can be viewed as similar to the adjustments proposed for onerous contracts accounted for using the premium allocation approach.

73. However, in response to the argument that no other industries present as an item of income either amounts equivalent to premiums due or written, it could be argued that there are reasons for applying a different approach for insurers:

(a) no other industries are required to measure an entire contract from its effective date (ie taking into account all expected cash inflows and cash outflows, a risk adjustment (IASB only) and a margin to eliminate any day 1 gain).

(b) non-refundable premiums due represent the value of the policy to the policyholder. (The draft Revenue standard states that 'if an entity has a right to invoice a customer in an amount that corresponds directly with the value to the customer of the entity's performance completed to date, the entity shall recognise revenue in the amount to which the entity has a right to invoice'.)

Disadvantages of an earned premium presentation

74. Furthermore, an earned premium presentation also disadvantages:

(a) it does not reflect changes in the building blocks that make up the measurement of the insurance contract. It does not provide the clear linkage between the statement of comprehensive income and statement of financial position that other presentations—in particular the summarised margin presentation and written premium presentation—provide.

(b) it provides comparable information to that provided by the draft Revenue standard only if the investment components are excluded from the statement of comprehensive income. The separate identification and exclusion from the statement of comprehensive income of amounts associated with the investment component is not required for the summarised margin presentation and could be challenging in practice.

(c) it provides comparable information to that provided applying the draft Revenue standard only if the method used to measure earned premiums reflects the service provided over time and the value the policyholder receives. This measurement, which combines various drivers, can be difficult to determine consistently for varying types of insurance contracts.

(d) calculating earned premiums can be more challenging than calculating other premium measures, such as premium due or premium written. The method of calculating earned premiums explored in this paper could overcome some of the difficulties. However, this paper shows that there could be operational challenges, even for quite simple contracts. For example, insurers might need to:

  (i) disaggregate their insurance contracts liabilities (cash flows and, for the IASB, risk adjustment) between the liability for remaining coverage and the liability for incurred claims. Although many insurers already capture the data necessary to separate the cash flows (for example, for regulatory reporting), splitting the cash flows (and risk adjustment if required) might add complexity and is not otherwise required applying the building block approach in the proposed insurance contracts standard.

  (ii) track both changes in estimates of future claims and the reversals of those changes in estimates. Tracking would always be necessary if the margin is locked, and would be necessary at least sometimes if the margin is unlocked, eg if estimates of future outflows increase by an amount that exceeds the amount of the remaining margin.

(iii) treat some changes in estimates differently from others (as highlighted in paragraph 44).

It is likely that some types of contract will give rise to other challenges, which have not been explored in this paper.

(e) some may be troubled by a premiums earned presentation because the premium could be back-end loaded for death benefits because the probability of death increases over time (and then decreases after some age). Some users of financial statements might be more concerned about the amount of additional exposure that insurers have assumed than the amount of which they have been relieved in the period.

(f) an earned premium presentation would present as volume information both earned premiums and incurred claims. Some people do not view incurred claims as a particularly relevant measure of life insurance claims. They would prefer a claims line that presents *expected* rather than *incurred* claims for most death and living benefits after measure of claims. Due to the nature of the life insurance business, there is little volatility in the amount or timing of the cash flows after the insured event and the claim is paid out relatively quickly, thus relieving the insurer of its obligation. Accordingly, and because there is more current information available regarding the expected fulfilment costs of a contract, some users place more emphasis on the expected costs of future claims to represent the insurer's exposure. This would give the user information regarding expected future cash flows versus past cash flows.

Conclusion

75. The staff conclude that an earned premiums presentation described in this paper has advantages but could give rise to some operational challenges. We think that the boards should explore further the usefulness of the information and the extent of any operational difficulties. We intend to ask for feedback from the Insurance Working Group, which includes users among its members, and to provide that feedback to the boards before asking you to make any further decisions.

76. The Insurance Working Group meets on 25-26 June 2012.

Questions for Board Members

1 Do you think that the information provided by an earned premium presentation is useful (relative to the information provided by alternative presentations)?

2 Are there any specific matters that you would like us to explore further with the members of the Insurance Working Group?

3 Is there any other information you need to reach a decision on presentation at a future meeting?

Appendix

A1. This appendix contains examples illustrating three types of contract:

a. whole life contract

b. 25-year term life contract

c. 25-year immediate annuity contract.

A2. There are two scenarios for each example:

a. "base scenario" assuming actual experience equal to the initial expectations regarding incurred claims; and

b. "scenario 2" in which an experience adjustment or change in assumption(s) regarding future incurred claims occurs during the contract.

A3. The examples focus solely on the portion of the premium that funds the payment of expected policyholder benefits and does not address the recognition of premiums that would be allocated on the basis of the other drivers:

a. the margins (and risk adjustment for the IASB), which would be earned as tentatively decided by boards. For the IASB this would include the possibility that some or all of the changes in estimates (to the extent they affect the amount of the ultimate expected total cash flows) might be offset by the residual margin.

b. payment of acquisition costs, the treatment for which is being considered as a separate matter (alternatives for which might include earning based on the same pattern applied to the premium allocated to either the payment of policyholder benefits or the margin); and

c. payment of maintenance and benefit expense, which might be earned based on the same pattern applied to the premium allocated to the payment of policyholder benefits or on a different pattern.

To help isolate the effect of the earned premium methodology described in this paper, the examples exclude from the statement of comprehensive income this remaining premium, which would need to be added to the premium allocated to fund the policyholder benefits to arrive at the total earned premium.

A4. The examples each include:

a. a calculation of the earned premium;
b. resulting presentation of the statement of comprehensive income; and
c. A graph that depicts the earned premium pattern.

A5. Assumptions for the examples include:

a. each of the examples represents a portfolio of contracts sold to 40 year old males with all premium paid at contract inception and none of it being refundable (e.g., upon premature death);
b. the coverage period for the term life insurance and annuities is for 25 years;
c. the mortality assumptions used were based on the 2007 US Social Security Mortality Table;
d. no lapses. Lapse assumptions would be needed in practice
e. no discounting.

A6. The premiums were calculated on a portfolio basis for each of these examples. If the same principles are applied to an individual contract basis, it raises a question as to whether any unearned premium should be accelerated into net income upon a policyholder's death (i.e., coinciding with the exhaustion of coverage). Should the boards wish us to continue to evaluate the earned premium approach, we will further evaluate the pros and cons of accelerating any contract's unearned premium upon the early termination of the contract.

A7. All of the examples assume that the changes in estimates are recognised in profit or loss, ie that they are not offset against a residual margin.

Example A1 – whole life with no changes - data

Portfolio of single (non-refundable) premium whole life contracts sold to 40 year old policyholders - base scenario

Premium paid	25,000	
Investment component	(10,000)	
Remaining premium	15,000	
Acquisition costs	(1,800)	Their treatment is being considered as a separate matter
Maintenance and Benefit expense	(900)	May be included in premium earned below or may have different earnings pattern
Margin	(2,300)	Earned as tentatively decided by boards
Premium for policyholder benefits	10,000	
No lapse probability		
Death benefit	10,000	
Interest rate = 0		

Ages	Mortality rates	Age 40 adjusted probability[A]	Premiums earned	Remainder of premium	Cumulative premium to date
40-44	1.212%	1.266%	127	9,873	127
45-49	1.826%	1.907%	191	9,683	317
50-54	2.751%	2.874%	287	9,395	605
55-59	3.802%	3.972%	397	8,998	1,002
60-64	5.203%	5.435%	544	8,455	1,545
65-69	7.143%	7.462%	746	7,708	2,292
70-74	9.845%	10.284%	1,028	6,680	3,320
75-79	12.996%	13.576%	1,358	5,322	4,678
80-84	15.888%	16.597%	1,660	3,663	6,337
85-89	16.393%	17.124%	1,712	1,950	8,050
90-94	12.277%	12.825%	1,282	668	9,332
95-99	5.244%	5.478%	548	120	9,880
100-104	1.045%	1.092%	109	11	9,989
105-109	0.100%	0.104%	10	0	10,000
110-114	0.004%	0.004%	0	(0)	10,000
	95.729%	100.000%	10,000.00		

A This adjustment updates the mortality rates, which start at age 0, in recognition of the policies being issued to 40 year olds. This adjusted probability reflects the certainty of future policyholder death.

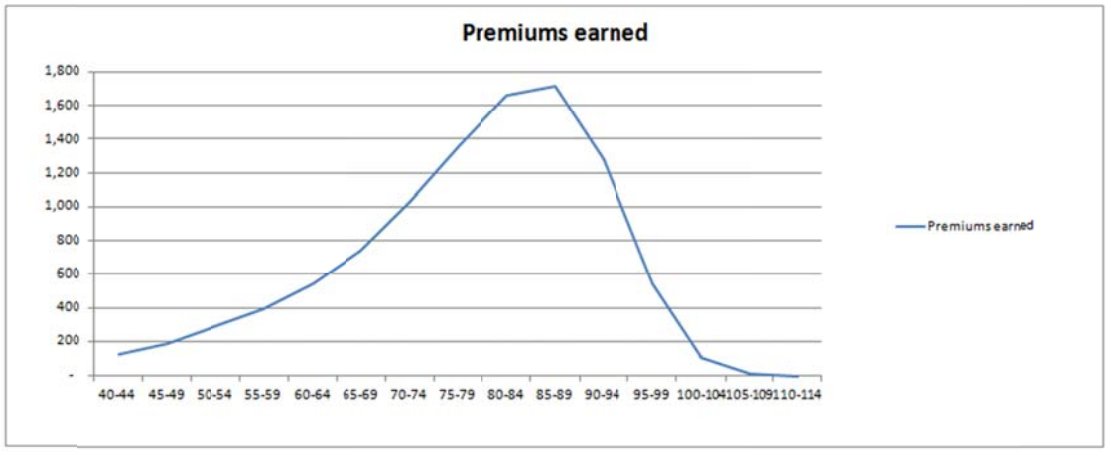
Additional Assumptions: Base Case

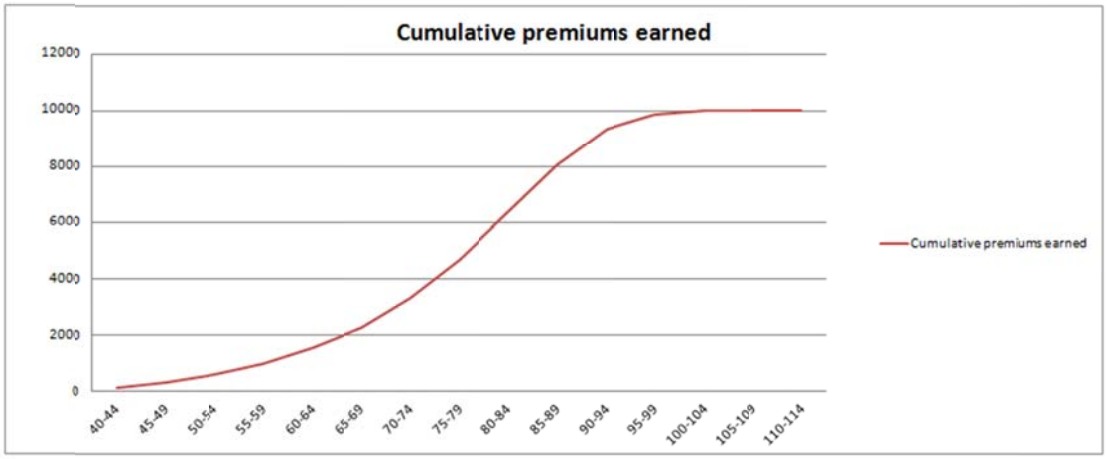
- No changes in assumptions

	Policyholder Age							
	40-49	50-59	60-69	70-79	80-89	90-99	Thereafter	Aggregate
Premiums earned, consisting of								
premium for policyholder benefits	317	685	1,290	2,386	3,372	1,830	120	10,000
single margin release	-	-	-	-	-	-	-	-
Total premiums earned	**317**	**685**	**1,290**	**2,386**	**3,372**	**1,830**	**120**	**10,000**
Claims expense, consisting of								
probability-weighted initial estimate of future incurred claims	(317)	(685)	(1,290)	(2,386)	(3,372)	(1,830)	(120)	(10,000)
subsequent adjustments for changes in assumptions								-
experience adjustments (ie, difference between actual incurred claims and estimated incurred claims)								-
Claims incurred	**(317)**	**(685)**	**(1,290)**	**(2,386)**	**(3,372)**	**(1,830)**	**(120)**	**(10,000)**
Adjustment for changes in assumptions for pattern of future claims	-	-	-	-	-	-	-	-
Change in estimates of future incurred claims	-	-	-	-	-	-	-	-
Reversal of changes in estimates recorded in previous reporting periods	-	-	-	-	-	-	-	-
Claims expense adjustments	-	-	-	-	-	-	-	-
Underwriting income	-	-	-	-	-	-	-	-

Example A1 – whole life with no changes - graphs of premiums earned

Portfolio of single (non-refundable) premium whole life contracts sold to 40 year old policyholders - base scenario





Example A2 – whole life with changes - data

Portfolio of single (non-refundable) premium whole life contracts sold to 40 year old policyholders - scenario 2

Premium paid	25,000	
Investment component	(10,000)	
Remaining premium	15,000	
Acquisition costs	(1,800)	Their treatment is being considered as a separate matter
Maintenance and Benefit expense	(900)	May be included in premium earned below or may have different earnings pattern
Margin	(2,300)	Earned as tentatively decided by boards
Premium for policyholder benefits	10,000	
No lapse probability		
Death benefit	10,000	
Interest rate = 0		

Ages	Mortality Rates	Age 40 Adjusted Probability	Probability weighted incurred claims (Premium earned)	Remainder of premium	Cumulative premium to date
40-44	1.212%	1.266%	126.61	9,873.39	126.61
45-49	1.826%	1.907%	190.75	9,682.65	317.35
50-54	2.751%	2.874%	287.37	9,395.27	604.73
55-59	3.802%	3.972%	397.16	8,998.11	1,001.89
60-64	5.203%	5.435%	543.51	8,454.60	1,545.40
65-69	7.143%	7.462%	746.17	7,708.43	2,291.57
70-74	9.845%	10.284%	1,028.42	6,680.00	3,320.00
75-79	12.996%	13.576%	1,357.58	5,322.42	4,677.58
80-84	15.888%	16.597%	1,659.69	3,662.74	6,337.26
85-89	16.393%	17.124%	1,712.44	1,950.30	8,049.70
90-94	12.277%	12.825%	1,282.47	667.82	9,332.18
95-99	5.244%	5.478%	547.80	120.03	9,879.97
100-104	1.045%	1.092%	109.16	10.86	9,989.14
105-109	0.100%	0.104%	10.45	0.42	9,999.58
110-114	0.004%	0.004%	0.42	0.00	10,000.00
	95.729%	100.000%	10,000.00		

Additional Assumptions: Scenario 2

- Incurred claims at the end of year 30 (age 69) were 500 higher than expected, representing only an acceleration of death claims ("change 1")
- At the end of year 30 (age 69), an additional 300 of incurred claims is expected to be incurred at the beginning of next period ("change 2"); normalized mortality assumptions, thereafter
- Total expected incurred claims and cash flows unchanged (ie, the above 2 changes only accelerate incurred claims)
- Revised expectations of incurred claims are as follows:

Ages	Claims Incurred to Date	Additional Claims Expected at Age 70	Initial Mortality Rates	Age 70 Adjusted Probability	Probability weighted incurred claims	Ratio of Remaining Premium to Remaining Claims	Premium Earned[A]
40-69	2,792				2,792		
70-74		300	9.845%	13.342%	1,222	1.07	1,306
75-79			12.996%	17.612%	1,217	1.07	1,301
80-84			15.888%	21.531%	1,487	1.07	1,591
85-89			16.393%	22.215%	1,535	1.07	1,641
90-94			12.277%	16.637%	1,149	1.07	1,229
95-99			5.244%	7.106%	491	1.07	525
100-104			1.045%	1.416%	98	1.07	105
105-109			0.100%	0.136%	9	1.07	10
110-114			0.004%	0.005%	0	1.07	0
			73.792%	100.000%	10,000.00		

A Subsequent to any experience adjustments or other changes in assumptions, the premium earned is calculated as the product of the current estimate of probability-weighted future incurred claims multiplied by the ratio of remaining premium to be earned to remaining probability weighted incurred claims

	Policyholder Age							
	40-49	50-59	60-69	70-79	80-89	90-99	Thereafter	Aggregate
Premiums earned, consisting of								
premium for policyholder benefits	317	685	1,290	2,608	3,232	1,754	115	10,000
single margin release	-	-	-	-	-	-	-	-
Total premiums earned	**317**	**685**	**1,290**	**2,608**	**3,232**	**1,754**	**115**	**10,000**
Claims expense, consisting of								
probability-weighted initial estimate of future incurred claims	(317)	(685)	(1,290)	(2,386)	(3,372)	(1,830)	(120)	(10,000)
subsequent adjustments for changes in assumptions - decreases[E]				248	350	190	12	800
subsequent adjustments for changes in assumptions - increases[E]				(300)				(300)
experience adjustments (ie, difference between actual incurred claims and estimated incurred claims)			(500)					- (500)
Claims incurred	**(317)**	**(685)**	**(1,790)**	**(2,438)**	**(3,022)**	**(1,640)**	**(108)**	**(10,000)**
Adjustment for changes in assumptions for pattern of future claims[D]	-	-	-	(222)	140	76	5	-
Change in estimates of future incurred claims[B]	-	-	500	-	-	-	-	500
Reversal of changes in estimates recorded in previous reporting periods	-	-	-	52	(350)	(190)	(12)	(500)
Claims expense adjustments	-	-	500	(170)	(210)	(114)	(7)	-
Underwriting income[C]	-	-	-	-	-	-	-	-

B As noted in the assumptions above, the 500 of "experience adjustments" represented an *acceleration* of claims and, as such, this 500 change in estimate is for 500 less of claims occurring in the distinct future periods (ie, they have already occurred) and *not* a change in the overall cash flows of the portfolio

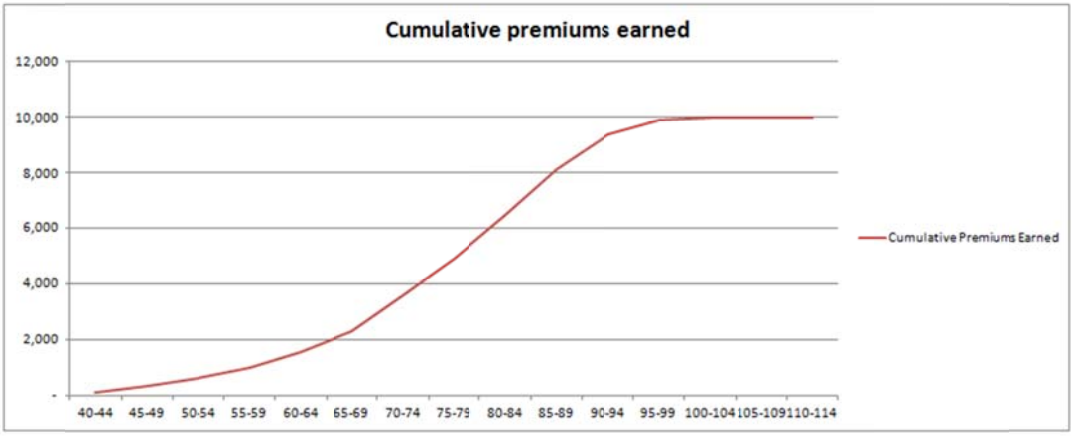
C Although there were both higher than expected claims incurred in the period corresponding to ages 60-69 and expectations of higher incurred claims for the next period, there was no effect on underwriting income because these represented solely an *acceleration* of claims and not higher ultimate costs of fulfilling the claims' obligations.

D Should an earned premium approach require updating of assumptions regarding the pattern of future claims (as opposed to the amount) as part of the determination of the premium to allocate to each period, in some circumstances, an adjustment such as represented in this line would be required. This adjustment is presented here separately from the reversal of changes in estimates line, which equates to cumulative adjustments to the amount of the estimate of future incurred claims, for purposes of providing additional clarity behind the mechanics of the adjustments. The staff plan to further consider the pros and cons of updating assumptions regarding the pattern of future claims if the boards agree that we should further evaluate a premiums earned approach. Alternatively, an earned premium approach that did not allow for updating of assumptions regarding the pattern of future incurred claims in the determination of premium earned, would exclude this line and the corresponding adjustment to the premiums earned (e.g., the premium earned for the policyholder age 70 to 79 period would instead be 2,386 in this example).

E These two lines are presented here separately to help present the linkage to the effect of changes 2 (ie, an acceleration of 300 of claims) and the offsetting effect of both changes 1 and change 2 to expectations of the amount of claims incurred subsequently (ie, because the changes only the timing of claims and not the ultimate cost of fulfilling them).

Example A2 – whole life with changes - graphs of premiums earned

Portfolio of single (non-refundable) premium whole life contracts sold to 40 year old policyholders - scenario 2



Example B1 – term life with no changes - data

Portfolio of 25 year single (non-refundable) premium term life contracts sold to 40 year old policyholders - base scenario

Premium paid	15,000	
Investment component	-	
Remaining premium	15,000	
Acquisition costs	(1,800)	Their treatment is being considered as a separate matter
Maintenance and Benefit expense	(900)	May be included in premium earned below or may have different earnings pattern
Margin	(2,300)	Earned as tentatively decided by boards
Premium for policyholder benefits	10,000	
No cash surrender value - no lapse probability		
Aggregate death benefit (if all policyholders die during the 25 years of coverage)	64,708	
Interest rate = 0		

Ages	Mortality Rates	Age 40 adjusted probability[A]	Premiums earned	Remainder of premium	Cumulative premium to date
40-44	1.212%	1.266%	819	9,181	819
45-49	1.826%	1.907%	1,234	7,946	2,054
50-54	2.751%	2.874%	1,860	6,087	3,913
55-59	3.802%	3.972%	2,570	3,517	6,483
60-64	5.203%	5.435%	3,517	-	10,000
	14.794%	15.454%	10,000		
65-114	80.935%				

A This adjustment updates the mortality rates, which start at age 0, in recognition of the policies being issued to 40 year olds. This adjusted probability reflects the certainty of future policyholder death.

Additional Assumptions: Base Case

- No changes in assumptions

	Policyholder Age					
	40-44	45-49	50-54	55-59	60-64	aggregate
Premiums earned, consisting of						
premium for policyholder benefits	819	1,234	1,860	2,570	3,517	10,000
single margin release	-	-	-	-	-	-
Total premiums earned	**819**	**1,234**	**1,860**	**2,570**	**3,517**	**10,000**
Claims expense, consisting of						
probability-weighted initial estimate of future incurred claims	(819)	(1,234)	(1,860)	(2,570)	(3,517)	(10,000)
subsequent adjustments for changes in assumptions						-
experience adjustments (ie, difference between actual incurred claims and estimated incurred claims)						-
Claims incurred	**(819)**	**(1,234)**	**(1,860)**	**(2,570)**	**(3,517)**	**(10,000)**
Adjustment for changes in assumptions for pattern of future claims	-	-	-	-	-	-
Change in estimates of future incurred claims	-	-	-	-	-	-
Reversal of changes in estimates recorded in previous reporting periods	-	-	-	-	-	-
Claims expense adjustments	**-**	**-**	**-**	**-**	**-**	**-**
Underwriting income	**-**	**-**	**-**	**-**	**-**	**-**

Example B1 – term life with no changes - graphs of premiums earned

Portfolio of 25 year single (non-refundable) premium term life contracts sold to 40 year old policyholders - base scenario

Example B2 – term life with changes - data

Portfolio of 25 year single (non-refundable) premium term life contracts sold to 40 year old policyholders - scenario 2

Premium paid	15,000	
Investment component	-	
Remaining premium	15,000	
Acquisition costs	(1,800)	Their treatment is being considered as a separate matter
Maintenance and Benefit expense	(900)	May be included in premium earned below or may have different earnings pattern
Margin	(2,300)	Earned as tentatively decided by boards
Premium for policyholder benefits	10,000	
No cash surrender value - no lapse probability		
Death benefit (aggregate for all contracts)	64,708	
Interest rate = 0		

Ages	Mortality Rates	Age 40 adjusted probability[A]	Probability weighted incurred claims (Premium earned)	Remainder of premium	Cumulative premium to date
40-44	1.212%	1.266%	819	9,181	819
45-49	1.826%	1.907%	1,234	7,946	2,054
50-54	2.751%	2.874%	1,860	6,087	3,913
55-59	3.802%	3.972%	2,570	3,517	6,483
60-64	5.203%	5.435%	3,517	-	10,000
	14.794%	15.454%	10,000		
65-114	80.935%				

A This adjustment updates the mortality rates, which start at age 0, in recognition of the policies being issued to 40 year olds. This adjusted probability reflects the certainty of future policyholder death.

Additional Assumptions: Scenario 2

- No claims were incurred in the 11th through 15th year of the contract (ages 50-54), representing a favorable experience adjustment; unlike for whole life portfolios where (absent lapse) an insured events is still likely to occur, most of these policyholders will not die during the coverage period.
- Higher incurred claims were estimated for the remainder of contracts solely as a result of higher remaining exposure (because assumptions regarding the pattern of future claims have not changed, these higher expected claims do not affect premiums earned)
- Revised expectations of incurred claims are as follows:

Ages	Claims Incurred to Date	Initial Mortality Rates	Age 55 adjusted probability[A]	Probability weighted incurred claims	Premium Earned[B]
40-54	2,054			2,054	
55-59		3.802%	4.227%	2,649	2,570
60-64		5.203%	5.785%	3,625	3,517
		9.005%	10.012%	8,327	
65-114		80.935%			

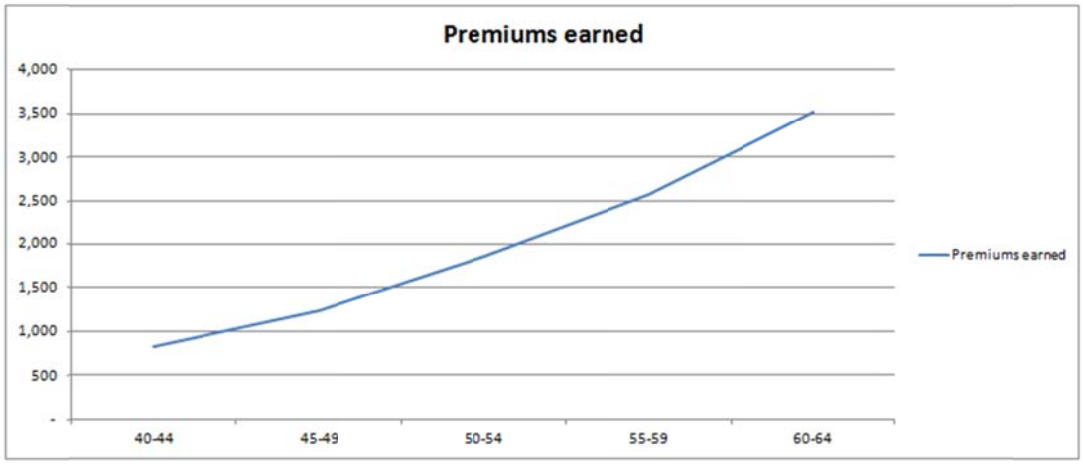
B Subsequent to any experience adjustments or other changes in assumptions, the premium earned is calculated as the product of the current estimate of probability-weighted future incurred claims multiplied by the ratio (0.97 in this example) of remaining premium to be earned to remaining probability weighted incurred claims.

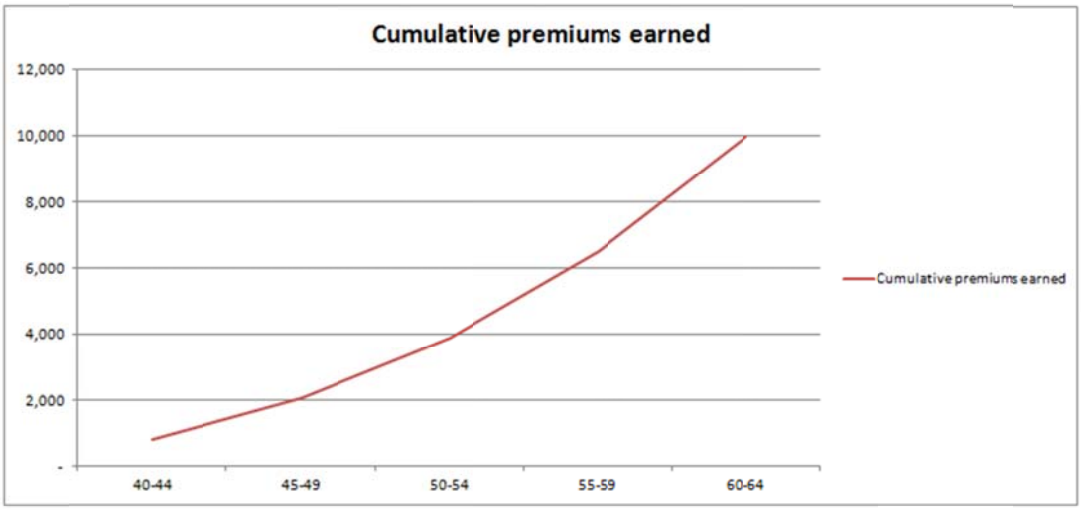
	Policyholder Age					
	40-44	45-49	50-54	55-59	60-64	aggregate
Premiums earned, consisting of						
premium for policyholder benefits	819	1,234	1,860	2,570	3,517	10,000
single margin release	-	-	-	-	-	-
Total premiums earned	**819**	**1,234**	**1,860**	**2,570**	**3,517**	**10,000**
Claims expense, consisting of						
probability-weighted initial estimate of future incurred claims	(819)	(1,234)	(1,860)	(2,570)	(3,517)	(10,000)
subsequent adjustments for changes in assumptions				(79)	(108)	(186)
experience adjustments (ie, difference between actual incurred claims and estimated incurred claims)			1,860			1,860
Claims incurred	(819)	(1,234)	-	(2,649)	(3,625)	(8,327)
Adjustment for changes in assumptions for pattern of future claims	-	-	-	-	-	-
Change in estimates of future incurred claims[C]	-	-	(186)	-	-	(186)
Reversal of changes in estimates recorded in previous reporting periods[C]	-	-	-	79	108	186
Claims expense adjustments	**-**	**-**	**(186)**	**79**	**108**	**-**
Underwriting income	**-**	**-**	**1,673**	**-**	**-**	**1,673**

C The 186 represents higher expected death claims during the remainder of the contract as a result of fewer deaths having been incurred in the period corresponding to ages 50-54 (i.e., increased exposure). These amounts are reflected as "reversals" in the period in which the related claims are actually incurred in order to avoid double counting the incurred claims.

Example B2 – term life with changes - graphs of premiums earned

Portfolio of 25 year single (non-refundable) premium term life contracts sold to 40 year old policyholders - scenario 2





Example C1 – immediate annuity with no changes - data

Portfolio of 25 year single (non-refundable) premium immediate annuity contracts sold to 40 year old policyholders - base scenario

Premium paid	15,000	
Investment component	-	
Remaining premium	15,000	
Acquisition costs	(1,800)	Their treatment is being considered as a separate matter
Maintenance and Benefit expense	(900)	May be included in premium earned below or may have different earnings pattern
Margin	(2,300)	Earned as tentatively decided by boards
Premium for policyholder benefits	10,000	
No cash surrender value - no lapse probability		
Annuity benefit per 5 yr period (total portfolio)	2,155	
Interest rate = 0		

Ages	Mortality Rates	Age 40 Adjusted Probability of *Living* [A]	Premiums earned	Remainder of premium	Cumulative premium to date
40-44	1.212%	98.734%	2,128	7,872	2,128
45-49	1.826%	96.826%	2,087	5,786	4,214
50-54	2.751%	93.953%	2,025	3,761	6,239
55-59	3.802%	89.981%	1,939	1,822	8,178
60-64	5.203%	84.546%	1,822	-	10,000
	14.794%		10,000		
65-114	80.935%				

A This adjustment updates the mortality rates, which start at age 0, in recognition of the policies being issued to 40 year olds. This adjusted probability reflects the certainty of future policyholder death.

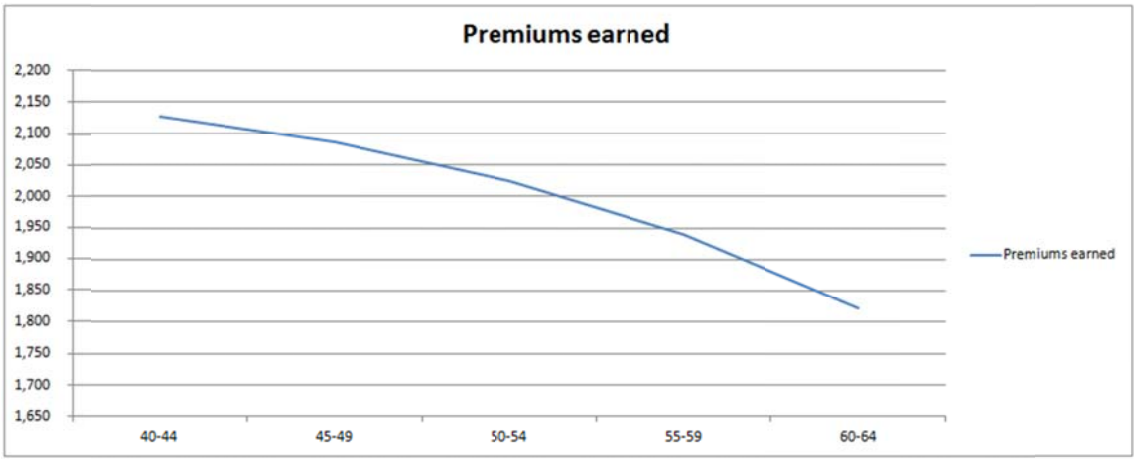
Additional Assumptions: Base Case

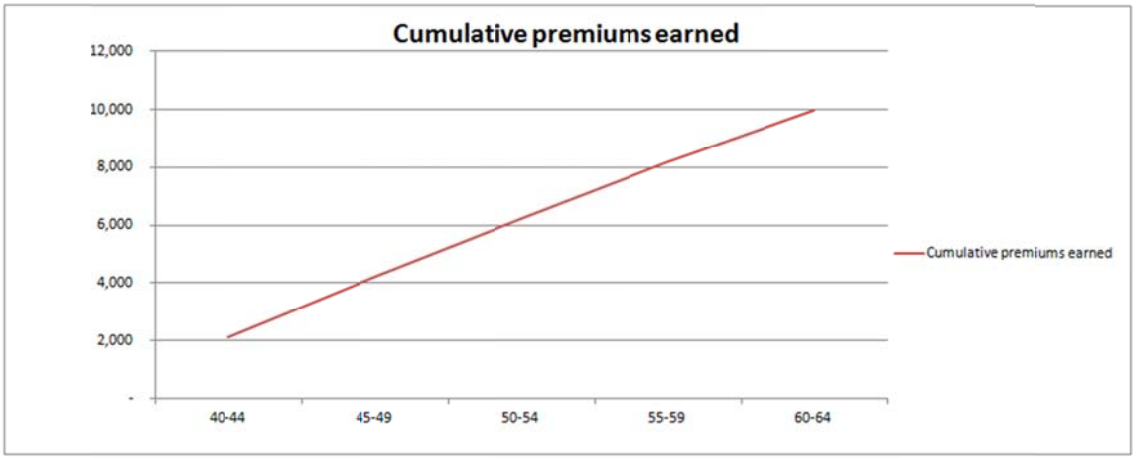
- No changes in assumptions

	Policyholder Age					
	40-44	45-49	50-54	55-59	60-64	aggregate
Premiums earned, consisting of						
premium for policyholder benefits	2,128	2,087	2,025	1,939	1,822	10,000
single margin release	-	-	-	-	-	-
Total premiums earned	**2,128**	**2,087**	**2,025**	**1,939**	**1,822**	**10,000**
Claims expense, consisting of						
probability-weighted initial estimate of future incurred claims	(2,128)	(2,087)	(2,025)	(1,939)	(1,822)	(10,000)
subsequent adjustments for changes in assumptions						-
experience adjustments (ie, difference between actual incurred claims and estimated incurred claims)						-
Claims incurred	**(2,128)**	**(2,087)**	**(2,025)**	**(1,939)**	**(1,822)**	**(10,000)**
Adjustment for changes in assumptions for pattern of future claims	-	-	-	-	-	-
Change in estimates of future incurred claims	-	-	-	-	-	-
Reversal of changes in estimates recorded in previous reporting periods	-	-	-	-	-	-
Claims expense adjustments	**-**	**-**	**-**	**-**	**-**	**-**
Underwriting income	-	-	-	-	-	-

Example C1 – immediate annuity with no changes - graphs of premiums earned

Portfolio of 25 year single (non-refundable) premium immediate annuity contracts sold to 40 year old policyholders - base scenario





Example C2 – immediate annuity with changes - data

Portfolio of 25 year single (non-refundable) premium immediate annuity contracts sold to 40 year old policyholders - scenario 2

Premium paid	15,000	
Investment component	-	
Remaining premium	15,000	
Acquisition costs	(1,800)	Their treatment is being considered as a separate matter
Maintenance and Benefit expense	(900)	May be included in premium earned below or may have different earnings pattern
Margin	(2,300)	Earned as tentatively decided by boards
Premium for policyholder benefits	10,000	
No cash surrender value - no lapse probability		
Annuity benefit per 5 yr period (total portfolio)	2,155	
Interest rate = 0		

Ages	Mortality Rates	Age 40 Adjusted Probability of *Living* [A]	Probability weighted incurred claims (Premium earned)	Remainder of premium	Cumulative premium to date
40-44	1.212%	98.734%	2,128	7,872	2,128
45-49	1.826%	96.826%	2,087	5,786	4,214
50-54	2.751%	93.953%	2,025	3,761	6,239
55-59	3.802%	89.981%	1,939	1,822	8,178
60-64	5.203%	84.546%	1,822	-	10,000
	14.794%		10,000		
65-114	80.935%				

A This adjustment updates the mortality rates, which start at age 0, in recognition of the policies being issued to 40 year olds. This adjusted probability reflects the certainty of future policyholder death.

Additional Assumptions: Scenario 2

- Experience as expected for years 1 through 15 of the contracts (ages 40-54)
- At the end of the 15th year (age 54), future mortality expectations are revised as follows:

Ages	Claims Incurred to Date	Age 55 Adjusted Probability of *Living* [A]	Probability weighted incurred claims	Premium Earned[B]
40-54	6,240		6,240	
55-59		98.591%	1,996	1,906
60-64		95.698%	1,943	1,855
		194.289%	10,179	

B Subsequent to any experience adjustments or other changes in assumptions, the premium earned is calculated as the product of the current estimate of probability-weighted future incurred claims multiplied by the ratio (0.95 in this example) of remaining premium to be earned to remaining probability weighted incurred claims.

	Policyholder Age					
	40-44	45-49	50-54	55-59	60-64	aggregate
Premiums earned, consisting of						
premium for policyholder benefits	2,128	2,087	2,025	1,906	1,855	10,000
single margin release	-	-	-	-	-	-
Total premiums earned	**2,128**	**2,087**	**2,025**	**1,906**	**1,855**	**10,000**
Claims expense, consisting of						
probability-weighted initial estimate of future incurred claims	(2,128)	(2,087)	(2,025)	(1,939)	(1,822)	(10,000)
subsequent adjustments for changes in assumptions				(57)	(121)	(178)
experience adjustments (ie, difference between actual incurred claims and estimated incurred claims)						-
Claims incurred	**(2,128)**	**(2,087)**	**(2,025)**	**(1,996)**	**(1,943)**	**(10,178)**
Adjustment for changes in assumptions for pattern of future claims[C]	-	-	-	33	(33)	-
Change in estimates of future incurred claims	-	-	(178)	-	-	(178)
Reversal of changes in estimates recorded in previous reporting periods	-	-	-	57	121	178
Claims expense adjustments	**-**	**-**	**(178)**	**90**	**88**	**-**
Underwriting income	**-**	**-**	**(178)**	**-**	**-**	**(178)**

C Should an earned premium approach require updating of assumptions regarding the pattern of future claims (as opposed to the amount) as part of the determination of the premium to allocate to each period, in some circumstances, an adjustment such as represented in this line would be required. This adjustment is presented here separately from the reversal of changes in estimates line, which equates to cumulative adjustments to the amount of the estimate of future incurred claims, for purposes of providing additional clarity behind the mechanics of the adjustments. The staff plan to further consider the pros and cons of updating assumptions regarding the pattern of future claims if the boards agree that we should further evaluate a premiums earned approach. Alternatively, an earned premium approach that did not allow for updating of assumptions regarding the pattern of future incurred claims in the determination of premium earned, would exclude this line and the corresponding adjustment to the premiums earned (e.g., the premium earned for the policyholder age 55 to 79 period would instead be 1,939 in this example).

Example C2 – immediate annuity with changes - graphs of premiums earned

Portfolio of 25 year single (non-refundable) premium immediate annuity contracts sold to 40 year old policyholders - scenario 2