



Milliman Global

Consultants and Actuaries

Risk Management - Insurance Company Best Practices

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Milliman Risk Management

1. Board & Senior Management are Responsible for Risk Management

- Best Company
 - CRO has regular private meeting with Board Risk Management Committee
- Average Company
 - Management has annual RM report to board
- Minimal RM Company
 - No Board involvement in RM except for extreme problems



2. Senior management understands all firm activities and understands the basis of the Risk Management system

- Best Company – CEO can explain risks and RM system of the company
- Average Company – CFO can explain risks and RM system of company
- Minimal RM Company – Individual risk specialists are the only ones who can explain risks and RM systems of the company



3. Authority and responsibility are clearly defined, risk measurement and management are independent from risk taking functions⁴

- Best Company – Independent RM function responsible for risk measurement and enforcement of risk limits
- Average Company – Dotted line relationships of risk management officers
- Minimal RM company– RM is totally integrated in operating areas



4. All material risks are identified and measured, exposures are aggregated and management attends to largest exposures

- Best Company – Single, clear enterprise wide Risk Report with name exposure list that includes credit, reinsurance, market indices
- Average Company – Single compilation of Risk Reports from business units
- Minimal RM Company – scattered risk reports from business units



5. There are risk limits for all material risks and a system for enforcing the limits is part of an internal control system that is relevant to the risks of the firm

- Best Company – Can readily identify risk limits for credit, market and insurance risks and consistent rationale for limits and have an active control system for each
- Average Company – Has separate clear limits for most significant risks and a regular process for monitoring compliance.
- Minimal RM Company – Has limits for most significant risks and some processes for monitoring compliance.



6. The firm has staff with sufficient expertise to perform the risk management functions and adequate systems support

- Best Company – Has experts and back-ups for risk measurement **and** risk management functions
- Average Company – Has an expert for risk measurement/management
- Minimal RM Company – Relies on outside expertise for risk measurement &/or management



7. Risk surplus is allocated to business units and products and is used for capital budgeting purposes

- Best Company – Calculates Economic Capital using company models. Capital usage of activities is a major factor in decision making.
- Average Company – Uses Rating Agency / RBC formulas with modifications. Capital is allocated, but capital usage is rarely considered in decisions.
- Minimal RM Company – Uses RBC formulas without modification. Looks at capital position in time for analysts visit. Capital not allocated.



8. Stress testing is a part of the risk management process

- Best Company – Stress test credit, market and insurance risks
- Average Company – Stress test interest rate risks
- Minimal RM Company – NY 7 are only stress tests



9. New products and ventures trigger consideration of potential new risks and new risk management procedures

- Best Company – Risk analysis is a primary component of new product review & review is completed prior to “go - no go” decision on product
- Average Company – Risk analysis is a component of product development but rarely impacts on “go – no go” decision
- Minimal RM Company – Ad hoc risk analysis of new products



10. Financial reporting allows management to view the risk adjusted returns of business units, products and activities

- Best Company – Use IMR style reserves to accumulate & release risk premiums that the reserving system does not recognize
- Average Company – RAROC style ROE is key financial target using risk capital as part of equity.
- Minimal RM Company – no risk adjustment



11. Product pricing and rate setting reflects the risk adjusted return

- Best Company – Risk Adjusted return targets for unusually high or low risk activities in addition to cost of risk surplus
- Average Company – Cost of risk surplus is primary risk adjustment
- Minimal RM Company – All pricing is for expected costs only with no (or ad hoc) adjustment for risk surplus or unusual risk levels



12. The firm has a process for quickly resolving identified risk management weaknesses

- Best Company – Makes improvements to RM systems & procedures before they are required or common. Always seeking ways to improve processes and understand weaknesses.
- Average Company – Makes improvements as they become common practices.
- Minimal RM Company – Makes improvements to RM practices as they are required.



Risk Management Evolving Practices

- CRO Position – Organizing for RM
- Use of CTE rather than VaR as a primary risk measure (aka CVaR, Tail VaR)
- Use of Company Model Economic Capital
- RAROC with continuously updated Economic Capital
- General Stochastic Approach to Risk Assessment for Insurance Products
- Variable Products Concentration
 - Regime Switching model for capturing equity market tail risk
 - Financial Market view of Variable Products benefits risks
 - Hedging programs for Variable Products benefits risks

