

Reading: BCAR.Cdn2018
Model: from source reading
Problem Type: calculate BCAR

(BCAR Rating) a-Question

Given Determine the final A.M. Best rating for the following insurer.

asset risk	<i>Required Capital Amounts</i>			
	VaR 95	VaR 99	VaR 99.5	VaR 99.6
(B1) Fixed income securities risk	190	246	266	270
(B2) Equity securities risk	87	112	122	124
(B3) Interest rate risk	108	140	151	153
(B4) Credit risk	89	115	124	126
U/W risk				
(B5) Reserve risk	584	875	990	1,027
(B6) Premium risk	704	1,055	1,194	1,238
other risk				
(B7) Business risk	48	48	48	48
(B8) Catastrophe risk	150	186	278	339

<i>Recap of Available Capital (AC)</i>	<i>amount</i>
Reported Capital (surplus)	1,900
Equity adjustments (lura)	
loss reserves	95
unearned premium	-190
reinsurance	19
assets	0
Debt adjustments (sd)	
surplus notes	0
debt service requirements	0
Other adjustments (fig)	
future operating losses	0
intangibles	67
goodwill	67

step 1: calculate AC starting with **Reported Capital (surplus)** and making the indicated adjustments

add: equity adjustments
subtract: intangibles & goodwill

$$\begin{aligned} \text{then AC} &= 1,900 + -76 - 133 \\ &= \underline{1,691} \end{aligned}$$

step 2: calculate NRC for each VaR level using the covariance adjustment formula

$$\text{NRC} = (\text{B7}) + \text{SQRT} [(\text{B1})^2 + (\text{B2})^2 + (\text{B3})^2 + (0.5 \times (\text{B4}))^2 + (0.5 \times (\text{B4}) + (\text{B5}))^2 + (\text{B6})^2 + (\text{B8})^2]$$

$$\text{NRC} = \frac{\text{VaR 95} \quad \text{VaR 99} \quad \text{VaR 99.5} \quad \text{VaR 99.6}}{1,033 \quad 1,502 \quad 1,698 \quad 1,766}$$

step 3: calculate BCAR corresponding to each VaR level using the standard formula

$$\text{BCAR} = (\text{AC} - \text{NRC}) / \text{AC} \times 100$$

$$\text{BCAR} = \frac{\text{VaR 95} \quad \text{VaR 99} \quad \text{VaR 99.5} \quad \text{VaR 99.6}}{38.9 \quad 11.2 \quad -0.4 \quad -4.4}$$

step 4: use the BCAR results at the different VaR levels to determine the A.M. Best financial strength rating

$$\boxed{\text{rating} = \text{adequate}} \quad \text{<== final answer}$$