Reading: Werner 14: Implementation
Model: Text Example
Problem Type: AARD Method

Find Calculate the base rate required to achieve an average rate increase of 5%

Given current average premium 1,158.44

Relativities

AOI levels	current	indicated	expos.
less than 100,000	0.800	0.650	6,400
equal to or above 100,000	1.000	1.100	5,400

Territories	current	indicated	expos.
territory 1	0.700	0.550	2,800
territory 2	1.000	1.050	9,000

Fixed Expense Fee

	current	indicated
Fixed Expense Fee	0	5

Prelimiary Step: rebase the indicated relativies so the base level relativity for each variable is 1.0

AOI levels	current	indicated
less than 100,000	0.800	0.591
equal to or above 100,000	1.000	1.000

** rebased*

Territories	current	indicated
territory 1	0.700	0.524
territory 2	1.000	1.000

** rebased*

Step 1 calculate the product of the exposure-weighted averages of the rebased indicated relativities: $\bar{S}(p)$

AOI average relativity	=	0.7781
Territory average relativity	=	0.8870
		0.6902 <==== *product* = $\bar{S}(p)$

Step 2 calculate the proposed average premium: $\bar{P}(p)$

$\bar{P}(p)$	=	(current average premium)	x	(1+ rate change)
	=	1,158.44	x	1.05
	=	1,216.36		

Step 3 calculate the proposed base rate B(p)

B(p)	=	(	$\bar{P}(p)$	-	A(p)	) /	$\bar{S}(p)$
	=	(	1,216.36	-	5	) /	0.6902
	=	1,755.10	<== *final answer*				

Reading: Werner 14: Implementation
Model: Text Example
Problem Type: AARD Method

Find Calculate the base rate required to achieve an average rate increase of 12%

Given current average premium 970.54

Relativities

AOI levels	current	indicated	expos.
less than 100,000	0.800	0.650	5,700
equal to or above 100,000	1.000	1.150	4,900

Territories	current	indicated	expos.
territory 1	0.800	0.700	2,900
territory 2	1.000	1.150	7,700

Fixed Expense Fee

	current	indicated
Fixed Expense Fee	15	25

Prelimiary Step: rebase the indicated relativies so the base level relativity for each variable is 1.0

AOI levels	current	indicated
less than 100,000	0.800	0.565
equal to or above 100,000	1.000	1.000

** rebased*

Territories	current	indicated
territory 1	0.800	0.609
territory 2	1.000	1.000

** rebased*

Step 1 calculate the product of the exposure-weighted averages of the rebased indicated relativities: $\bar{S}(p)$

AOI average relativity	=	0.7662
Territory average relativity	=	0.8929
		0.6842 *<==== product = $\bar{S}(p)$*

Step 2 calculate the proposed average premium: $\bar{P}(p)$

$\bar{P}(p)$	=	(current average premium)	x	(1+ rate change)
	=	970.54	x	1.12
	=	1,087.01		

Step 3 calculate the proposed base rate B(p)

B(p)	=	(	$\bar{P}(p)$	-	A(p)	/	$\bar{S}(p)$
	=	(	1,087.01	-	25	/	0.6842
	=	1,552.24	*<== final answer*				