Development of Macroeconomic models for economic sectors of the bank and development of Economic Capital Model

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The Clients

3 out of the top 10 Banks in Saudi Arabia in terms of Asset size

Scope and Approach

The Client required Aptivaa to review their wholesale portfolio to establish link with Saudi Arabian macroeconomic parameters. Aptivaa developed industry segment specific macroeconomic models to quantify impact of macroeconomic parameters on portfolio default rates.

As a connecting exercise, Aptivaa helped the client assess economic capital of its portfolio for Pillar II risk components, such as Name Concentration Risk, Sector Concentration Risk, and Macroeconomic Risk. Aptivaa developed Monte Carlo simulation based multifactor economic capital models. The entire economic capital framework was composed of measurement of default dependencies, mapping of idiosyncratic and systematic risk factors with portfolio losses and economic capital, and stress testing of the portfolio. Within the framework, Aptivaa modelled asset correlation, quantified impact on portfolio losses, developed KSA-specific inter and intra sector industry correlations, quantified expected and unexpected losses, expected shortfall and economic capital.

Aptivaa also developed stress testing and reverse stress testing scenarios to assess impact of adverse macroeconomic scenarios on economic capital. Aptivaa generated user-defined stress parameters to quantify the effect of stress on the entire portfolio by computing stressed pds and stressed economic capital and to isolate the quantum of economic capital arising due to stressed elements alone.

Results

The Client was able to establish the linkages of macroeconomic variables with economic capital through the use of Macroeconomic models and meet the Pillar II and Stress Testing requirements of the regulator.

Deliverables

- Sector-specific macroeconomic models
- Economic capital simulation framework
- Economic capital stress scenarios
- Stressed Economic and Macroeconomic capital

About Us

Aptivaa is a vertically focused risk and compliance professional services firm offering risk consulting, solutions and analytical services to banks, insurers, as well as asset management and other financial services companies across the globe.

We have developed world-class competencies in high-stakes financial risk and compliance areas such as Enterprise Risk Management, IFRS 9, Credit, Market & Operational Risk, Basel II, Basel III, ICAAP, Risk Based Pricing, Risk Systems implementations etc. We strive to enhance our offerings in line with the latest regulatory updates and ever evolving risk management methodologies and frameworks across the industry.

Aptivaa

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