



DD CONSULTING LLC

**SUMMARY TO THE
PROPOSED
RISK BASED CAPITAL
REGIME BY SECP**



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DD Consulting



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ABOUT DD CONSULTING

We are a team of highly skilled and experienced actuaries & accountants who provide a range of consulting services to our clients in Pakistan and Middle East in the field of insurance, pension and financial reporting. With a deep understanding of statistical analysis, probability, and financial modeling, we are able to help our clients make informed decisions and manage risk.

Our services include:

Appointed Actuary

IFRS-17 Implementation

Actuarial Valuations

Retirement Benefits
Valuations as per IAS-19

Enterprise Risk
Management

Business Planning &
Financial Projections

Our team is committed to delivering high quality and reliable service to our clients. We have a strong track record of success and are proud of the long-term trust based relationships we have built with our valued clients.



PROPOSED **RISK BASED CAPITAL**
REGIME
BY SECP

EXECUTIVE SUMMARY

- The Securities and Exchange Commission of Pakistan (SECP) is considering implementing a risk-based capital (RBC) framework for registered insurers in Pakistan.
- The RBC framework aims to relate capital adequacy to the risk exposure of the insurer and requires higher amounts of capital for insurers exposed to higher risks.
- The existing solvency regime in Pakistan will be replaced with an RBC framework that includes explicit best estimates of technical provisions and risk margins, as well as risk-sensitive capital requirements covering all types of risks.

The SECP is seeking feedback and comments from interested parties on the proposed RBC framework.

IMPLEMENTATION ROADMAP

The four phases outlined in the text describe the process for implementing a risk-based capital (RBC) regime in the insurance industry.

Phase I

Developing initial RBC framework, benchmarking, preparing concept note and getting feedback.

Phase II

Detailed draft requirement for the valuation of insurance liabilities, data analysis and impact assessment.

Phase III

Finalizing RBC methodology, risk charges, issuing draft regulatory framework and making necessary amendments.

Phase IV

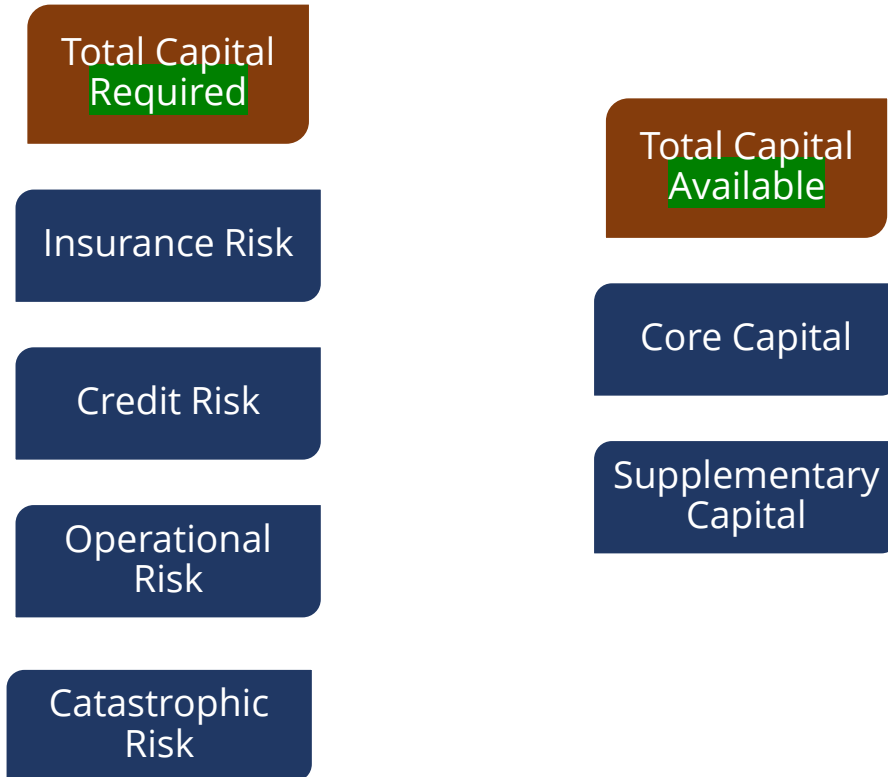
Parallel run and full implementation of new RBC framework This process aims to implement a risk-based capital regime that is consistent with global standards, and can be used by insurers to ensure they have enough capital to meet their obligations while being efficient and manageable for the industry.

PROPOSED RISK BASED CAPITAL FRAMEWORK

- The proposed regime has three pillars: Minimum Capital Requirements (Pillar 1), Supervisory Review (Pillar 2), and Market Discipline (Pillar 3)
- This Concept Paper covers the conceptual framework for Pillar 1 (Minimum Capital Requirements) and some discussion on Pillar 2
- The detailed requirements for Pillar 3 will be finalized after public consultation



MINIMUM CAPITAL REQUIREMENT



SOLVENCY CONTROLS

Solvency Controls

- There are two explicit solvency control levels: the Prescribed Capital Requirement (PCR) and the Minimum Capital Requirement (MCR)



Prescribed Capital Requirement

- level above which the supervisor does not intervene on capital adequacy grounds

Minimum Capital Requirement

- level at or below which the supervisor would invoke its strongest actions in the absence of corrective actions by the insurer
- Insurers must always meet the minimum capital adequacy requirement at both the company and statutory fund level (for life insurers)

CAPITAL ADEQUACY RATIO (CAR)

Capital Adequacy Ratio

- measure of an insurer's capital adequacy
- calculated at both the company level and fund level

$$\text{Capital Adequacy Ratio} = \frac{\text{Total Capital Available}}{\text{Total Capital Required}} \times 100\%$$



Company Level

- The company level CAR measures the adequacy of Total Capital Available in all funds of the insurer to support its Total Capital Required
- For life insurers, the CAR at the company level also considers the statutory fund(s) related to participating life insurance business and calculates it as

$$\text{CAR Life} = \min(\text{CAR All Funds}, \text{CAR All funds excluding PAR})$$

Fund Level

- The fund level CAR measures the adequacy of Total Capital Available within each individual fund to support the Total Capital Required for risks within that fund

CALCULATION OF TOTAL CAPITAL AVAILABLE (TCA)

TCA (Total Capital Adequacy) of an insurance company is the aggregate of Tier 1 (Core) and Tier 2 (Supplementary) capital, less deductions.

Tier 1 capital includes: Fully paid-up common shares, balance in share premium account, reserve for issue of bonus shares, net un-appropriated/un-remitted profits, general reserve, and retained earnings in Ledger A and B for participating business.

Tier 2 capital includes: Paid-up non-cumulative irredeemable preference shares, irredeemable subordinated debts, revaluation reserves (net of deficits), and foreign exchange translation reserves.

Deductions from the sum of Tier 1 and Tier 2 capital of an insurer include Intangible assets such as goodwill, brand names, and capitalized establishment costs, Deferred tax asset balances, Surplus assets in defined benefit pension fund, Assets subject to encumbrances, Investment in licensed insurer's subsidiaries.

CALCULATION OF TOTAL CAPITAL REQUIRED (TCR)

- The TCR (total capital requirement) is the amount of capital needed to cover various types of risk arising from business activities such as insurance risk, credit risk, reinsurance risk, operational risk, market risk, equity risk, property risk, currency risk, and interest rate risk.
- The TCR is calculated by aggregating the total capital charges for each category of risk.

(a) For non-life Insurers:

$$TCR = \sqrt{\begin{matrix} (\text{insurance Risk Capital charge})^2 + (\text{Credit risk Capital Charge})^2 \\ + (\text{Market Risk Capital charge})^2 + (\text{Reinsurance Risk Capital Charge})^2 \end{matrix}} + \text{Operational Risk Capital Charge}$$

(b) For life insurers:

$$TCR = \text{Max} \left[\text{Surrender Value Capital Charge}, \left(\sqrt{\begin{matrix} (\text{insurance Risk Capital charge})^2 + (\text{Credit risk Capital Charge})^2 \\ + (\text{Market Risk Capital charge})^2 + (\text{Reinsurance Risk Capital Charge})^2 \end{matrix}} \right) \right. \\ \left. + \text{Operational Risk Capital Charge} \right)$$

- The current framework for determining the TCR uses a standardized approach and does not consider the use of internal models for calculating risk charges.
- The TCR is calculated differently for life insurers and investment-linked statutory funds.
- The risk charges for the TCR do not apply to certain assets.

VALUATION OF ASSETS AND LIABILITIES

The proposal suggests a change in the methodology used for valuing policyholder liabilities in both life and non-life insurance in Pakistan

The current method, net premium valuation, would be replaced by:

- Gross premium valuation for life insurance
- A discounted cash flow approach that includes a Risk Margin (RM) for both participating and non-participating policies for non-life insurance.

Assets of the insurance company would be valued using a market consistent approach or, if not possible, using IFRS

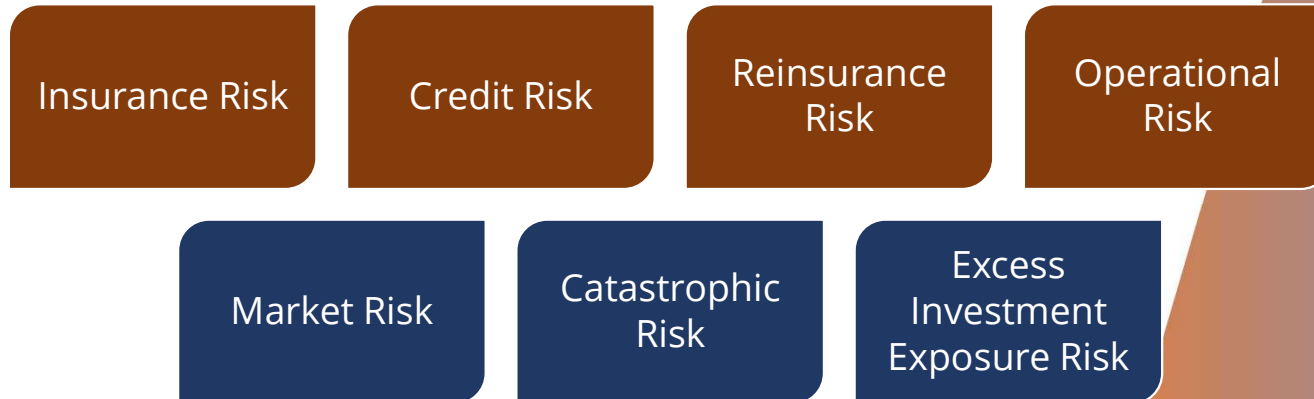
Non-insurance liabilities should be valued as per IFRS

The proposal also seeks feedback from stakeholders on the possibility of consistency between solvency calculation and reporting with IFRS 17.



RISK CHARGE COMPONENTS & CALCULATIONS

COMPONENTS OF RISK CHARGE



INSURANCE RISK – LIFE INSURERS

1.

Liability Risk Capital Charge = (V* - Value of Liabilities under base scenario)

Where V* is the adjusted value of the insurance liabilities calculated using the stress factors proposed in below Table.

Valuation of Parameters	Stress Factors to Determine V*
Mortality	+/- 20%
Disability	+/- 25%
Renewal Expense	+/- 20%
Persistency	+/- 50%
Morbidity	+/- 20%

2.

Surrender Value Capital Charge = max[0, aggregate surrender value of the business in force in respect of policies in the statutory fund less the aggregate policy reserves of the statutory fund]

INSURANCE RISK – GENERAL INSURERS

Liability risk capital charge for each class of general insurance =

$$\sum \text{of all classes of general insurance (Value of premium risk liability X risk factor)} \\ + (\text{Value of claim liability X risk factor})$$

Classes of Business	Premium Liability Risk Factor	Claim Liability Risk Factor
Fire and property damage	24%	20%
Marine, aviation and transport	36%	30%
Motor	30%	25%
Liability business	36%	30%
Workers' compensation	30%	25%
Credit and suretyship	36%	30%
Accident and health	24%	20%
Agriculture insurance including crop insurance	36%	30%
Miscellaneous business	36%	30%

Above table shows proposed stressed factor for non-life insurers for determination of insurance risk capital charge. Life Insurance companies which are doing accident and health business shall also calculate the risk charge for accident and health business as per this table.

CREDIT RISK



Based on the review of SBP Basel regime, it is proposed to calculate the risk charge for credit risk using the Standardized Approach (“SA”). Under SA, the capital requirement is based on the risk assessment credit rating, made by External Credit Assessment Institutions (ECAIs) recognized as eligible by SBP for capital adequacy purposes.



For the purposes of the proposed RBC regime, insurers are required to use ratings of ECAIs recognized by SBP for capital adequacy purposes. Mapping of ratings of various recognized ECAIs with that of SBP rating grade is given in Table 7 of the concept paper below which is indicative. Further, the chosen ECAI and their rating shall be used consistently for each type of claim.

REINSURANCE RISK

Reinsurance risk capital charge = Reinsurance credit risk exposure x Counterparty credit risk factor

The reinsurance credit risk exposure shall be the sum of following:

- a) Admissible amounts due from the reinsurance counterparty, including claims recoverable and ceding commissions;
- b) Reinsurance recoveries in respect of claims incurred including ceded claims liabilities;
- c) For life insurance business, the difference between the value of the gross liabilities and the net liabilities (net of re-insurance) of the insurer in respect of its participating policies, non-participating policies, and unit linked long term policies due to reinsurance ceded to the reinsurer; and
- d) For non-life insurance business, the difference between the gross premium liability and the net premiums liability (net of re-insurance) of the insurer due to reinsurance ceded to the reinsurer

OPERATIONAL RISK

Based on research on various international capital regimes, it is proposed that every insurer shall calculate an operational risk capital charge of **1%** of the value of all assets of the insurer, whether admissible or not, and whether held inside or outside the policyholders' funds or shareholders' fund.

MARKET RISK

1. Equity Risk

Equity investments	Capital charge
Equities listed on Pakistan Stock Exchange	12.5%
Unlisted equity securities	18.75%

2. Property Risk

Property investment	Risk Charge
Self-occupied properties	12.5%
Other property and property related investments	16%

3. Currency Risk

Capital Requirement = x% * max (sum of long positions, sum of short positions)

The overall foreign exchange exposure is measured by aggregating the sum of the net short positions or the sum of the net long positions; whichever is the greater, regardless of sign.

Based on SBP requirement, the capital charge for foreign exchange risk is proposed to be 8% of insurer's overall foreign exchange exposure.

MARKET RISK

Investment in Mutual Funds Risk

Approach	Treatment
Full look through approach	Where the Company is aware of the actual underlying investments of the mutual fund on daily basis, insurer may calculate the capital charge on its investment as if the underlying exposure/ asset class held by the mutual fund is held by the insurer itself.
Modified look through approach	In case the insurer is not aware of the underlying investment on a daily basis, the capital charge may be determined by assuming that the mutual fund first invests to the maximum extent in the most risky asset class allowed under its offering document and then continues making investments in descending order until the total investment limit is reached.
Conservative approach	If the insurer is not in a position to implement the above approaches, the capital charge may be based on the most risky asset (i.e. assigning the highest risk weight) category applicable to any asset the mutual fund is authorized to hold as per its offering document.

MARKET RISK

Interest Rate Mismatch Risk

The capital charge to account for interest rate risks is reduced to the extent that the weighted average duration of the exposures in interest rate related assets match the weighted average duration of the insurance liabilities.

The method of capital charge computation, for each statutory fund, is summarized in Table 16 below:

Scenario	Value of interest rate exposures (1)	Liability Value (2)	Surplus (1) - (2)
Base	A_0	V_0	S_0
Increasing interest rate	A_1	V_1	S_1
Decreasing interest rate	A_2	V_2	S_2

The proposed stress scenario is given below, which will be adjusted on the basis of industry feedback, data analysis and quantitative impact studies:

Residual term to maturity	Stress up	Stress down
Less than or equal to 4years	70%	70%
Less than or equal to 8 years	50%	50%
More than 8 years	30%	30%

MARKET RISK

Investment Limits and Capital Charge on Excess Exposure

In order to minimize the concentration risk, for the RBC regime following are the proposed limits for investment/exposure by a registered insurer as per Table below. Any investment/exposure above the proposed limit will attract charge of 100% for the purpose of calculation of MCR:

Type of exposure	Limit % of total assets
Per party limit including debt and equity securities	10%
Per party limit-listed equity security	5% for life 10% for non-life
Per party limit -unlisted equity security	2.5% for life 10% for non-life
Per Debt security limit (up to investment grade)	10%
Per debt security limit (below investment grade)	5%
Deposit with financial institution	20%
Per mutual fund limit- Money Market Mutual Funds	20%
Per mutual fund limit- Income/Debt Mutual Funds	10%
Per mutual funds limit-Equity, balance, asset allocation	10%
One unit of property	20%
Loan and advance to single party	10%

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ABOUT DD CONSULTING PVT.
LIMITED

SERVICES FOR INSURERS

IFRS 17 Implementation



IFRS 9 Implementation

Actuarial Valuations



Appointed Actuary

Risk Management &
Capital Modeling



Business Planning &
Financial Projections

OTHER SERVICES WE OFFER

Gratuity Valuations



Pension Valuations

Leave Encashment
Valuations



Post Retirement Medical
Benefits Valuation

Benevolent Fund
Valuation



Provident Fund Valuations

WHERE WE SERVE



OUR FOUNDER & CEO

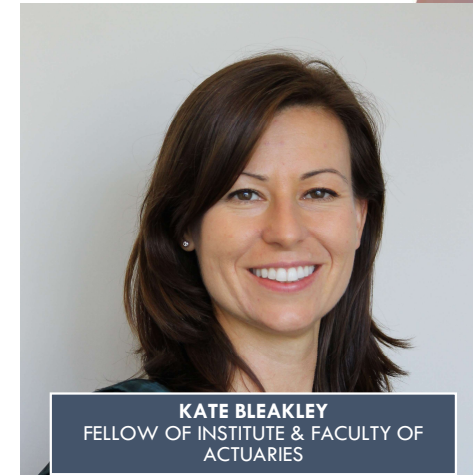
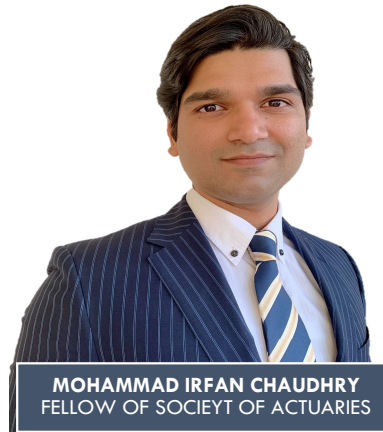


HUSAIN FEROZ ALI
Founder & CEO
Fellow of Society of Actuaries (USA)

Husain has worked for several markets including Malaysia, UAE, Saudi Arabia, Pakistan etc. His previous companies included an actuarial consulting firm, a European financial institution and a Life Insurance Corporation. His achievements includes working on a privatization project of a life insurance corporation, introducing risk based pricing structure for motor line of business and designing several innovative individual life insurance products. He has worked on several projects of actuarial valuations, product development, financing agreements, M&A deals etc.

He has presented in several conferences and takes keen interest in writing articles.

TEAM OF QUALIFIED ACTUARIES



Our Board comprises of senior qualified actuaries having experience of multiple countries & the motivation of exploring all the depths inherent to the profession. Their collective vertical experience sums up to more than 60 years, giving DD Consulting an edge in terms of not only greater wisdom but also constant desire to be innovative. DD Consulting celebrates its team's diverse set of personalities as well as their individuality, ensuring that every matter is seen through multiple perspective before being delivered to its clients.

OUR ACTUARIAL TEAM





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