PAK Test Aid

Enterprise Risk Management (ERM) Exam
Fall 2015 Edition

CTE
VaR
Solvency II
Reinsurance
Risk Aggregation
Coherence Risk Measure
Tail Dependency
Strategic Risk Management
Operational Risk
Principles-Based Reserves and Capital
Extreme Value Theory
Economic Capital
Stress Testing
Copula
KRD

Mock Question Sample

1. *(9 points)* PAK Life is setting up an asset portfolio for its liability portfolio (with $1,000 million in fair value) with the following key rate durations.

Term (Years)	1	5	10	20	30
Key Rate Duration (KRD)	0.5	0.8	1.4	2.1	1.2

Scenario 1:

Term (Years)	1	5	10	20	30
Spot Curve Shift	+2%	+1%	0%	+1%	+2%

Scenario 2:

Term (Years)	1	5	10	20	30
Spot Curve Shift	+2%	+1%	0%	-1%	-2%

Scenario 3:

Term (Years)	1	5	10	20	30
Spot Curve Shift	+1%	+1%	+1%	+1%	+1%

(a) *(3 points)* Match the following movements to the scenarios listed above and calculate the dollar impacts.

    (i) Level movement
    (ii) Steepness movement
    (iii) Curvature movement

(b) *(1 point)* Explain the results in part a.

(c) *(1 point)* Outline the uses of key rate durations.

(d) *(2 points)* Construct an asset portfolio of zero-coupon bonds to mimic the KRD of the liability and has the same value of the liability.

Term (Years)	1	5	10	20	30
Key Rate Duration (KRD)	0.2	0.4	1.3	2.3	1.5

(e) *(2 points)* Instead of purchasing the asset portfolio in part d, your manager purchases the asset portfolio with the KRDs above. Evaluate your manager's bet.

1. *Materials from ERM-111-12*

HP	Answer
(a) 1	Scenario 1 is curvature movement
1 1 1	Dollar impact on liability = -1000 x (0.02x0.5 + 0.01x0.8 + 0.00x1.4 + 0.01x2.1 + 0.02x1.2) = -63 million
1	Scenario 2 is steepness movement
1 1 1	Dollar impact on liability = -1000 x (0.02x0.5 + 0.01x0.8 + 0.00x1.4 + -0.01x2.1 + -0.02x1.2) = 27 million
1	Scenario 3 is level movement
1 1 1	Dollar impact on liability = -1000 x (0.01x0.5 + 0.01x0.8 + 0.01x1.4 + 0.01x2.1 + 0.01x1.2) = -60 million

…to be continued

Note
Please note that the mock questions in the PAK Test Aid are all different from the mock questions in the PAK Exam Aid