Discussion of Threshold Calculation Examples

Examples:

1) If there was a simple 12% increase effective on January 1, the threshold test would be triggered as this exceeds the 10% threshold.

There were no comments on this simple one time cliff increase.

2) If there was a simple 8% increase effective on January 1, the threshold test would not be triggered as this does not exceed the 10% threshold.

There were no comments on this simple one time cliff increase.

3) If there were already a simple 8% increase effective January 1, and there was a compound 4% increase effective July 1 added to the same product, then, using the annual window and the point of reference of the effective date of the 8% increase January, 1 the average compound increase for one year would be 10.16% which exceeds the 10% threshold and makes the increase subject to review.

Aetna commented on this example by summing the 8% and the 4%. Their suggested approach is incorrect. The average increase is actually examined from the point of reference of the first increase date as follows:

In the case of one time increases.

{ [(6 x $108) + (6 x $112.32)] / (12 x $100) } - 1 = { $1,321.92 / $ 1,200 } - 1 = **10.16%**

Since this fails the threshold test the 4% increase which triggers the threshold would be become subject to review.

The second part of the test is done as follows:

{ (12 x $112.32) / [(6 x $100) + (6 x $108)] } - 1 = { $1,347.84 / $ 1,248 } - 1 = 8.00%, *which passes the test.*

This example shows that the cumulative effect in the case of multiple increase within one year can cause an average increase that exceeds the threshold.

(See the range named PRINT8 for this example in the spreadsheet).

4) If there was a 6% increase implemented semi-annually beginning January 1, the first 6% increase would not trigger the 10% threshold in and of itself. The second semi-annual increase when combined with the 6% increase would result in a combined 9.18% average annual increase and also not trigger the threshold from the point of reference of the effective date of the first increase. However, the second increase when combined with the first would exceed the threshold since it would comprise a 12.36% annual increase at the point of reference of the second increase.

There were several comments suggest so-called prospective and retrospective methods. The average increase is actually examined from the point of reference of the first increase date as follows:

The initial increase of 6% results in an average increase of 6% as follows:

[(12 x $106) / (12 x $100)] -1 = 6.00% *Thus, at the time the initial increase is filed the threshold test is passed.*

The second one time increase results in the following:

{ [(6 x $106) +(6 x $112.36)] / (12 x $100) } -1 = { $1,310.16 / $1,200 } -1 = 9.18%, *from the point of reference of January, and*

{ (12 x $112.36) / [(6 x $100) + (6 x $106)] } -1 = { $1,348.32 / $1,236 } - 1 = 9.09% *from the point of reference of July. Hence the threshold is not triggered.*

(See the ranges named PRINT1, PRINT2, and PRINT3, for this case scenario in the spreadsheet).

The example continues with:

In the case of rolling m-thly periodic increases, each cumulative increase would be examined from within the one year window period measured from the effective date of each increase. Thus, in the case of quarterly increases implemented upon renewal effective January 1, and quarterly thereafter. Each quarter the combined four quarter increase spanning that annual period would be tested against the 10% threshold. If the average increase exceeds the threshold then the combined increase would trigger reporting, if it does not exceed the threshold increase it would not be subject to review.

In the case of regular periodic increases semiannually the result triggers the threshold as follows:

{(Initial Premium) x [(1.06^2) + (1.06^3)] } / { (Initial Premium) x [(1.06) + (1)] = 12.36

(See the range named PRINT3, for this case scenario in the spreadsheet).

The example further states:

Thus, a 2.2% compounded quarterly increase would not exceed the threshold, but a similar 3% quarterly increase would exceed the threshold using the frame of reference of the fourth such quarterly increase.

The calculations are as follows:

{ (Initial Premium) x [(1.022^7) + (1.022^6) + (1.022^5) + (1.022^4)] } / { (Initial Premium) x [(1.022^3) + (1.022^2) + (1.022) + (1)] } - 1 = 9.09%

and,

{ (Initial Premium) x [(1.03^7) + (1.03^6) + (1.03^5) + (1.03^4)] } / { (Initial Premium) x [(1.03^3) + (1.03^2) + (1.03) + (1)] } - 1 = 12.55%

respectively.

(See the ranges named PRINT10 and PRINT 11 respectively, for these case scenarios in the spreadsheet. Note that regardless of the value of the initial premium ($100 in the spreadsheet), the average increase is the same.

The ranges named PRINT 12,PRINT15 and PRINT16, illustrate additional semi- annual, quarterly and monthly examples.)

The BCBSA, and AHIP in their example C, raised a question as to how to treat two policies with different renewals in the same product. In their example 4b (AHIP C), example 4 was expanded to include two polices. The first policy with renewal in January experiences a 6% increase upon the renewal, then another 6% increase a year later upon the following January. Whereas the second policy does not experience the first January increase in January but instead incurs a (1.06) x (1.06) increase in July upon its renewal.

The case would be treated as follows, whereby the premium for each

Jan policy July policy Jan policy = July policy

({ [(12 x 106) + (6 x $100) + (6 x $112.36)] } /2) / ([2 x + (12 x 100)] /2) - 1 = [($1,272 + $1,274.16) / (2x $1,200)] - 1 = 6.09%

and, using July as the point of reference,

Jan policy July policy Jan policy July

({ [(6 x $106) + (6 x $112.36)] + (12 x 112.36) } /2) / ({ [(6 x $100) + (6 x $106)] + (12 x 100) } /2) - 1 = [($1,310.16 + $1,348.32) / ($1,236 + $1,200)] - 1 = 9.13%

Which does not meet the threshold test, hence the increase would not be subject to review. (See the range named PRINT4, and PRINT5 for this case scenario in the spreadsheet.)

The BCBSA then addressed having cohorts of 100 policies each with separate renewals and premiums changing for the January cohort from $100, to $109 in January and to $112 in July; whereas the July cohort has one increase from $100 to $112 in July. The average premium increase is calculated across

all 200 policies and results in a 9.54% increase. The old average premium is $102.25 (the average of $104.50 from the January cohort and $100 for the July cohort because the cohorts are of equal size), and the average new premium is $112 making the average increase 9.54%.

(See the range named PRINT6 for this case scenario in the spreadsheet.)

The BCBSA example further amended to case 4 c(2) by changing the implementation of the second increase ($112 monthly) to the January cohort until their January renewal date yields a slightly lower new average premium of $110.50 ($109 and $112 each for six months). Which when averaged with the July cohort's monthly premium of $112 yields a new average of $111.25 for all 200 policies, which in turn is an average 8.8% increase.

(See the range named PRINT7 for this case scenario in the spreadsheet.)

AETNA took the original example 4and amended the second (July) increase from 6% to 4%. The mathematics is exactly the same after substituting the 4% in.

{ [(6 x $106) +(6 x $110.24)] / (12 x $100) } -1 = { $1,297.44 / $1,200 } -1 = 8.12%, *from the point of reference of January, and*

{ (12 x $110.24) / [(6 x $100) + (6 x $106)] } -1 = { $1,322.88 / $1,236 } - 1 = 7.03% *from the point of reference of July. Hence the threshold is not triggered.*

(See the ranges named PRINT9 for this case scenario in the spreadsheet).

AHIP created an entirely new example (AHIP F) with a schedule of regular quarterly increases of varying magnitude ranging from 2.2% to 5% and beginning with an April increase. (See the ranges named PRINT13 for this case scenario in the spreadsheet). In that example the average increase does exceed the threshold from the point of reference of the October (9.99% in aggregate over three quarters) and January (12.41% in aggregate over four quarters), the third and fourth increase respectively. In this case there are two frames of reference that yield a failure of the threshold test. The first October and January effective dates with increases.

See the ranges named PRINT13 for this case scenario in the spreadsheet to follow the arithmetic which I too long and unwieldy to write out here.

The AHIP F example was expanded to illustrate how the same set in increases implemented upon renewal using four equal cohorts incurring aggregate annual increases upon renewal would work. In that instance since there are only one January cohort that actually incurs an increase that actually exceeds 10% the example fails to trip the threshold trigger, thus a review would not be conducted.