



GLOBAL SERVICE/ INDUSTRY

Capital Adequacy

Different Strokes for Different Folks

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Capital – Who Needs It?

Capital and Capital Adequacy

- **Traditional/Colloquial Definition**
 - Capital = Assets
- **Balance Sheet Accounting gives the notion that:**
 - Capital = Assets - Liabilities
 - Other items are included in the difference (retained earnings, AOCI/L, etc.)
- **Capital Adequacy \geq Solvency**
- **History shows that Liquidity (shortfall) can force a company into crisis even when it has sufficient capital**

Capital Adequacy in Banking

- **Capital Adequacy holds a special place in banking**
 - Non-Banks (industrial companies, governments, Social Security) can continue operations without adequate capital, even insolvency
- **Banks (with FDIC-insured deposits) and certain other regulated institutions are required to maintain adequate capital, or regulators will force it to be shut down, taken over, or acquired.**

Measures of Capital Adequacy

- **Regulatory Capital**
- **Economic Capital**
- **Internal Capital Adequacy Assessment Process**
 - ICAAP
 - Basel II / SR 99-18
- **Comprehensive Capital Analysis and Review**
 - CCAR
 - 19 largest Bank Holding Companies (BHDs)

Regulatory Capital

Regulatory Capital

- **Basel / Fed-OCC-FDIC in US**
 - Minimum capital ratios
 - Capital (from financial statements) / Risk-Weighted Assets
 - Point-in-time calculation
 - Basel agreements have NO regulatory value and must be translated into the national law of the countries willing to apply them.

Evolution and History of Basel

- **Basel I (1988) and Basel II**

- Basel I processes and calculation continues as an ongoing requirement in many organizations mainly in the context of parallel run (and to serve as an indefinite floor under the Collins Amendment)
- Basel II introduced advanced calculations and improved credit and operational risk management. The majority of large/global organizations have developed Basel II processes but face ongoing challenges regarding data quality and calculations automation (2001 introduced, 2004 revised, 2008 implemented)

Evolution and History of Basel (continued)

- **Basel 2.5 (implementation date – end 2011)**
 - New modeled requirements to measure jump-to-default and credit migration risks: Stressed VaR, Incremental Risk Charge (IRC, for non-securitizations), Comprehensive Risk Measure (CRM, for liquid correlation securitizations)
 - Securitization framework for trading book (significantly increases capital requirements for unrated and non-investment grade securitizations, especially non-correlation securitizations, e.g., mortgages)
 - The Federal Market Risk Notice of Proposed Rulemaking (NPR) changes some of the above requirements

Evolution and History of Basel (continued)

- **Basel III (proposed December 2009, implementation 2014-2019)**
 - Increased capital requirements for Counterparty Credit Risk – Stressed External Expected Positive Exposure (EEPE), Credit Value Adjustments (CVAs) in VaR, longer margin period of risk (including collateral disputes), increased requirements for financial institution counterparties
 - Raise the quality of regulatory capital and increase capital deductions
 - New requirements – Tier 1 leverage ratio measure and various liquidity risk measures

Regulatory Capital's purpose

- **Identify institutions requiring capital infusions or at risk of failure.**
- **Make failure less likely? Reduce cost of failure?**
- **Force large institutions to increasingly complex regulatory arbitrage?**
 - Prior crisis found this in securitization
 - Current European crisis found this in sovereign debt
- **Standardized calculations now becoming complex**
 - As noted, may differ by country of domicile

Economic Capital

Economic Capital

- ***Economic Capital represents management's opinion of the amount of financial resources necessary to ensure that the value of the firm's assets exceed the value of its liabilities in a very extreme loss event***
- **Generally a point in time calculation incorporating future risk**
- **Confidence interval typically corresponds to (desired) credit rating and implied probability of default in a 1-year period**
- **Captures *unexpected losses* (as opposed to expected losses which are reserved for or taken into earnings)**

Benefits of Economic Capital

- Utilizes modeling appropriate to instruments in question; Credit + Market + Operational + Strategic
- Relies (in an ideal world) on internal data
- Combined with Risk-Adjusted Returns, gives RAROC and a method to apply to products
 - Pricing
 - Attribution
 - Allocation
- Over time, impacts earnings and **BUILDS** additional capital

Drawbacks of Economic Capital

- In practice, may be highly assumption driven
- Institutions don't seem to know how to compare Economic and Regulatory Capital Adequacy
- May be “implemented” but not used
- Hard to see EC reducing likelihood/cost of failure
- May include inconsistent assumptions, double-counting
- May exclude unforeseen events (not modeled, no capital set aside)

ICAAP / CCAR

Capital Forecasting

- **Model (Regulatory) Capital over time**
- **Now expected/required by regulators**
 - 19 largest BHCs aggregated and compared
 - 31 now required (as of November 22, 2011)
- **Can project numerous items over next 8-12 quarters**
 - Pre-Provision Net Revenue (PPNR), i.e. operations
 - Loss Provisions (ALLL)
 - NII
- **Numerous interested parties – Management (ALCO, Risk Committees), Board, Regulators**

Capital Forecasting

- **Advantages**

- Granular – can drill into business line assumptions and projections
- Integrates ALM, Credit Risk, and Finance
- Can be subjected to stress testing and scenario analysis

- **Fed will compare results and aggregate**

- Total exposure of reporting entities
- Better understanding of the market and trends

- **Should serve as a good warning system to risk and cost of failure**

Capital Forecasting

● Drawbacks

- More assumptions! More models!
- Still a cumbersome process requiring many steps and parties, data, documentation, model validation
- Models were not always designed to take assumptions being provided by Fed (macro variables)
- Limited window (<24 months) creates new opportunities for “arbitrage”
- Erroneous to conclude this will prevent failure (see Dexia, _____, _____, ...)

Conclusion / Questions



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