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Asset-Liability Management

An Insurance Industry Operating Model Survey

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Contents

Introduction

1 ALM at insurance companies

- Asset-Liability Management (ALM) at insurers is one of the most difficult functions to provide a "standard structure" for, given its complexity, involvement of multiple areas of the firm, and the dependence of its effectiveness on its history, culture, businesses, personalities, systems, and philosophies surrounding risk management, capital management, and shareholder value generation.
- For a number of reasons, as touched upon in this report, ALM is getting more attention and undergoing a number of changes at many, if not most, insurers.

2 The impact of the financial crisis

- The financial crisis highlighted, for many Chief Information Officers, Chief Risk Officers, and other leaders of insurance companies who are responsible for parts or all of ALM, the need for improvement in several areas.
- Concentration has been around modeling assumptions, the connection of ALM to capital management and risk management, relationships with product development and pricing, and the ability to provide independent oversight connected to the board of directors.

3 Regulation and the changing economy

- Two continually changing dimensions weigh heavily on risk management and capital management at insurance companies: the economy and regulation; and each has a significant impact on ALM.
- Solvency II, the Solvency Modernization Initiative in the United States, IFRS, and other regulatory developments worldwide in the accounting and capital spaces bring additional reasons for insurers to rethink current ALM operating models and potential for improvement.

Due to the interest in and importance of ALM today at insurance companies, Deloitte conducted a survey that included 18 participants. We appreciate your involvement in the survey and the many follow-up conversations that it triggered. This report is a summary of the results, along with insights and commentary on issues related to ALM in the insurance industry today. **If you have any questions, please contact Eric Clapprood at +1 860 595 9462, or eclapprood@deloitte.com.**

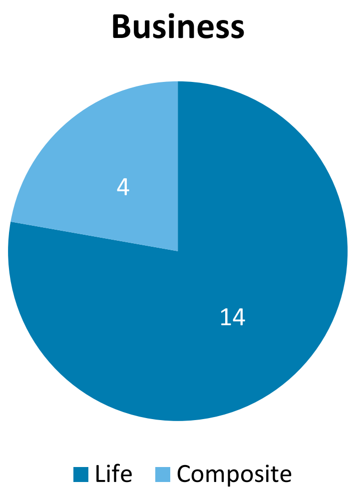
Survey Participants

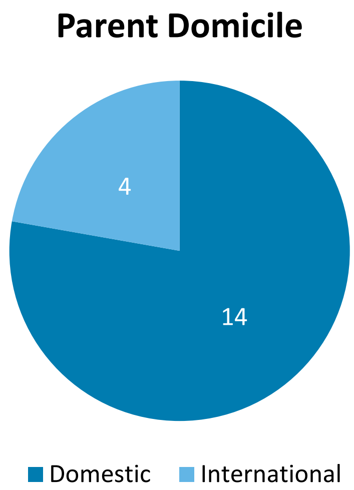
Summary of Participants

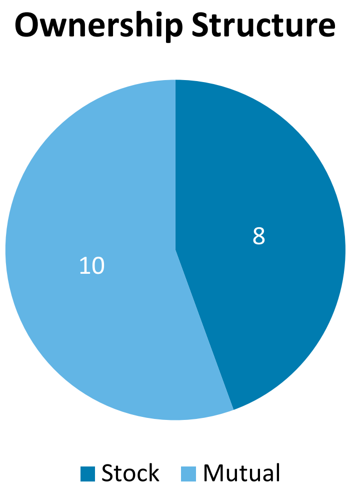
18 total participants, including:

- Life and composite (life and property and casualty (P&C)) insurance companies
- Public companies (ranging from $2B to $45B in market capitalization) and mutuals of various sizes
- Those with domestic and foreign parent companies

Participant Details

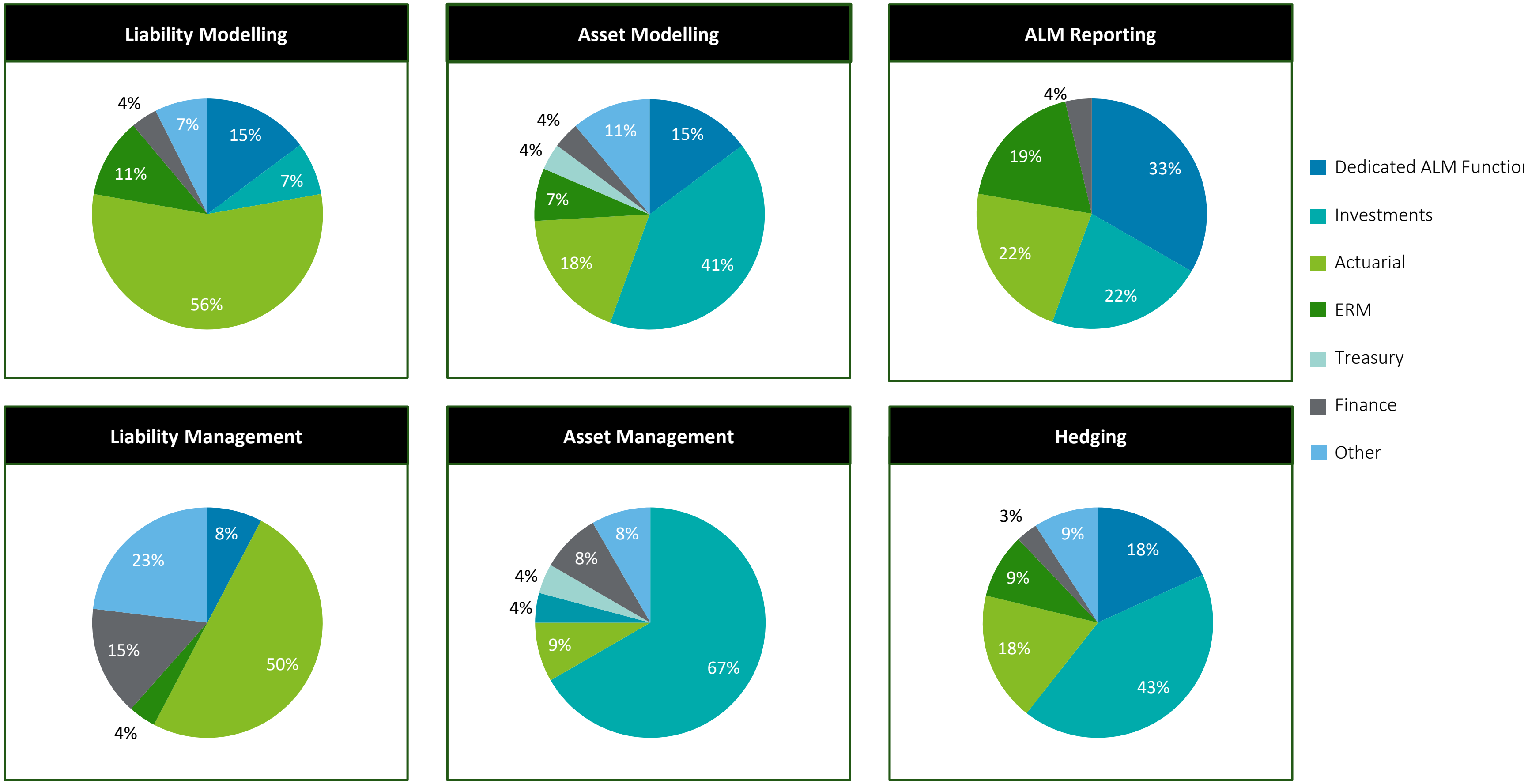






Primary ALM Responsibilities

The following parts of the participants' organizations have primary responsibilities for the six main components of ALM:

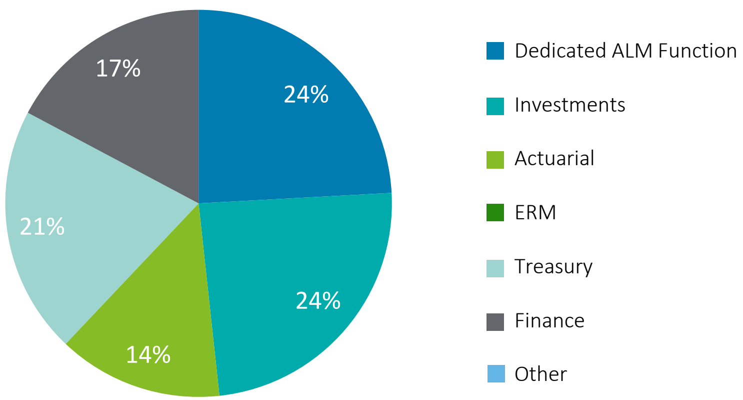


Liability modeling and management is usually owned by Actuarial, while and asset modeling and management is usually owned by Investments. But, a variety of ownership structures exist. Hedging ownership varies based on the type of company, underlying liability, and types of programs. European-owned firms tend to have Investments run hedging operations more so and with more clear authority and responsibility. Reporting roles and responsibilities are diverse across the industry and at times within a firm. A key trend among firms today is rethinking the reporting function, including considering uniform metrics across lines of business, consolidated tools, enhanced controls and oversight, and "one source of truth" such as a data warehouse.

Establishing Roles and Responsibilities and ALM Policies

Establishing Roles and Responsibilities

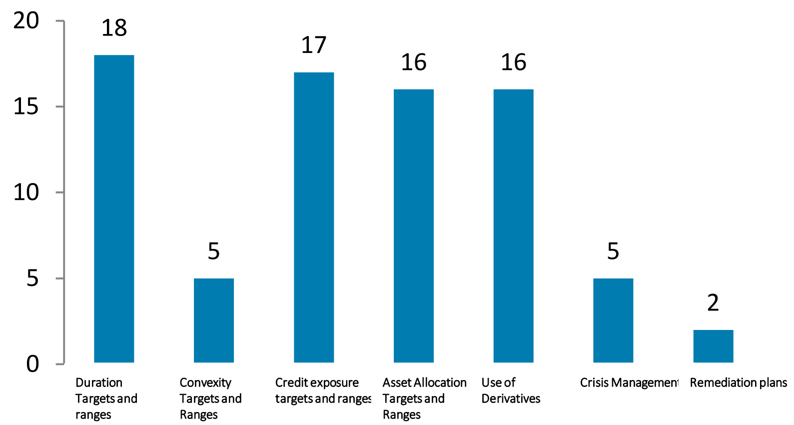
Authority for establishing ALM-related roles and responsibilities resides in the following parts of the organizations:



The responsibility for governance itself has become more of a focal point for insurers. Post-crisis, there is a desire to confirm who has authority to make what decisions; how checks and balances are assured; and what procedures are in place for escalation, appeal, and "voting" in the case of committee-based structures. The responsibilities for this governance vary, as shown. A trend seen in the industry is revisiting the authority chain from the board of directors down to those executing trades, assuring committee charters and delegated authority, for instance, are well documented and clearly communicated.

ALM Policy Components

The chart below indicates the number of participants (of 18) that include the following components in their formal and published ALM policies

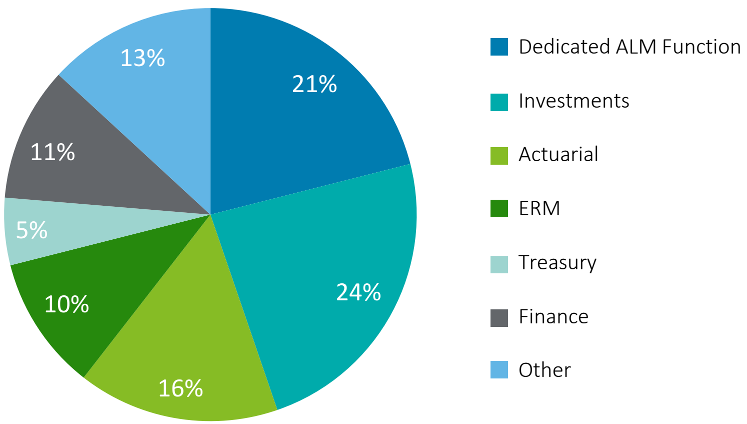


All firms who participated have policies around duration positioning and almost all have policies around credit, asset allocation, and derivatives. Less attention from a written policy standpoint has been given to higher-order sensitivities such as convexity, crisis management, and remediation plans. Higher-order sensitivities are calculated at various frequencies by firms, convexity and "cross greek" metrics are still evolving but are expected to be a larger part of policies in the future. Much attention is being given to revisiting crisis management policies (although ALM is often a subset of more broad considerations) and "war gaming" high-stress conditions.

ALM Decision Making

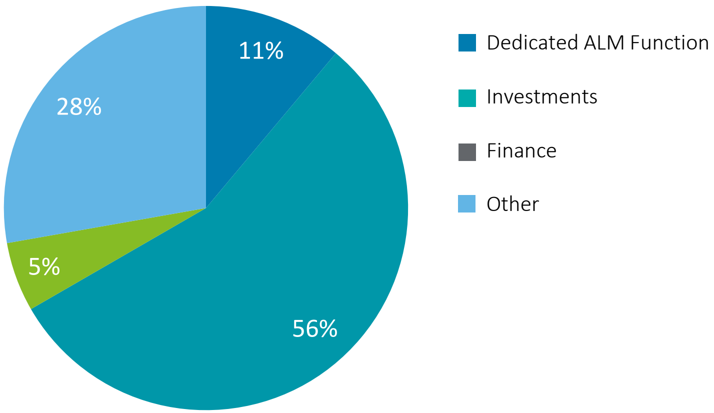
Primary Decision-Making Responsibilities

The following parts of the participating organizations have primary responsibilities for ALM decision making



Tactical Decision Making

The following parts of the participating organizations have tactical decision-making responsibilities (e.g., day-to-day trades)

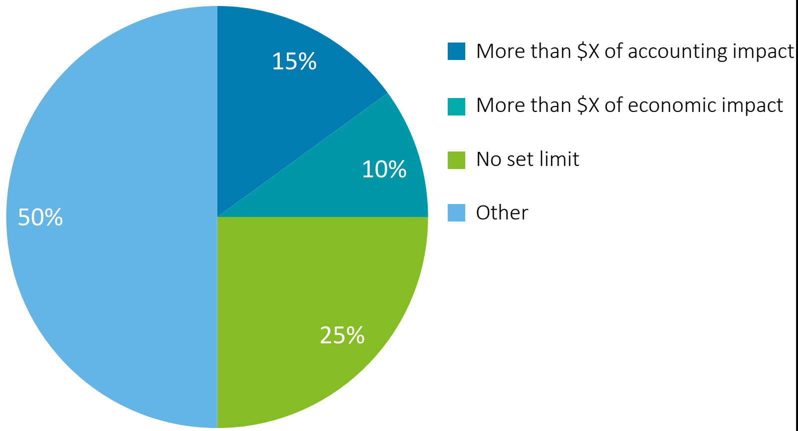


Primary decision-making responsibility around ALM more likely sits with Investments than other departments, but clearly there is no one function that has a much broader role in the industry than others. At most companies, a committee basis is involved somehow in decision making, e.g., an Asset-Liability Committee (ALCO)-type structure, but the involvement of a committee versus individual decision-making responsibilities is very varied. In order of increasing likelihood that Investments makes the decision, the following general process can be considered to be a transition from strategic to tactical: policy approval (e.g., global risk limits or specific product-based investment strategies), short-term benchmark setting (taking the economic outlook into account and determining a tighter range for duration, asset allocation, and credit risk than the policy would typically mandate), and specific asset selection. (Note that "Other" areas with lead responsibility for tactical decision-making include combinations of Investments, Product Management, and Actuarial, either through a committee format or based on product or decision type. Business Unit Finance departments are also involved in some cases.)

Delegated Authorities

Referral to Higher Authority

Day-to-day delegated authorities with respect to ALM before referral to a higher management level or committee level are defined by:



ALCO Structures

While not a specific question on our survey, we provide some commentary here on ALCOs

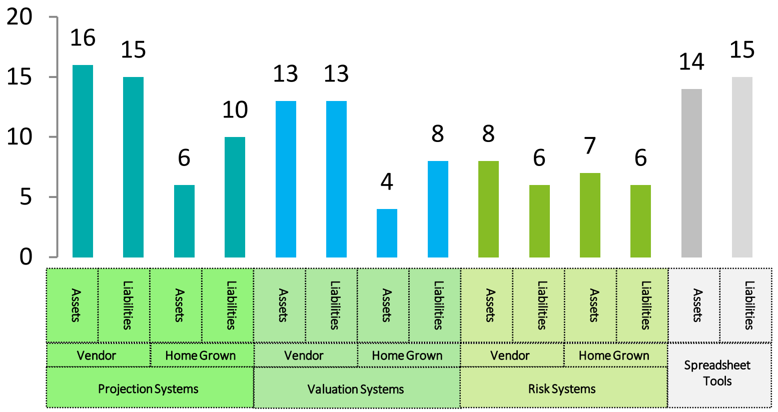
- Most insurers use some type of ALCO to some extent
- The ALCOs range in authority from being an information-sharing discussion board to a true decision-making authority
- Membership typically includes a combination of leaders from Finance, Investments, Treasury, Enterprise Risk Management (ERM), Capital Management, Actuarial, and the business units

The issue of "vertical authority" is one of the larger ones at insurers dealing with establishing or enhancing an ALM operating model today. There are instances in the past that firms want to avoid, where decisions have been made such that large consequences were not understood until afterward, and the perception is that more oversight and tighter approval requirements are needed. There are also instances where frustration has occurred due to lack of empowerment at what is perceived as the appropriate levels of authority, such as business units and lines of business, whereby too many decisions are seen as requiring upper-level authority. Three quarters of our respondents have some form of established limits for raising larger decisions to upper levels of authority. However, only one-fourth define those limits based on hard dollar levels. Other limits involve comparisons (e.g., duration) to targets, percentage of asset allocation or credit risk, product-based descriptions, or subjective limits. When subjective limits are used, best practice is for individuals not making the decision to be responsible for determining whether the decision needs further approval, an "FYI" action to higher authority or no such higher touch-point.

Systems and Infrastructure

ALM Models and Systems

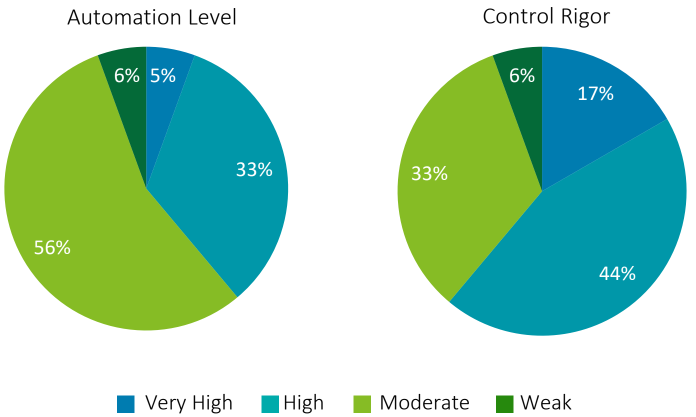
The chart below indicates the number of participants (of 18) that use the following systems and models to support their ALM processes



Firms are more likely to use a vendor system for assets than liabilities generally because the liability valuation is more company-specific and considered a core competency embedded within the actuarial and/or product areas. For liability projections, the use of a vendor system is often preferred in order to obtain scenario assumption independence and benchmarking. A trend within the industry that we see, however, is a relooking of the scenarios produced by third parties. Internal discussions surrounding scenario generation and what can be sensitive assumptions are often difficult to coordinate. A top consideration among firms today is assuring that senior management understands the underlying scenario assumptions and has a process in place for vetting them and assuring consistency with firm-wide views.

Process Automation and Control

The participating companies' ratings of their ALM processes in terms of automation level and control rigor are as follows:

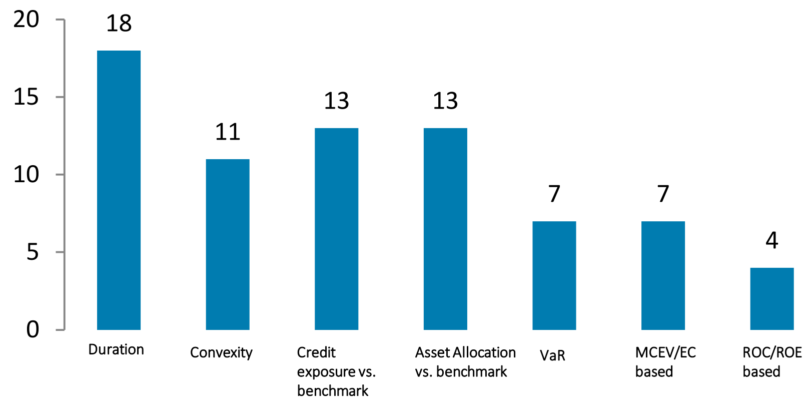


Automation around ALM processes is usually low to moderate, but the trend is that automation is increasing. "Sarbanes-Oxley (SOX)-level" controls are desired by more firms around ALM in the next two to three years due to connectivity to reporting results, risk management programs' sensitivity to parameters and projection results, increased regulatory requirements (both real and anticipated), and the complexities of multiple accounting regimes and their interconnectivity (e.g., projecting the cost of hedging fair value metrics within real-world statutory scenarios). Along with automation comes the need for increased ALM human capital and understanding, which is a major challenge at North American insurers today. Another focus, therefore, is cross-training, development, and career programs for ALM professionals within insurance.

Metrics and Performance Management

Metrics Reported to Senior Management

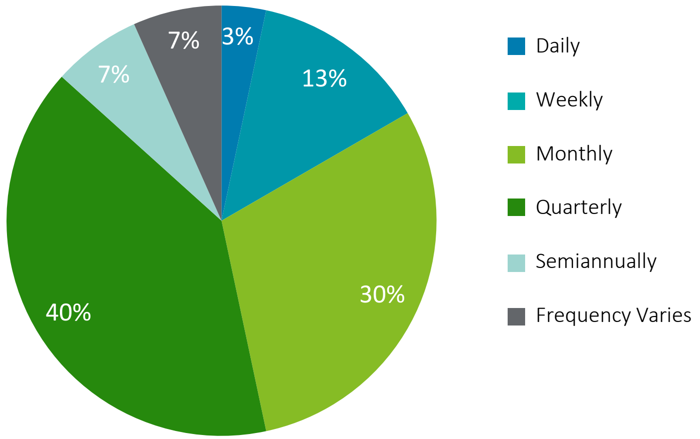
The chart below indicates the number of participants (of 18) that regularly report the following ALM-related metrics to senior management:



All firms report duration and two-thirds report credit and asset allocation vs. benchmark metrics. Convexity and higher-order sensitivities, including hedging Greeks, are used with varied intensity depending upon the product type, exposure, sensitivity, and robustness of the program. Market-consistent / Value at Risk (VaR)-type metrics are used more often with those owned by European parents. Return on capital (ROC)-type metrics are increasing in usage. A particular area of focus for firms regarding expansion of analytics and decision-driving metrics is risk-adjusted performance. An important set of pursuits, therefore, seen in the industry, revolves around establishing consensus on the numerator and denominator of risk-adjusted returns.

Frequency of Reporting

The metrics and performance measures are reported as dashboards issued:

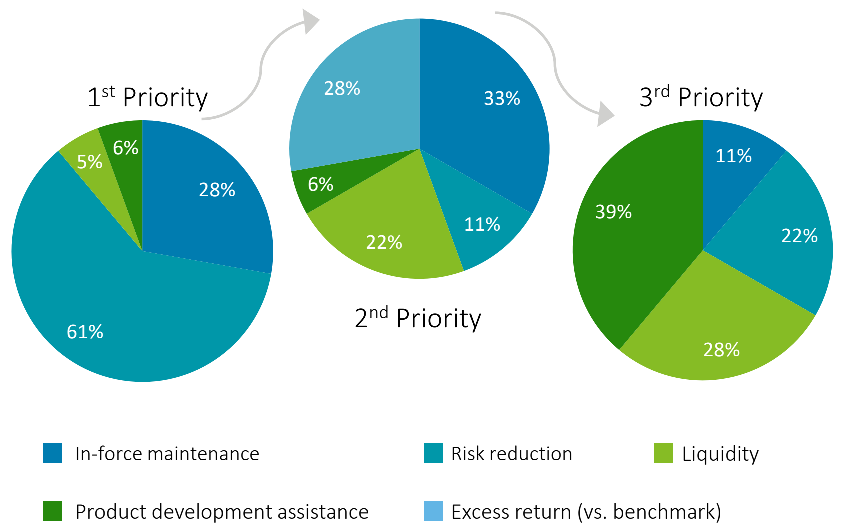


Metrics are reported usually monthly or quarterly. Many firms are moving toward more frequent reporting. Hedging programs will usually report more often. The line between traditional, general account (GA)-focused ALM and a separate, Greeks-focused hedging program in some cases is being blurred, due to macro-/ stat-focused hedging programs, the internal fair valuation of risks not fair-value reported under GAAP, and the use of derivatives for ALM purposes, such as adjusting duration or credit exposure. More frequent reporting is sought as a result of this, and also as a result of the desire by business units to understand decision-making by Investments on a granular basis.

ALM Priorities and Challenges

Top ALM Priorities

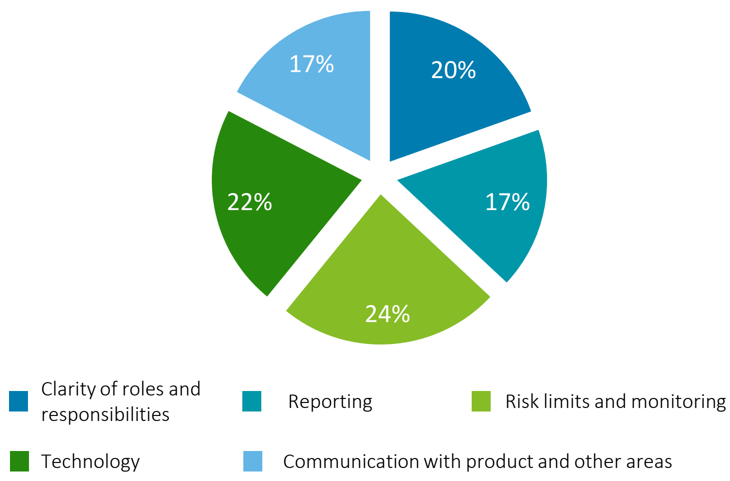
The participants identified the following as their top ALM priorities:



ALM groups are usually citing risk reduction as the top priority, followed by in-force maintenance and product development assistance. Liquidity planning, however, represents an increasing consideration at insurers, and as a result, analysis related to stressed sale risk of 2- to 10- year assets, for instance, is increasing and a part of strategic planning.

Most Significant Challenges

The most significant challenges as determined by the participants are the following:



This question produced a very even split of responses. Cutting across these answers were a few themes: (1) The operating model of ALM is evolving to provide a more explicit definition of roles and responsibilities, (2) The connection between pricing assumptions and execution of strategy is becoming tighter, and (3) The coordination among ALM teams and those in ERM setting risk limits is becoming more efficient and collaborative out of necessity.

Responses by Type of Firm

Comparison	Basic capabilities
LIFE VS. P&C COMPANIES	• Investments has a greater role in ALM if P&C business is sold in addition to Life business. • Actuarial has a greater role in ALM if no P&C business is sold. • At Life-only firms and on the "Life side" of composite companies, the ALM operating model and decision-making process is much more complex than on the "P&C side." The P&C business, much less dependent on ALM to generate shareholder value via product design, will be more like to accept a rate projection from Investments based primarily on the price.
EUROPEAN VS US PARENTS	• European-owned insurers tend to: • Focus more on market consistent embedded value (MCEV) and economic capital (EC) metrics, and have more documentation (e.g., productionized parameters as part of dashboards and reports), both attributed in part to preparation for Solvency II • Use Investments as an authority and decision-maker over ALM in general and, even more so, hedging programs in particular
STOCK VS. MUTUAL COMPANIES	• Public companies tend to have more rigorous ALM controls. • Public companies tend to have policies that more formally address the use of derivatives, credit risk, and crisis management. • Mutual companies tend to rely more on Finance and ERM areas than Investments or Actuarial when it comes to establishing an operating model.
SIZE OF COMPANIES	• Larger firms will be more likely to have a stand-alone ALM unit responsible for important aspects of decision-making. • Larger firms are more likely to have a more robust set of documented policies and regular reporting metrics, but also experience more issues regarding clarity of roles in some cases, due to the differences in business lines' management and complexities of the firm.

Conclusion and Potential Follow-ups

1 Evolving Operating Models

- ALM operating models are evolving within the insurance industry, for several reasons: Increased accounting complexity; improved technology; higher expectations from stakeholders regarding risk management and explanatory ability; and a heightened awareness of the importance of policy, oversight, and controls.
- Trends within this evolution include an increased likelihood of considering a stand-alone ALM function, particularly for large firms; enhanced dedication to separation of duties regarding (i) determination of risk and other ALM-related policies, (ii) execution of the policy, and (iii) oversight and control functions; and a desire for improved coordination among pricing, valuation, and ALM-related decision-making, particularly in the areas of modeling and assumptions.

2 Continued Challenges

- Challenges surrounding competing accounting regimes and evolving regulation are front of mind for insurers, and these translate to a number of issues, ranging from operational (such as computing power and storing data to backup assumptions) to strategic (such as how double-digit returns will be achieved if capital requirements increase).
- A key to success within ALM operating models is appropriate talent, not only within the direct ALM function(s), but among those areas (Finance, Capital Management, Product, Investments, and ERM) that interact with ALM; and there is currently a greater demand for the appropriate talent and leadership than the market is supplying.

3 Ways Deloitte can help

- Deloitte Consulting is very active with regard to ALM advisory services for insurance companies and other financial services firms in the United States and abroad.
- We have assisted firms in adjusting operating models; reviewing and enhancing policies and procedures; considering staffing concerns and providing expert support; establishing appropriate dashboards, reporting, metrics, and triggers; setting strategy; and connecting pricing and product development processes to ongoing management of liabilities.
- Many other service offerings are available, especially connecting the strategy and operations of the firm to ALM, and addressing capital and risk management issues.

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