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European Insurance CIO survey:

Adapting asset management strategies to the current market environment

BCG, AXA IM

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This paper is the result of a collaborative effort between the Boston Consulting Group and AXA Investment Managers and combines the diverse experience of both organizations along with the 28 organizations interviewed.

We are grateful to the companies and individuals that contributed to this survey, whose enthusiastic participation and thoughtful responses made this paper possible.

We invite you to engage in a discussion with your organization and us on the content of this paper and its implications for you.

Kind regards,

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EXECUTIVE SUMMARY

The current investment environment remains challenging for insurers. Low interest rate yields have resulted in lower investment returns, which have impacted bottom lines and made it harder for insurers to fund guarantees. Tighter regulations in response to the global financial crisis and the upcoming Solvency II regime in Europe¹ have only added to the pressures.

To understand the impact of these factors on the sector, The Boston Consulting Group (BCG) and AXA Investment Managers (AXA IM) surveyed Chief Investment Officers (CIOs) from nearly 30 insurers across Europe. The results of the survey are outlined in this paper.

Interviewees were also asked to comment on how they are adapting their investment approach to confront these challenges. The key findings reveal that:

- Insurers are diversifying current asset allocation, and are aiming to allocate up to 10% of their investment portfolio to satellite asset classes –in particular emerging market debt, infrastructure and real estate.
- However, despite this intent, data indicates that the industry has a long way to go. The limited supply of appropriate satellite assets presents early adopters with a clear advantage.
- To manage balance sheet volatility and reduce interest rate risk, some insurers are using a combination of derivative instruments and natural hedging, but such hedging is yet to become universal amongst all insurers.
- To strengthen governance, insurers are empowering their Asset Liability Management (ALM) function and enhancing their risk management system.
 - Large players are centralizing their ALM functions from business level to group level, while small players are still creating or internalizing their ALM functions.
 - Insurers have defined new performance indicators to take into account the capital implications of their investment activities.
- To monitor investment portfolios on a more granular and frequent level, insurers are investing in full 'look-through' capabilities required by Solvency II regulation, as well as other tools that include real-time data and risk based alert systems.
- Insurers, especially small and medium sized ones, see external asset managers as key partners in providing the required competencies in satellite asset classes, especially in lesser known asset classes, such as high yield, infrastructure and loans.

¹ current integration plan is postponed until January 2016 at the earliest, though it may not be implemented until 2017

- To ensure proper governance, the Chief Investment Officer (CIO) and Chief Risk Officer (CRO) need to work more closely together. The investment department should also be involved when it comes to designing the risk management tools, since these tools assist investment managers in weighing risk considerations in their daily investment choices.
- Insurers cited the following key criteria in selecting an outsourcing partner: insurance specific understanding with respect to investment management such as ALM, solvency, reporting, and local prudential and accounting regulations; a successful investment track record, and an adequate investment process infrastructure. Cost did not feature as a key consideration where asset managers were deemed to add value.
- As the investment mix becomes more sophisticated and the use of derivatives and hedging (in particular interest rate risk) becomes more important, insurers must weather to partner with third party providers to ensure the right level of structuring, sourcing and execution of such investments.

METHODOLOGY

During the last quarter of 2012 and the beginning of 2013, The Boston Consulting Group (BCG) and AXA Investment Managers (AXA IM) interviewed Chief Investment Officers (CIO) from 28 insurance companies across Europe representing over ~€3 trillion in assets under management. The table below provides the profile of participating insurers:

Total Assets	Life	P&C/Non Life	Composite	Total
Less than €10B	3	5	2	10
€10 – 100B	2	1	8	11
More than €100B	2	0	5	7
Total	7	6	15	28

The survey focused on current challenges faced by CIOs of insurance companies across Europe. Mitigating actions to these challenges were classified into three categories: investment solutions, governance, and outsourcing. Respondents were asked a series of standardized questions. Where applicable, answers were aggregated and counted to allow comparisons. (See Exhibit 1.)

Exhibit 1: The BCG/ AXA IM survey addressed these areas

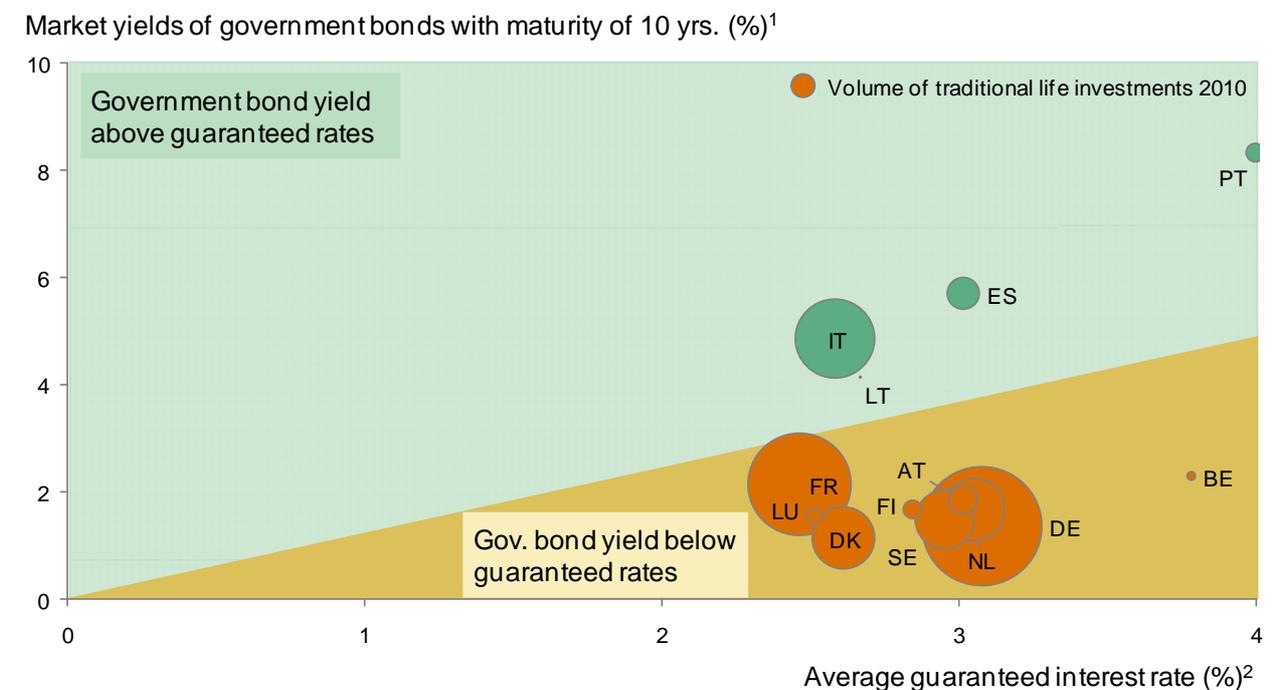
Domain		Key topics addressed
Main challenges		Perception of the key challenges for the insurer
Main countermeasures	Investment solutions	Changes in asset allocation and hedging strategies
		Financial return optimization (e.g. key indicators, advanced models)
	Governance	ALM processes
		Governance metrics and processes
		Investment portfolio monitoring
	Outsourcing	Outsourcing objectives vs. risks
		Satellite asset classes vs. core asset classes

Low interest rate and 'high' regulation

Low interest rates and lingering volatility have lowered the investment returns of European insurers and eroded their Solvency II capital margins.

With interest returns close to or below the level of minimum statutory guarantees in many European countries, European insurers are facing a huge reinvestment challenge. This is compounded by two factors: (i) managing the high guaranteed rates from legacy contracts contained within traditional policies and (ii) contending with competitive pressures that are forcing some local players to raise guaranteed rates in order to obtain clients. In fact, in many EU countries the average guaranteed rates of existing portfolios is higher than the respective government bond yields. (See Exhibit 2.)

Exhibit 2: Average guaranteed rates exceed many government bond yields



Notes: (1) As of November 2012; (2) weighted average of maximum guaranteed rates 1997 to 2007, with weights based on an assumed annual persistency of 90%

As a result, we expect the average Solvency II position of European insurers has significantly deteriorated over the last three years. Our estimate suggests that the average solvency ratio for European insurers was only 96% at the end of 2012. That means a number of European insurers are just at the regulatory minimum level – or even below. Even though Solvency II has been postponed, regaining solid solvency ratios will take considerable effort, especially amid ongoing economic uncertainty. (See Exhibit 3.)

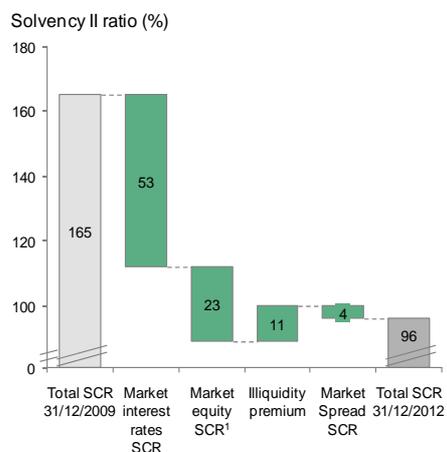
Unofficially, several national regulators have conducted local solvency tests to assess the Solvency II position of their national players as of year end 2011. The results of these tests seem to confirm our observations. The quantitative exercise that has just been launched by the European Commission and the European Insurance and Occupational Pension Authority (EIOPA), for which results should be published by summer 2013, will provide more light on the current situation, although EIOPA has already indicated its concern.

Exhibit 3: European insurers face declining Solvency II ratios

Solvency II ratio has decreased...



... mainly due to Market equity SCR and Market interest rates SCR



Note: Based on AXA IM estimations using back test simulations (Results presented for a European average sample in terms of asset mix with average European Govies exposure weighted by each country's GDP in Europe), past performances may not be reliable indicators of future performance.

Main assumptions: constant asset allocation (govies=45%; corporate/other fixed income = 40%; equity = 10%; property =5%); Market SCR / total SCR = 65%; duration gap asset-liability = 2.4 years; Asset-liability mismatch = 121%; liquidity premium = 50%; assuming no management action and no further absorbing effect of either taxes or participating benefit.

1. Considering equity dampener effect

Source: Bloomberg, AXA IM analysis

In response, insurers identified the following challenges. (See Exhibit 4.)

- Two-thirds, ~68%, of insurers identified low interest rates as their key challenge. Most interviewees see this environment lasting for at least the next two years or so. That said, several interviewees indicated they were more concerned by the prospect of a sudden increase in interest rates in Europe than by interest rates remaining low, since rising interest rates might prompt policyholders to exit insurance products in favor of financial markets. Such actions would further strain liquidity and likely force asset sales at low prices.

Quotes from insurers:

- "Central banks are now focused more on unemployment, so we will start seeing a rise in yields only in the medium term."
- "Developments need to be watched closely on account of the uncertain macro environment. Inflation can change completely the interest rate scenario."

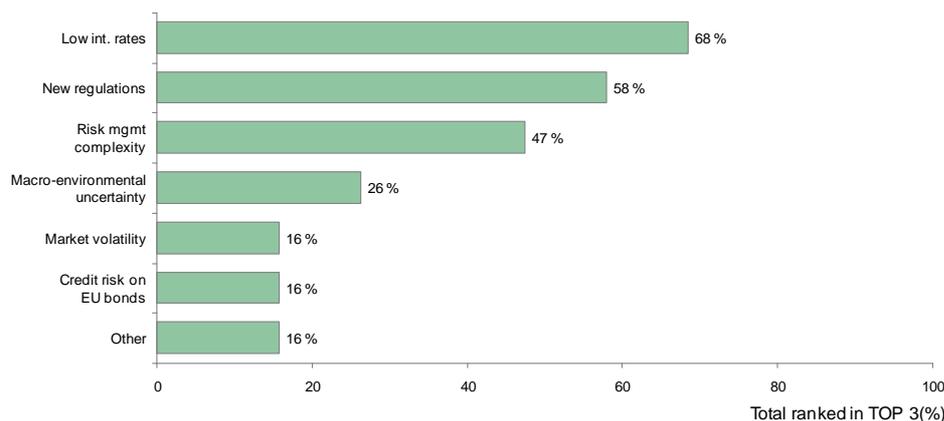
- In addition, approximately 60% of those surveyed said new regulations that require increased risk management and transparency were among their top three challenges. This is especially true of small and medium insurers which tend to lag their larger counterparts when it comes to obtaining an integrated risk management system.
- Interviewed insurers ranked ongoing macro-economic uncertainty and related financial market volatility lower on their list of challenges. This may be due to reduced market tensions relating to European sovereigns since the summer of 2012. Insurers may also be growing accustomed to operating in this 'new new normal,' where volatility and uncertainty have become part of the business environment. What does concern insurers, however, is the prospect of continued political intervention in Economics. A quarter of those polled cited this as a major challenge, hindering their ability to make predictions and take investment decisions.

Quotes from insurers:

- "Central banks are influencing markets, bringing investments out of fundamentals. There is a clear political impact on investments."
- "We see the biggest changes in the concept of risk, risk management and the underlying supervisory conditions."
- "The investment portfolio now has to be managed with new constraints: more risk management requirements linked with new regulations."

Exhibit 4: Insurers rank their key challenges

**What are the key challenges for an insurance company in the current investment environment?
(Multiple choice)**



These changes will have a profound impact on the entire insurance value chain, making many traditional investment approaches obsolete and forcing management and CIOs to address these issues:

- How to outperform competitors on investment management and surpass guaranteed rates?

- How to adapt the organization and its capabilities to control and govern less traditional asset classes and more complex risks?
- How much weight to put on in-house vs. outsourcing in order to gain the most strategically and economically viable operating model in this new investment and regulatory environment?

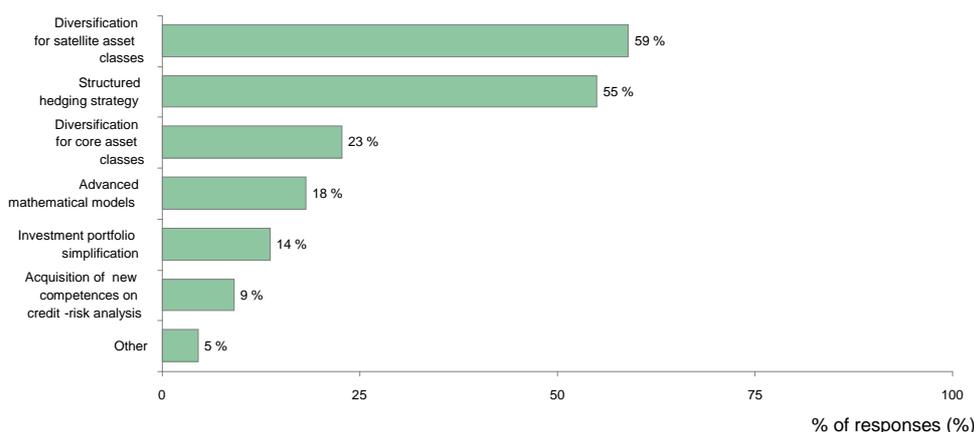
INVESTMENT STRATEGIES

Insurers have traditionally invested conservatively, focusing mainly on domestic sovereigns and European credit and with relatively low exposure to risky or diversifying asset classes. They tended to “buy and hold” assets to match their cash flow generating objectives. We asked insurers to identify which investment strategies they have recently implemented or are planning to pursue to boost investment returns over the coming couple of years.

Two clear investment trends emerged. Most interviewees (~60%) are focusing on diversifying current satellite asset allocation. Hedging strategies are also gaining importance. (See Exhibit 5) As one participant noted, “Experience from the crisis teaches that it makes sense to enter into even broader diversification.” Another added, “Good hedging strategies, complete with trigger points, are particularly crucial in the current capital environment.”

Exhibit 5: Insurers look to diversification and hedging strategies to optimize their financial position

Which solutions have you or do you plan to put in place to optimize the current financial position?
(Multiple choice)



Increased diversification in asset allocation

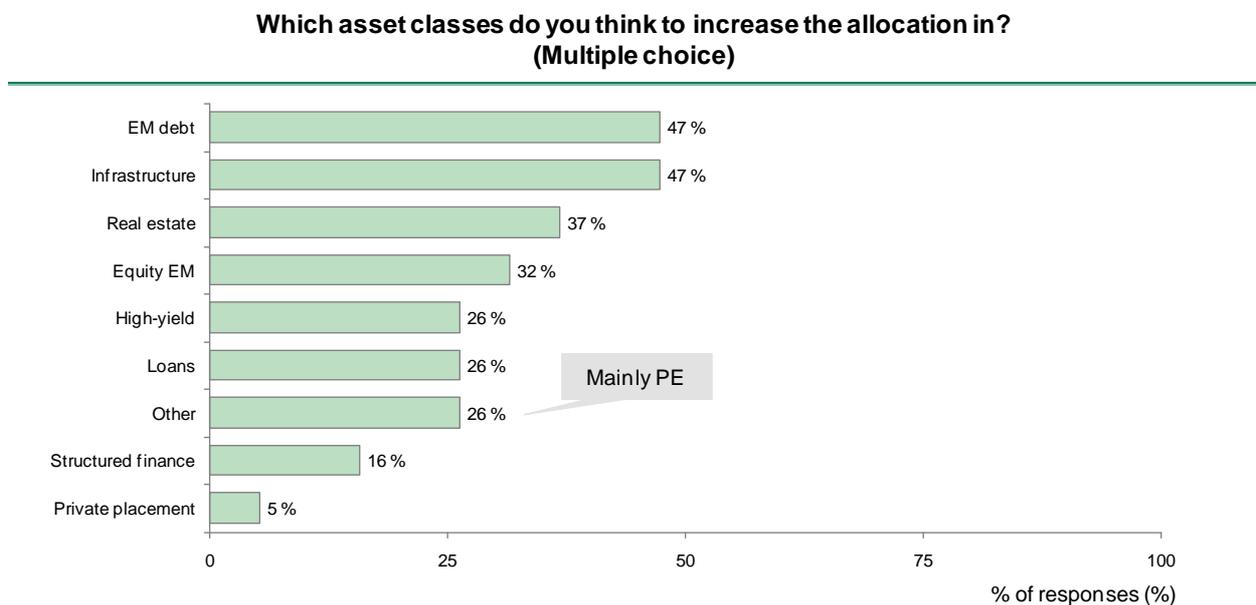
When it comes to diversifying their assets, survey respondents expressed increased interest in emerging market debt (~50% of respondents), infrastructure (~50%) and real estate (~40%). All together, satellite asset classes are expected to comprise up to 10% of investment portfolios.

Emerging markets equity is also attractive, although ~15% of those surveyed believe in the medium-term (2 years) it will remain too risky. (See Exhibit 6.)

Quotes from insurers:

- "On the fixed income side, we will increase emerging markets bonds and decrease European plain-vanilla investments."
- "We will increase our allocation in emerging market debt and equity, infrastructure and commodities."

Exhibit 6: Insurers plan to increase asset allocation in the following areas



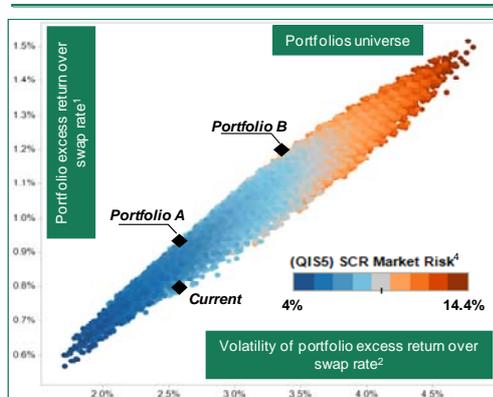
Evidence shows that despite the interest in diversification, few insurers have made much headway in practice. In fact, the financial crisis and new regulations have pushed insurers to hold their allocation to fixed income investments. (See Exhibit 7.)

Exhibit 7: Some insurers may be missing the opportunity to optimize risk/return profile

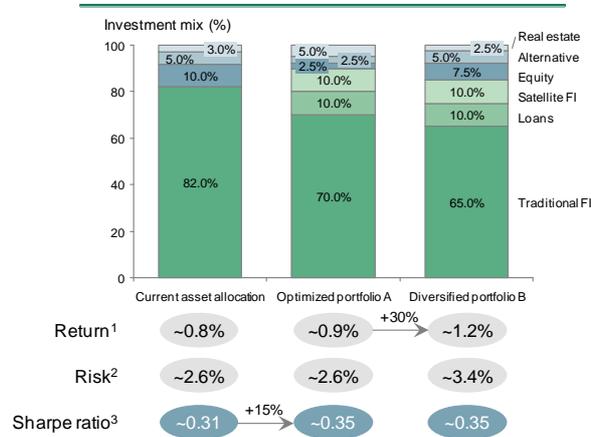
Example: Risk return trade-off can be improved through diversifying asset allocation

- “Portfolio A”: For the same level of volatility, the risk premium can be improved by 10 bps
- “Portfolio B”: for an increased level of risk (volatility, SII SCR), the risk premium can be improved by 40 bps

Efficient frontier



Portfolio structure & performance



1. 10 years portfolio return over swap rates 2. Volatility of excess return of assets over swap rates 3. Return/risk 4. Solvency Capital Requirement Main assumptions: liability duration perfectly matched with Core assets' duration; considered the historical correlation between different asset classes Source: AXA IM; BCG analysis

Insurers also mentioned that diversification into satellite assets could help minimize the volatile cash flow patterns, often derived from holding publicly traded assets. This is important because under IFRS regulation, less volatile cash flows translates into lower balance sheet volatility.

Increasing use of hedging based strategies

With regulation (Solvency II) and accounting standards (IFRS 4) moving toward economic valuation of assets and liabilities, market place volatility will translate into balance sheet volatility. To address this, ~55% of those interviewed say they intend to increase their use of hedging. Among Dutch insurers, for example, the notional amount of outstanding derivatives has multiplied by 10 over the last five years².

Those insurers employing derivatives are using them mainly to hedge interest rate mismatching and protect against sudden increases in interest rates. Some life players are also using natural hedging, increasing the duration of their asset base and reducing cross border allocation, e.g., exposure to non-domestic sovereigns, to better match local liabilities. In some cases, other hedging strategies, e.g., for equity and credit risks, may be used to address specific drawdown scenarios, but these are less of a focus for most insurers.

² Data from Dutch National Bank: total derivative investments 2002 0.2 B€ (0.07% on total assets) vs. 2012 18.3 B€ (4.4% on total assets)

Still, nearly half (~45%) of those surveyed are making limited to no use of hedging instruments with the result that they are missing out on potentially attractive investment opportunities and facing higher risk and economic volatility in their balance sheet.

Quotes from insurers:

- "We expect to increase the use of hedging instruments to hedge against asset and liability mismatch, but we limit the use of derivatives for other purposes due to the high costs."
- "We use financial overlays to address the tail risk and to protect economic capital against the changes in interest rates: swaps, options, and CDS."

Exhibit 8: Hedged portfolios deliver better return, reduced volatility compared to the Eurostoxx 50

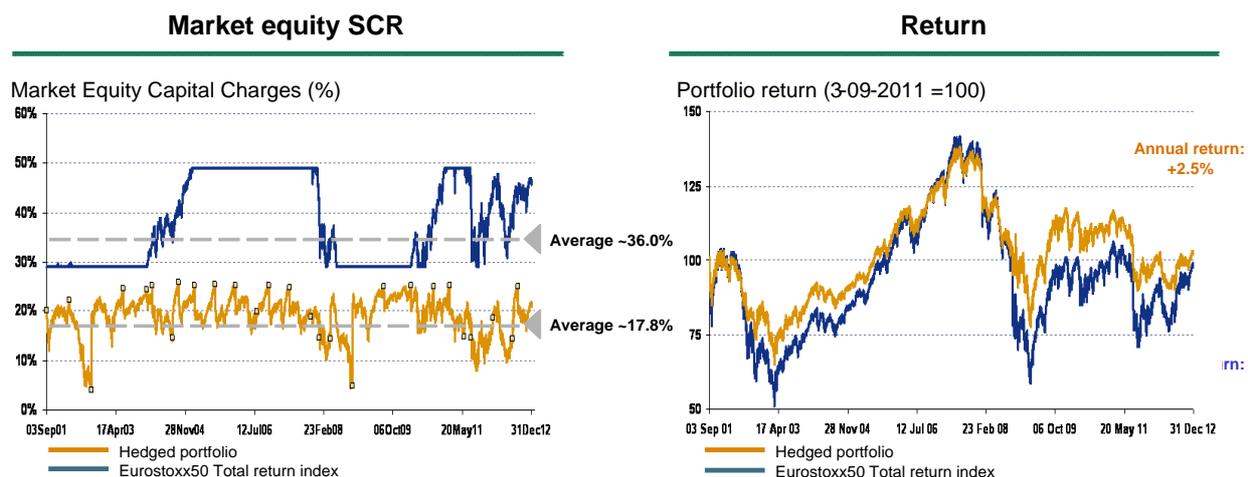
Example: Hedging strategies can reduce equity capital charges without necessarily lowering returns

Dynamic hedging strategies - properly implemented - offer various advantages:

- A participation in equity markets
- A reduction of realized volatility and a reduced Solvency Capital Requirement (SCR)
- Potential to better manage hedging costs
- Transparency in terms of instruments used and stability of the hedging strategy

This back test simulation shows how the appropriate use of derivatives can limit capital charges, without lowering portfolio returns: (See Exhibit 8.)

- - 18.2 p.p. average market equity SCR
- +4.6 p.p. annual portfolio return



Main assumptions: constant asset allocation of hedged portfolio; transaction costs have been taken into account in case of derivatives rolls; Market equity SCR calculated according to QIS5 July 2010 data (considering equity dampener effect determined using MSCI Europe index)

Source: QIS5 data, Bloomberg, AXA IM, BCG analysis

To summarize, we expect insurers wishing to gain competitive advantage will be increasingly bold about moving some of their traditional portfolio allocation to alternative satellite portfolios. Although larger players started this journey before the 2008 crisis, our study shows that medium and smaller players have been slow to follow suit.

Despite its advantages, implementing derivatives presents new challenges:

- Many insurers lack the in-house skills and infrastructure needed to select and manage derivatives. This is especially true for small and medium size players.
- Changes in derivatives regulation (such as the European Market Infrastructure Regulation directive (EMIR) in Europe and Dodd Frank in the US) will raise collateral and disclosure requirements.

In response, we expect insurers will turn to external advisers to implement financial hedging strategies and for advisory, monitoring and collateral management.

Strengthened governance

The challenging regulatory environment and the quest for more advanced investment strategies raises the need for stronger governance in many areas of the investment organization, especially in ALM and investment risk management.

Interviewees are responding to this need in four main ways:

- Approximately 55% are seeking to reinforce governance by empowering the ALM function.
- About 50% have enhanced their risk management system in the last two years.
- About 50% have also increased monitoring and oversight of their investment portfolio, especially outsourced investments.
- Approximately a third of respondents restructured their investment process in the last two years.

Quotes from insurers:

- "New investments tools will simplify the governance, identify new performance metrics and define acceptable investments."
- "We created limits determined by the Board of Administration and the CEO that became investment boundaries for external asset managers."

Empowerment of the ALM and investment function

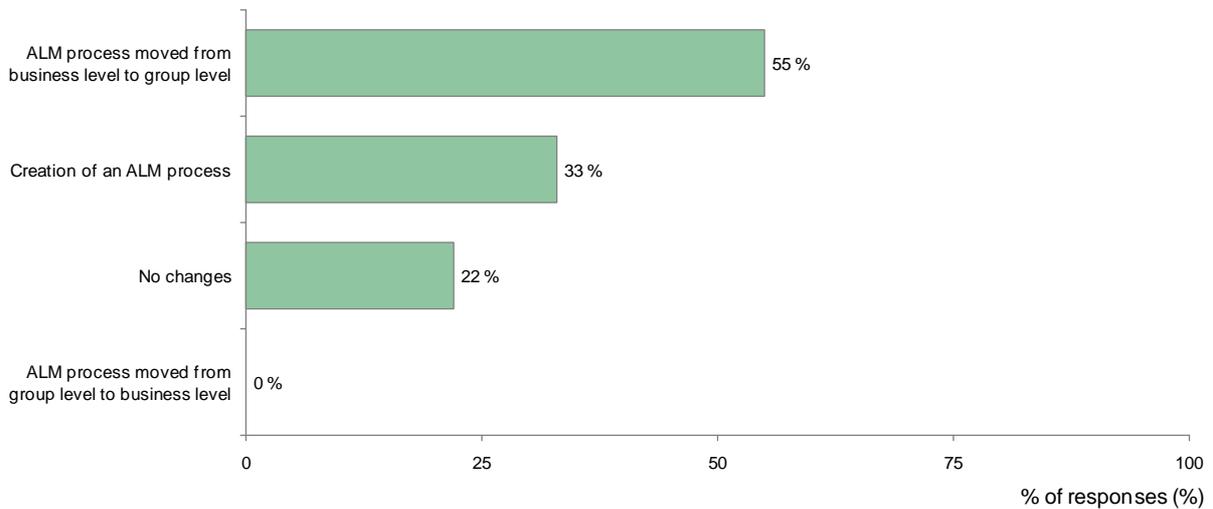
The ALM function is playing an increasingly important role in governance given the pressure to deliver on investment objectives. Perhaps accordingly, the majority (~75%) of large insurers are moving their ALM function from the business unit to the group level in order to minimize the capital impact of the investment strategy on the group as a whole, and/ or to ensure coherence in Tactical Asset Allocation approach. For their part, (~60%) of small players have created or internalized the ALM function over the last two years. Overall, nearly 80% of all insurers surveyed are developing/ enhancing their ALM processes. (See Exhibit 9.)

Quotes from insurers:

- "We created a very strong ALM unit at the group level that has to consolidate asset and liability data coming from single subsidiaries and define guidelines."
- "The ALM director is at the same level as the CFO, CRO and CIO to permit full coordination between different functions."

Exhibit 9: ALM governance is becoming more robust

In the last 2 years, did you change ALM processes / department structure? How? (Multiple choice)



Quotes from insurers:

- "The main tasks for the ALM unit are: consolidate all asset and liability data coming from single subsidiaries; define investment strategies to permit a group level-optimization and define the guidelines for product development."
- "ALM has become responsible for performing economic projections, income projections and capital position impact estimates."

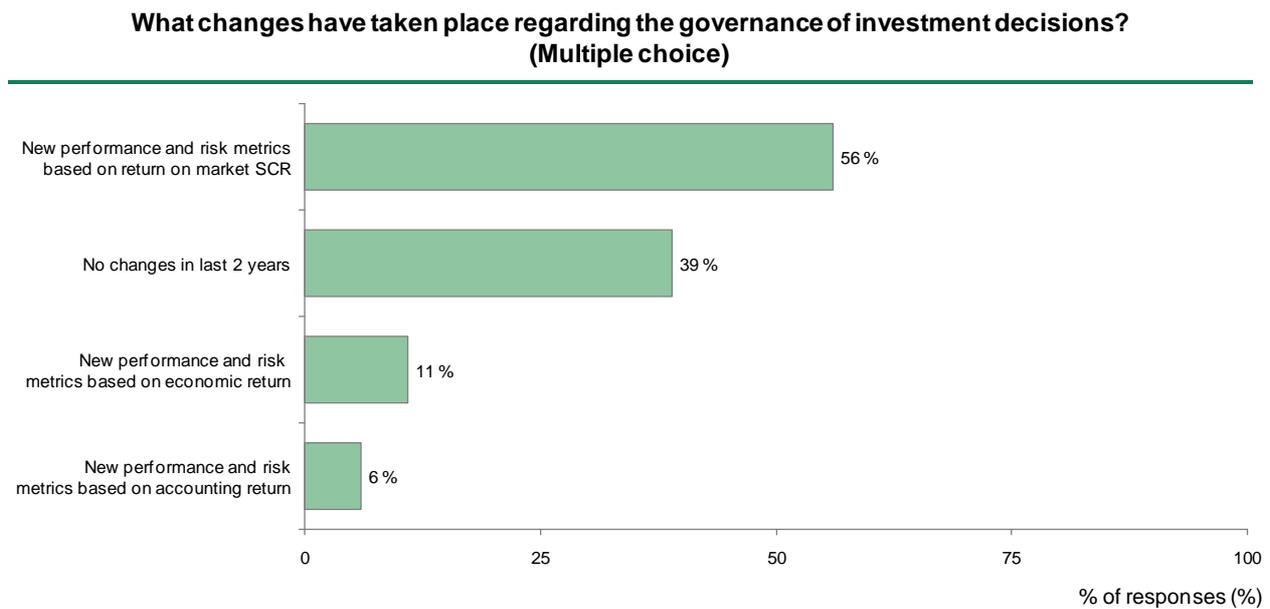
Enhancement of an integrated governance approach

Strong governance depends on effective performance management. Survey participants suggest that they are focusing more closely on the risk adjusted performance of their investment activities. The majority now define new performance and risk indicators based on return on market SCR. (See Exhibit 10.)

Quotes from insurers:

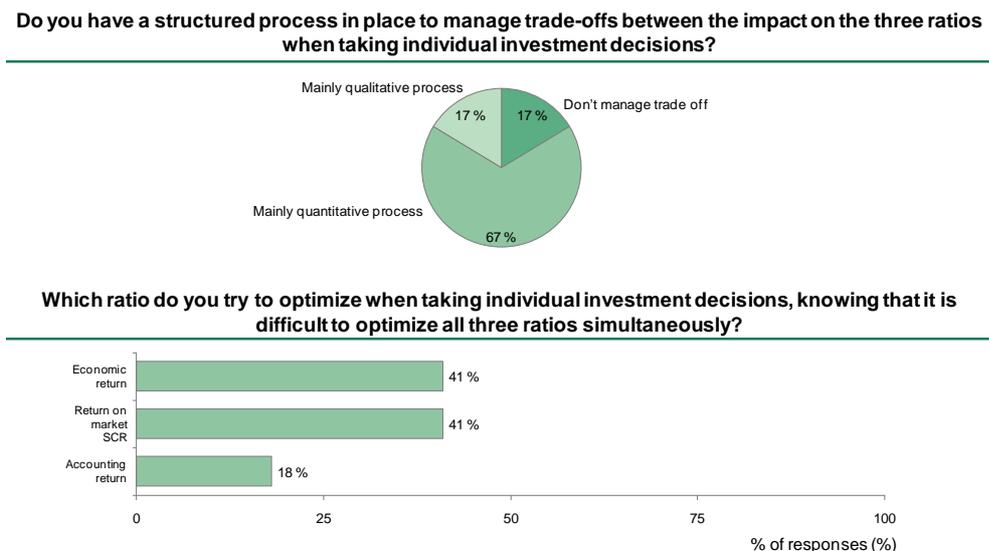
- "Risk capital is now the key target, it forms the basis for Tactical Asset Allocation"
- "With new regulations, we have to take into account risk capital budgets at the asset-class level."

Exhibit 10: Insurers are adding new performance and risk metrics



The introduction of new performance matrices also means that processes should be created to balance trade-offs between the impact of investment decisions on economic, accounting and SCR return. Whereas before CIOs needed to take into account the effect of individual investment decisions solely on the basis of economic return and accounting return, now they also need to take into account the impact on capital absorption, their risk appetite and, as a consequence, return on SCR. (See Exhibit 11.)

Exhibit 11: Insurers weigh trade-offs between accounting, economic and SCR return



This increased emphasis on risk-centric governance requires not only organizational change, but also cultural change. To manage that change, roughly 40% of interviewees say that management is decisively more involved in risk management activities today.

Improved monitoring of the investment portfolio

Insurers are investing heavily in increased monitoring capabilities. (See Exhibit 12.) The aims of these new systems are to:

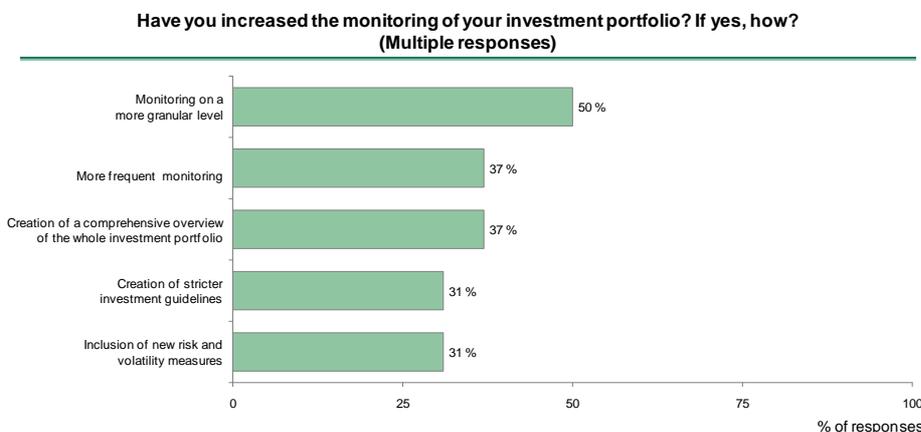
- Improve granularity of reporting;
- Increase the frequency of reporting (on average senior management reports are produced monthly);
- Obtain efficiency in the production of these reports;
- Create a comprehensive overview of the investment portfolio, as part of structured processes for ALM centralization. This is especially true of large players.

Quotes from insurers:

- "We increased the level of monitoring, creating an overall portfolio view to manage assets in line with Solvency II requirements."

Reports are also produced to include a wider variety of indicators, both on the portfolio as well as under stress conditions, to allow management to react quicker to changes in the market environment.

Exhibit 12: Insurers increase their monitoring activities



The Solvency II 'look-through' approach for Pillar 3 reporting requirements forces insurers to understand the risk of every position they hold, including pooled investments such as CDOs, ABS, and mutual funds. This is a new challenge and many insurers express significant concerns on their ability to implement such an infrastructure in time. This is especially challenging in the case of assets managed under outsourcing arrangements. When evaluating and working with external asset managers, insurers must be satisfied that their providers can give them a complete and real-time view of the outsourced portfolio.

Quotes from insurers:

- "For pooled vehicles we used to only get the holdings analysis by risk buckets. Now we can get them line by line."
- "With external managers we have total data transparency on a daily basis, an integrated investment platform and a defined risk monitoring system."

Exhibit 13: A sample extract of the early warning system implemented by an insurance client

Example: Illustration of typical alert system

A robust monitoring and governance system:

- Considers key investment indicators;
- Estimates the sensitivities of retained key indicators to pre-defined market stress scenarios;
- Reviews the results with top management to gauge their level of comfort and refine accordingly;
- Derives an early warning system with appropriate triggers regarding asset allocation and hedging overlays to manage the assets and the risk profile against risk appetite.

Key indicators - monitoring table	HY 2012	Earnings			Value EEV	Solvency		Liquidity ratio	Level of confort from top management
		UE	AE	NI		Solv1	Solv2		
Retained Key Financial Indicators (proxy)									
Sensitivities to pre-defined scenarios (proxy)									
Interest Rate (medium increase)	+50 bps								✓
Interest Rate (large increase)	+100 bps								✓
Interest Rate (medium decrease)	-50 bps								!
Coporate bond spreads (medium increase+75 bps)									
Coporate bond defaults	+1%								✓
Real Estate	-10%								!
Equity	-25%								✓
Combined Soft deflation scenario									
Combined Soft crash scenario									

Early warning system	Exposure Limits		Exposure	Traffic
	Alert	Limit	HY 2012	HY 2012
Government Bonds	None			
Corporate Bonds - IG				✓
Real Estate				!
Listed Equities				✓

Source: AXA IM

To summarize, when looking at the influence of regulation and competition on governance, we expect insurers to continue to reinforce the ALM and investment teams and implement better articulated investment processes, since this answers the need to deliver higher investment return in an increasingly stringent regulatory environment – in particular regarding the capital implications of investment choices.

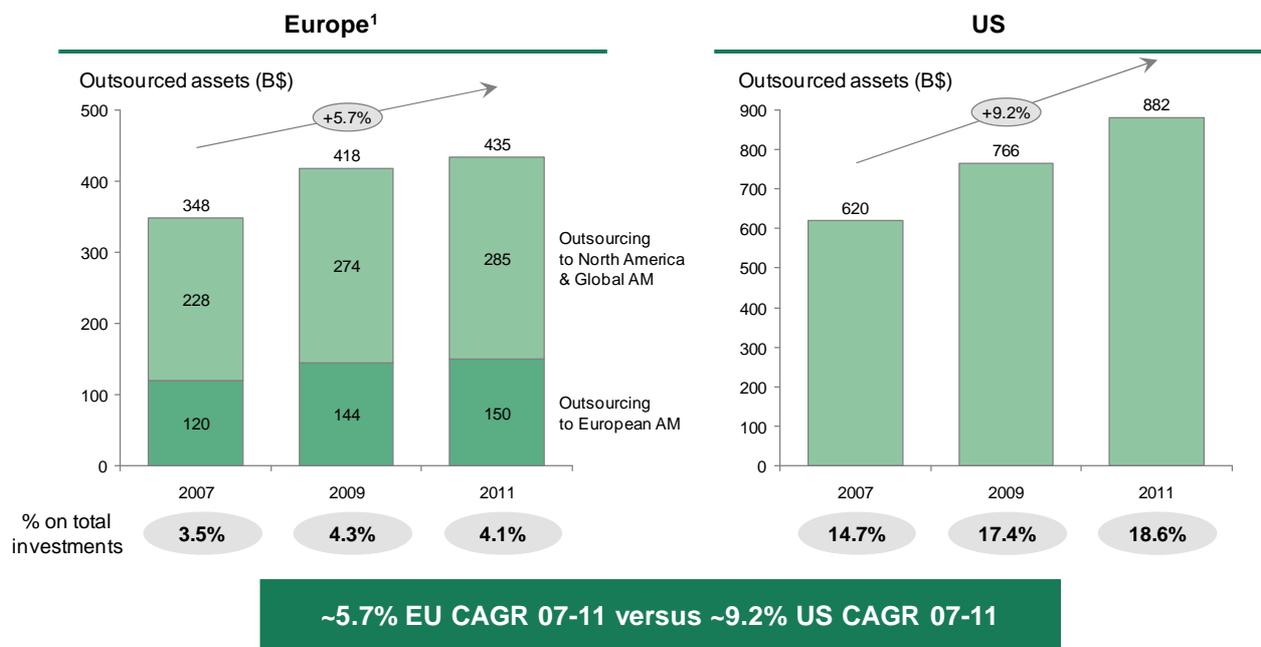
Leveraging investment outsourcing to access missing competencies

Insurers have been grappling with the optimal balance between managing assets in-house or outsourcing them. Although the practice of turning to outside advisors remains an emerging one for many insurers, survey commentary suggests that insurers are looking for expertise from outsourced asset managers, particularly when weighing and managing more complex investments that require specialized skills.

European outsourcing market perspectives

American insurers outsource ~20% of their assets compared to less than ~5% in Europe. (See exhibit 14.) Our study did not find clear reasons why European insurers outsource a significantly lower share of their investment portfolios than their American counterparts.

Exhibit 14: European insurers lag American ones when it comes to outsourcing



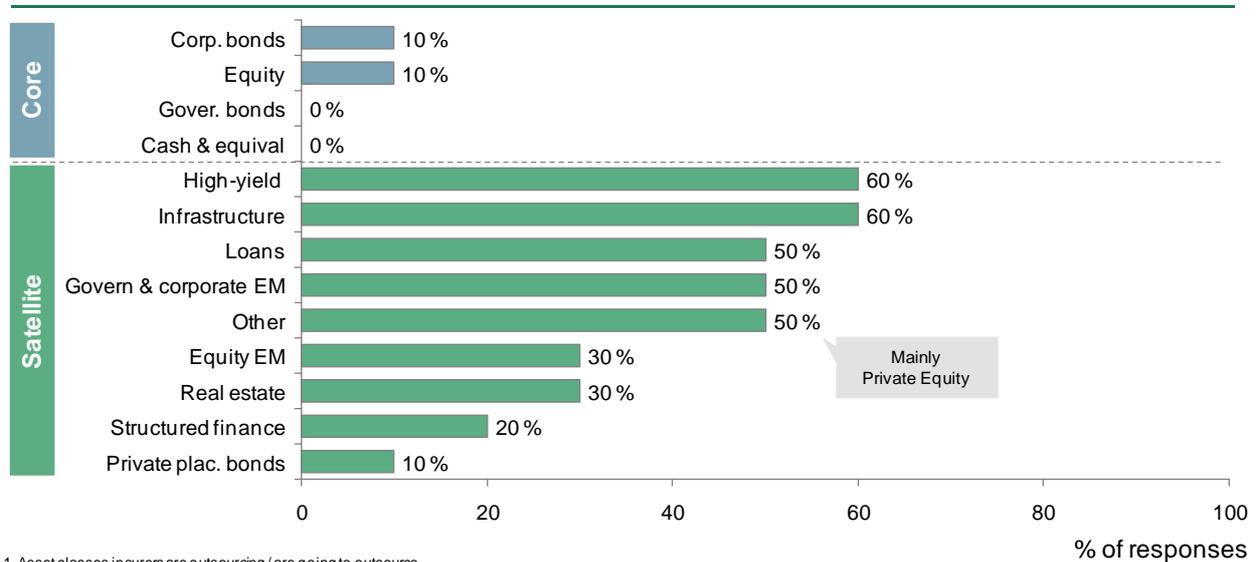
1. Assumed outsourced assets from European insurers to European asset managers and North America asset managers

Source: CEA, Patpatia Associates, Forex, BCG analysis

Those European insurers who are considering outsourcing are doing so primarily to assist with satellite asset classes, especially in high-yield and infrastructure asset classes. By contrast, fixed income portfolios are among the least likely to be outsourced. (See exhibit 15.)

Exhibit 15: Insurers are more likely to outsource satellite asset classes

With respect to your main accounts from Life policies / P&C policies, what asset classes would you expect to outsource in the medium to long term (e.g., 2/3 years from now)?¹
(Multiple choice)

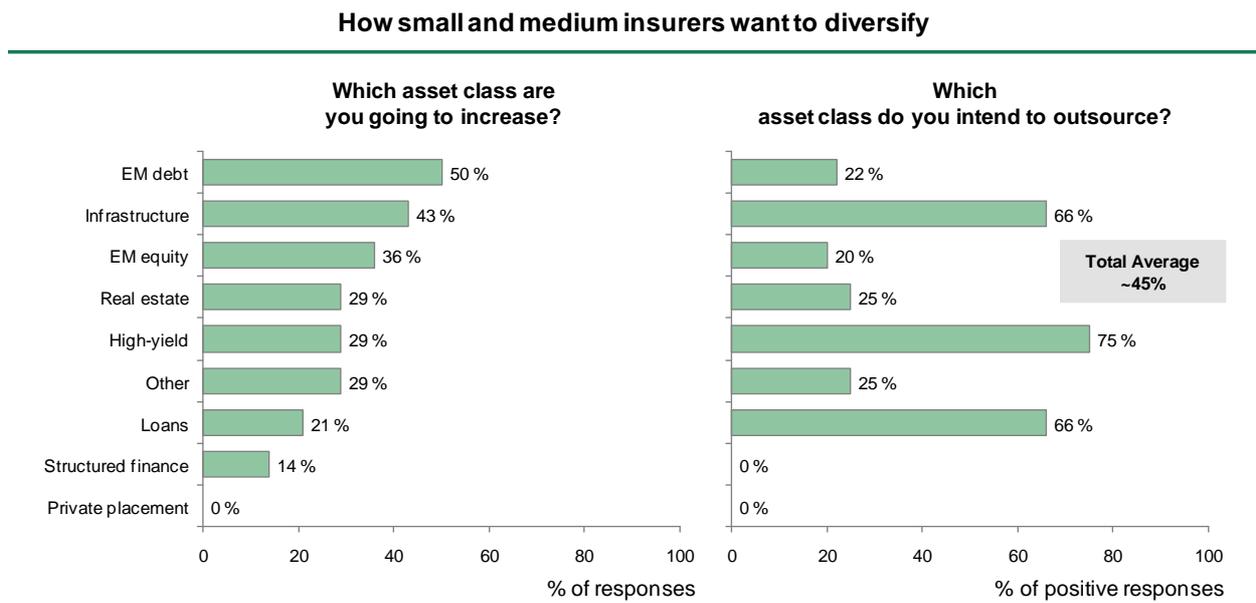


The survey reveals that small and medium sized insurers are more likely to employ external asset managers to diversify their portfolios. Nearly half of small and medium sized insurers who intend to increase their satellite asset class allocation, said they will do so via outsourcing, particularly with respect to high yield, infrastructure and loans, investment categories that are less familiar to many insurers. (See Exhibit 16.) Notably, most interviewees plan to keep emerging market equity and debt in-house, given difficulties finding an external asset manager with the right competencies.

Quotes from insurers:

- "Infrastructure is an undeveloped market. It is very difficult to elaborate business cases."
- "You need US-market specific competencies to play in high yield."
- "We don't have internal competencies to invest in the loan market."

Exhibit 16: Small and medium insurers are more likely to outsource



Key objectives and barriers of outsourcing

By far the biggest reason for insurers to outsource asset management is the accessing competencies that they do not have in-house. For example, to invest in emerging market debt and infrastructure, insurers need credit risk competencies. To acquire them, they can either build, through recruiting, or buy, through external asset managers. In choosing the latter, many say they enjoy having a partner with whom they can spar and exchange ideas on a variety of topics.

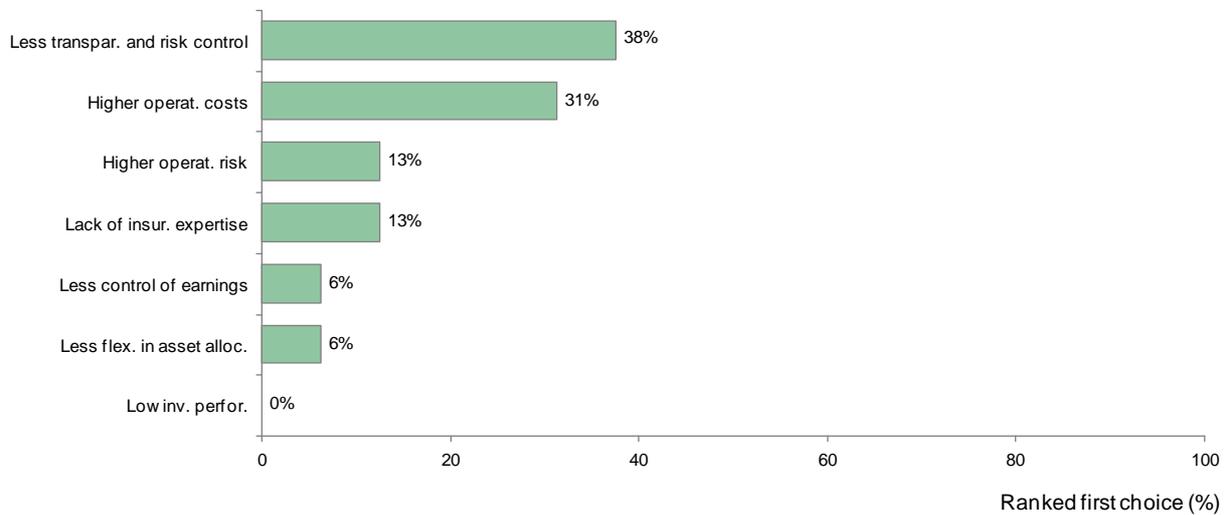
Quotes from insurers:

- "Outsourcing is a key lever to improve investment yield but the key competencies and processes, such as ALM and Strategic Asset Allocation, should remain inside the company."

Loss of control and transparency are the biggest barriers to outsourcing. Several interviewees noted that even if an insurer outsources its assets, it remains responsible for the investment returns. That puts the onus on effective management and governance. (See Exhibit 17.)

Exhibit 17: Insurers cite key barriers to outsourcing

**What are the main risks and challenges that would prevent your Group from considering outsourcing?
(Multiple choice)**



To address the possible loss of control, insurers defined five main criteria they use in selecting external advisors:

- Insurance specific capabilities in terms of investment approach (e.g., low portfolio turnover, absolute return investing), ALM needs, solvency needs, and reporting (e.g., look-through);
- Knowledge of local prudential and accounting regulations, especially when opting to outsource core assets;
- A sufficiently long track record of outperformance with a credible fund size;
- Technical competencies in the asset class;
- An investment process which is well defined, implemented consistently and is easy to understand; and
- The right structure for the given investment functions, e.g., having local presence in the case of emerging markets funds.

Concluding notes

Current best practice insurers have invested heavily in centralizing and optimizing their ALM processes. They evaluate their investments and hedging needs to actively manage interest rate and mismatch risks. They also assess what skill gaps they have in achieving their investment targets and take an objective view on whether to develop or outsource these competencies.

The survey also revealed that while large insurers have generally begun to embed ALM processes into their operations, medium and small insurers are still in the early stages of this journey.

Looking ahead, the survey's results raise several questions for insurers to consider:

- Are insurers well diversified in terms of asset mix? Are they really moving beyond traditional conservatism and tapping into the most attractive asset classes available in the market?
- Are insurers effectively adapting to regulatory changes by introducing ALM, governance and stronger risk management infrastructures?
- Do insurers have the internal know-how and capabilities to execute their asset diversification plans or do they require external investment support?

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