

→ (notes above in pdf)

→ Assignment

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An insurance company is planning to implement new rates and expects the following:

Premium Range	Policy Count	Avg Premium at Proposed Rates
\$0 – \$50	26	\$35
\$51 – \$100	34	\$80
\$101 – \$200	45	\$150
\$201 – \$500	150	\$300

The resulting base rate from the proposal is \$100.

- (a) (0.75 point) Calculate the new base rate that achieves a revenue-neutral impact if the company were to implement a minimum premium of \$100.
(b) (0.5 point) Explain the purpose of a minimum premium.

a) \rightarrow

	A	B	C	D	E	F	G	H	I	J	K	L
1												
2					=IF(D4<\$D\$10,\$D\$10,D4)							
3		Premium Range	Policy Count	Avg Premium at Proposed Rates	Avg Premium at Proposed Rates with min prem							
4		\$0 – \$50	26	\$35	\$100	Total premium without min prem =			\$55,380	=SUMPRODUCT(C4:C7,D4:D7)		
5		\$51 – \$100	34	\$80	\$100							
6		\$101 – \$200	45	\$150	\$150	Total premium with min prem =			\$57,750	=SUMPRODUCT(C4:C7,E4:E7)		
7		\$201 – \$500	150	\$300	\$300							
8												
9		Resulting base rate from proposal =	\$100					Effect of min prem =	4.28%	=I6/I4-1		
10		proposed min prem =	\$100									
11								Min prem offset factor =	0.959	=1/(1+I8)		
12												
12								Proposed base rate with min prem =	\$95.90	=D9*I10		

→ b) A minimum premium sets a floor on the amount of premium a policyholder must pay, regardless of their individual characteristics or calculated premium. The purpose of implementing a minimum premium is to ensure that every policy generates sufficient revenue to cover the insurer's fixed expenses, which may not vary proportionally w/ premium or risk level.