Transactions Pre- and Post-Closing: A Real-Word Case Study

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Agenda

1. Overview of Actuarial Appraisal Process	2. Actuarial Due Diligence Topics	3. Accounting Policy / Actuarial Methodology
4. Model Development	5. Valuation Controls	6. Integration

Actuarial Appraisal & Transaction Process

What is an Actuarial Appraisal?

A **valuation** of an insurance company or block(s) of business used to assess its potential value.

AAV = ABV + VIF + VNB

Illustrative Structure:

- Introduction
- Summary of Results
- Inforce Summaries
- New Business Production
- Product Descriptions
- Actuarial Assumptions
- Documentation of Modeling
- Appendices

Prepared for the selling company and used as part of a '**transaction process**' to market the company or block.

Includes **projections of earnings and capital** under a baseline view of assumptions and typically includes sensitivities:

- Mortality, lapse, utilization of benefits/guarantees, interest/equity investment performance, portfolio rotation, etc.

Evaluated under **U.S. Statutory Accounting Principles (SAP)**:

1. SAP determines the **availability of earnings for dividends to shareholders** (i.e., distributable earnings).
2. SAP determines the **funds available** for investments in **new business or other ventures** requiring capital.

Definitions:

1. ABV = statutory net worth of the insurance company

2. VIF = present value of distributable earnings from the business in-force as of the valuation date

3. VNB = present value of distributable earnings from the business that is projected to be sold after the valuation date.

An appraisal value is **not** necessarily a company's value in an open market ("market value").

1. Perspective of seller and buyer(s) and **confidence in projections** and underlying **assumptions**.

2. **Desired** rate of **return and cost of capital**.

3. Significant **tax** and **other benefits/consequences** of the proposed transaction.

AAV = Actuarial Appraisal Value; ABV = Adjusted Book Value; VIF = Value of In-Force Business; VNB = Value of New Business

Appraisal/Transaction Process “Rounds”

An actuarial appraisal **process** is typically **split into multiple “rounds”**, varying in purpose, scope, access to data and information, access to actuarial models, and duration.

These rounds are not prescribed; individual transaction processes may follow different structures (e.g., bilateral).

Round 1

Duration: 2-4 weeks
Access to Virtual Data Room: No
Access to Actuarial Models: No
Purpose: **High-Level Review**
Scope:

- Review of the actuarial appraisal and/or CIM (if provided).
- Review of actuarial appraisal baseline and sensitivity projections (if provided).
- Review of publicly available data and regulatory filings.
- Develop product overviews and comparisons of assumptions/product features to other, similar business.
- Perform competitive analyses.

Round 2

Duration: 4-6 weeks
Access to Virtual Data Room: **Yes**
Access to Actuarial Models: No
Purpose: **Detailed Review**
Scope:

- Review policy forms / product specifications.
- Review experiences studies and assumption development.
- Review required capital.
- Review/develop assumptions and propose sensitivities.
- Review CFT/AOMs and other company-provided materials.
- Review transaction legal documents (actuarial-related).
- Participate in due diligence/management meetings.

Round 3 / Exclusivity

Duration: 4-6 weeks
Access to Virtual Data Room: Yes
Access to Actuarial Models: **Yes**
Purpose: **Technical Review**
Scope:

- Single Policy Validations
- Challenger Models
- Model Checking of Policy Values
- Model Checking of Assumption Implementation
- Model Checking of Mechanics / Formula Database
- Data Checking
- Validation of Impacts of Non-Modeled Business and/or Approximated Items

CIM = Confidential Information Memorandum

Other Topics / Considerations for a Transaction Process

An appraisal / transaction process is a **months-long and complicated process**.

Both sell-side and buy-side parties (e.g., a company selling a block of business and a reinsurer or private equity firm willing to but the block) create "teams" involving:

- **Actuaries**
- **Bankers**
- Lawyers
- Accountants
- Investment Mangers
- Tax Advisors
- Other Business Functions

Sell-Side vs. Buy-Side

The sell-side (buy-side) is incentivized to maximize (minimize) **purchase price**.

Both need to consider effects on its existing business (mix of liabilities, capital, tax, aggregation/diversification benefits).

Company Sale

Often a complex operation requiring significant diligence beyond structure/assumptions:

- Regulatory Concerns
- Change of Ownership
- Agency Ratings
- Distribution Channels
- Market Perception

Block Acquisition

Often less complex than company sale, but still an involved process (*similar concerns*).

Significant focus on VIF (assumptions) and VNB (assumptions / production) given only 'drivers' of value.

Components of Value

Neither must reflect a VNB.

A block acquisition does not include ABV.

A block acquisition may include an RTA (tax effects of structure of reinsurance / jurisdiction).

Liability Assumptions

Significant amount of effort reviewing actuarial liability assumptions.

Find value enhancements.

Often propose assumption changes.

Verify reasonability of multiple assumption changes with dynamic validations.

Financial Assumptions

Tends to focus on expenses – marginal of fully allocated?

Asset Assumptions

Current economic environment may have significant effect on future value.

Tends to focus on portfolio optimization / rotation following transaction closing.

RTA = Reinsurance Tax Adjustment

Accounting Policy and Actuarial Methodology (1/2)

An accounting policy will be developed throughout the appraisal process and will be finalized as both parties come to an agreement on the transaction.

Both sell-side and buy-side will develop an accounting policy and methodology related to the transaction.

Accounting policy and methodology considerations:

- **Accounting Basis**
- **Key Structural Elements**
- **Asset Accounting**
- **Actuarial Methodology**
- **Asset or Liability Intangibles**

Accounting Basis

- Defines the applicable accounting basis such as US GAAP, US Statutory or IFRS for initial (opening balance sheet) and subsequent periods.
- Used for supporting internal consistency (Company's general accounting policy on other deals or internal blocks), audit readiness, and downstream model implementation.

Key Structural Elements

- Transaction Scope – defined blocks of business, identify ceding and assuming entities, treaty structures (e.g., co-insurance, funds withheld, etc.).
- Product Classification – determine whether a product is a short- vs. long-duration insurance contract or an investment contract.
- Risk transfer analysis is performed on a US GAAP and US Statutory basis.
- Authoritative Guidance – ASC 944, FAS97, ASC 815, SSAP54R, etc.

Asset Accounting

- Defines the applicable accounting basis for assets such as Available For Sale or Fair Value Option.
- Complex transactions can have multiple treaty structures such as coinsurance and funds withheld treaties.
- Need to consider treatment of unrealized gains/(losses) under various reporting basis and applicable interaction with the liability.
- Discusses treatment of current expected credit losses (CECL) requirements of ASC 326.

Accounting Policy and Actuarial Methodology (2/2)

An accounting policy will be developed throughout the appraisal process and will be finalized as both parties come to an agreement on the transaction.

Both sell-side and buy-side will develop an accounting policy and methodology related to the transaction.

Accounting policy and methodology considerations:

- Accounting Basis
- Key Structural Elements
- Asset Accounting
- Actuarial Methodology
- Asset or Liability Intangibles

Actuarial Methodology

- Reserve methodology for initial (OBS) and subsequent measurement can be different.
- Defined Initial Reserve (DIR) Method - defines initial reserves at transaction inception.
- Reinsurance transaction should not result in an immediate gain or loss at inception under US GAAP (**ASC 944-605-25-33).**
- Develop and approve US GAAP, US Statutory, and best estimate assumptions.
- Define reserve methodology under US GAAP and US Statutory – LFPB, SOP03-1, FAS133, CRVM, XXX, AG38, UL CRVM, etc.
- Define loss recognition testing requirements (if applicable).
- Define methodology for single A curve or yield curve.

Asset or Liability Intangibles

- Deferred Gain or Loss – asset or liability intangible defined as the difference between the initial consideration (assets) and initial reserve.
- Deferred Gain (liability intangible) = assets > initial liability.
- Deferred Loss or Cost of Reinsurance Asset (asset intangible) – assets < initial liability
- Evaluate the amortization method (straight-line) and basis (policy counts, face amount, expected benefits) impact to earnings

Model Development

Actuarial models will be developed to support valuation and various reporting basis (US GAAP, US Statutory, Economic, etc.).

Model development takes time depending on how complicated the products are. Simplifications or simplified models will be used during the interim until models can be approved.

Models will undergo User Acceptance Testing and review from enterprise risk management (ERM).

Models will be approved and deployed to production environment.

Models for Interim Periods

- Actuarial models take time and resources to develop.
- Simplified models or reserve simplifications can be used for interim periods. Examples include – Excel-based models, account value as simplification, liability appraisal models can be adopted or reliance on sell-side reserves (US GAAP or US Statutory).
- Ensure valid controls are executed due to these models not being in production.
- Work with auditors to help them get comfortable with interim models.

Model User Acceptance Testing (UAT)

- Develop UAT plan that is comprehensive to cover model risks, data, assumptions, and inputs.
- Model development and testing is time consuming. Requires utilizing consultants and/or working with various internal teams to perform UAT.
- Receive sign-off from ERM.

Model Review and Approval

- Models should go thorough review by actuarial modeling and valuation teams to ensure functionality and results are reasonable.
- Receive ERM and management approval.
- Deploy models to production with proper ITGC controls.

Actuarial Valuation Controls

Develop actuarial controls for opening balance sheet (OBS) and for ongoing production / reporting periods.

Actuarial control considerations include:

- **OBS Controls vs Ongoing Production Controls**
- **Updating Risk Control Matrix (RCM)**
- **Simplifications and Approximations**
- **Valuation Narratives**

OBS vs. Ongoing Production Controls

- OBS has limited controls and are often view as compensating controls. Valuation actuary needs to ensure controls are comprehensive to cover key risks.
- Develop ongoing controls for production.

Updating Risk Control Matrix

- Create new controls for production.
- Leverage existing controls for similar blocks of business
- Review new controls with controllership and internal audit.
- Ensure internal consistency.

Simplifications and Approximations

- Develop a log of valuation and model simplifications and approximations with applicable quantifications.

Valuation Narratives

- The goal is to educate auditors, risk, controllership, and other teams about the new valuation process.
- Identify data, inputs, assumptions, and reliance on other teams.

New Deal Integration

New deal integration refers to productionizing and integrating the new deal into business-as-usual activities.

Many parts (finance, investments, treasury, operations, actuarial, experience studies, data, etc.) of an organization are impacted and must integrate the new deal.

Some considerations include the following:

1. **Data**
2. **Actuarial Models**
3. **Reserves and Financial Reporting**

Data

- Move data into production data lake.
- Develop production data controls (static mismatch, trending, etc.)
- Ensure technical and business controls are in place.

Actuarial Models

- Move models into production.
- Develop model roll-forwards.
- Develop process for assumption review and updates.

Reserves and Financial Reporting

- Develop reserve reporting requirements and applicable disclosures.
- Integrate reserves into downstream financial reporting consolidation activities.
- Implement and execute consolidation controls to ensures reserves are reported correctly.

Thank you

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