

June 2019



Investment Management

A creator of value in an insurance company



Investment Management

Insurance companies generally recognize the importance of separating the responsibility for managing their insurance businesses, from that of managing the investments backing their reserves and capital. Due to the scale of investments on an insurance company's balance sheet and the impact of investment results on its profitability, the management of these investments is a key function.

The Zurich Insurance Group (Zurich) commissions its Investment Management to manage the Investment Business and other

mandates as necessary to generate superior risk-adjusted investment returns relative to liabilities for the benefit of Zurich's shareholders and policyholders, and to generate positive impact to benefit society, the environment and the communities in which we live and work (integrating environmental, social and governance factors into the investment process).

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I. Investment Management in an insurance company

Capital markets will only provide higher expected returns when higher risks are attached

The global financial crisis in 2008 highlighted the importance of having a clear investment policy as well as a structured and disciplined investment process for insurance investment management. It also underlined the need for insurance companies to manage their assets relative to their liabilities. The application and success of this activity has been a major differentiator across the insurance industry in recent years. In addition, a market environment that was characterized by low interest rates and falling bond yields forced the insurance industry to focus on improving underwriting standards and enhancing business efficiency as investment returns diminished.

The nature of the insurance business requires significant capital, which needs to be professionally managed

Insurance companies sell protection to their customers, who pay premiums that are subsequently invested to cover future claims or benefits, administrative expenses and profits to shareholders. Regulators generally require insurance companies to hold sufficient assets to back liabilities in every insurance business. The reserves must suffice to pay-out expected claims and benefits, even in the unplanned case that the insurer stops writing new business. Thus, regulators require that insurers do not rely on new premiums to pay for claims and benefits underwritten in the past. As insurers continuously underwrite new business, they generally hold significant and relatively stable amounts of investments on their balance sheet.

Reserves generated by the insurance business are invested until they are needed for pay-outs. In addition, equity capital buffers help to ensure that the insurer has adequate funds to pay claims or benefits in scenarios in which actual pay-outs are larger than those reserved. Therefore, the investments on the insurer's balance sheets include reserves for expected claims and benefits as well as shareholder capital that acts as an additional buffer for unforeseeable events.

No extra return without extra risk is the guiding principle

An insurer aims to pursue investment strategies that focus on creating value for both policyholders and shareholders. In the insurance industry, attaining the optimum balance between risk and return remains the key challenge. Chasing higher returns has its downside: higher risk. Generally, capital markets will only provide higher expected returns when higher risks are attached. Investors will differ in their ability and willingness to chase returns and tolerate the resulting risks. When the financial crisis ensued in 2008, some investors were forced to sell their risky investments to mitigate the threat of insolvency, while others with sufficient capital were able to withstand the downturn, held on and benefited when markets recovered the following year. No extra return without extra risk is a principle that applies to all investors. The important corollary to this principle is that investors should have sufficient capital to bear the risks they take.

Investments are conducted within a highly regulated environment

Insurers' balance sheets are structured in line with accounting standards that define how assets and liabilities should be valued. These accounting values are often different from the economic 'market' values. This is particularly true for insurers' liabilities which, from an accounting perspective, are not always adjusted for market movements.

When developing their investment strategy, insurers must comply with various regulatory frameworks

Insurance companies are regulated in every market where they conduct insurance business. Regulators set solvency and other requirements for every local business that must be met in all circumstances. Some also require this at the aggregated Group level. The objective of solvency requirements is to ensure that insurers hold enough assets to pay out all claims at all times. Furthermore, insurance regulators also set requirements regarding the types of investments that qualify for solvency calculations, as well as regarding governance, risk management and disclosure.

When developing their investment strategy, insurers must comply with the various regulatory frameworks in the countries in which they operate. For example, some regulators do not allow certain investments, such as commodities and hedge funds, to cover reserves. In addition, regulators often discourage holding certain asset classes by imposing significant statutory capital requirements on them.

Investment risk for an insurance company has its own specific characteristics

Insurance investment risk is different from that which a typical fund manager would describe as investment risk. A typical fund manager invests on behalf of its clients and is usually focused on maximizing the investment returns relative to a prescribed market benchmark (e.g. S&P 500). Investment risk for fund managers is both absolute and relative. The absolute risk is the chance the market value of the underlying fund will rise or fall in a particular time period. The

relative risk is the chance the fund manager may out- or underperform the benchmark in a particular time period. However, both measures are focused on the asset side of the balance sheet only – little consideration is given to the client's liabilities. It is therefore left to the client to select the investments that meet the needs of the liabilities.

Risk in insurance investment management is akin to the fund manager's risk relative to its market benchmark or in the case of an insurance company, its liabilities. When an insurance company determines its investment risk appetite and investment strategy, it cannot ignore the liability side of its balance sheet – the reserves for future claims and benefits and shareholder capital. Thus, it is critical to understand the structure and duration of liabilities to make sure that the investment strategy is commensurate with being able to meet these future obligations.

Insurance companies have assets (investments) and liabilities (future claims and benefits), the values of which change as capital market conditions change. The challenge for insurance investment management is to manage the potential mismatch in value of its assets and liabilities and to ensure that such a mismatch will not endanger the company.

Insurance investment risk, therefore, is when investments become insufficient to pay the liabilities due to adverse changes in capital markets. The analysis and management of these relative movements is called Asset Liability Management (ALM).

Insurers' balance sheets are dominated by investments on the asset side and reserves for future claims and benefits on the liability side

Asset Liability Management monitors assets relative to liabilities

Insurers must hold enough capital to cover all eventualities. As a result, insurers must hold assets not just to cover the expected claims, but also unexpected larger claims, and be able to absorb adverse results from any asset-liability mismatch. This, additionally, necessitates that, when insurers hold more risky investments, they must have more capital to protect policyholders in the event that the riskier investments lose value. For example, since equities are generally more risky than government bonds, any insurance company wishing to invest in equities must hold more capital than they would for the same amount of government bonds. Consequently, the amount of capital required to protect policyholders for each type of investment must be considered in any investment decision.

Insurers' balance sheets are dominated by investments on the asset side and reserves for future claims and benefits on the liability side (Ignoring Unit Linked investments which have similar offsetting liabilities). Therefore, relative changes in value of investments relative to insurance liabilities can have a significant impact on shareholders' equity.

Chart 1 illustrates the importance of Asset Liability Management in managing an insurer's investments. This illustrative example shows that, if investments were to underperform by little more than 10% of the value of the insurance liabilities, shareholders' equity would be wiped out. This level of shareholder leverage makes ALM critical in Insurance Investment Management.

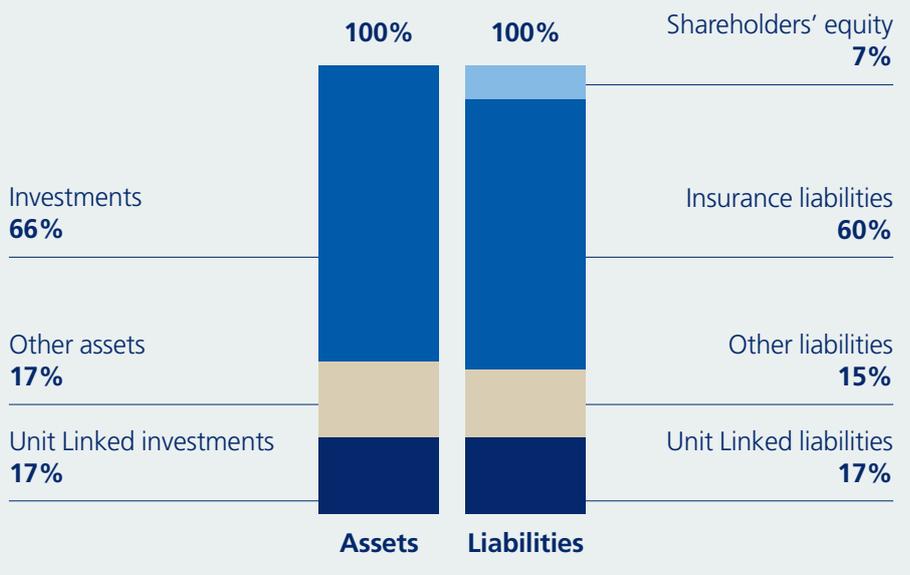


Chart 1: Illustrative and simplified balance sheet of an insurance company (%)

The Strategic Asset Allocation is the optimal mix of asset classes that offer the highest long-term expected investment return given Zurich's liabilities

Strategic Asset Allocation (SAA) determines the optimal mix of asset classes for Zurich

The mix of asset classes, such as fixed income securities, equities and real estate, along with liquidity, is commonly referred to as the Strategic Asset Allocation (SAA).

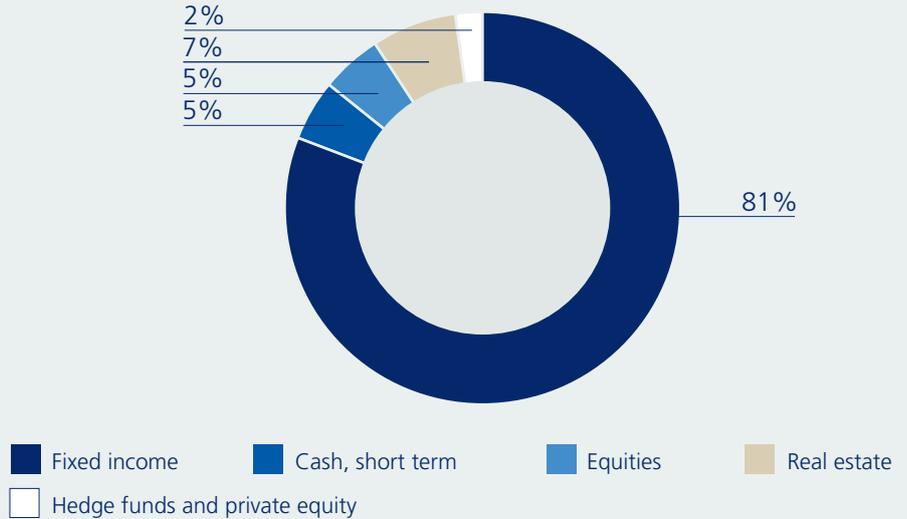


Chart 2: Illustrated Strategic Asset Allocation of Zurich (%) (excludes Unit Linked)

At first glance, it may appear that Zurich's asset allocation mix is overly conservative, with a high proportion of fixed income investments. However, also the potential impact of movements in financial markets on the valuation of the Group's total investments

and liabilities and the resulting impact on shareholder equity must be considered to fully understand the true exposures from a risk perspective. These well-balanced exposures are illustrated through the following examples.

Diversification provides significant risk mitigation

As illustrated in Chart 3, 55% of investment risks can be diversified through efficient asset allocation and effective diversification both within and across asset classes and between each asset class (i.e. the risk of holding many different securities across a number of asset classes is 55% below the sum of the individual securities' risks). Simply put, it pays 'not to have all of your eggs in one basket'.

Inclusion of liabilities reveals the true picture of risk

When liabilities are added to the risk calculation, the risk to Zurich's shareholder equity is reduced to 25% of the sum of undiversified single investment risks (i.e. 20 percentage points below the diversified 'investment only' risk view discussed above). This further illustrates that 75% of Zurich's investment risks are eliminated by optimizing portfolio diversification relative to liabilities.

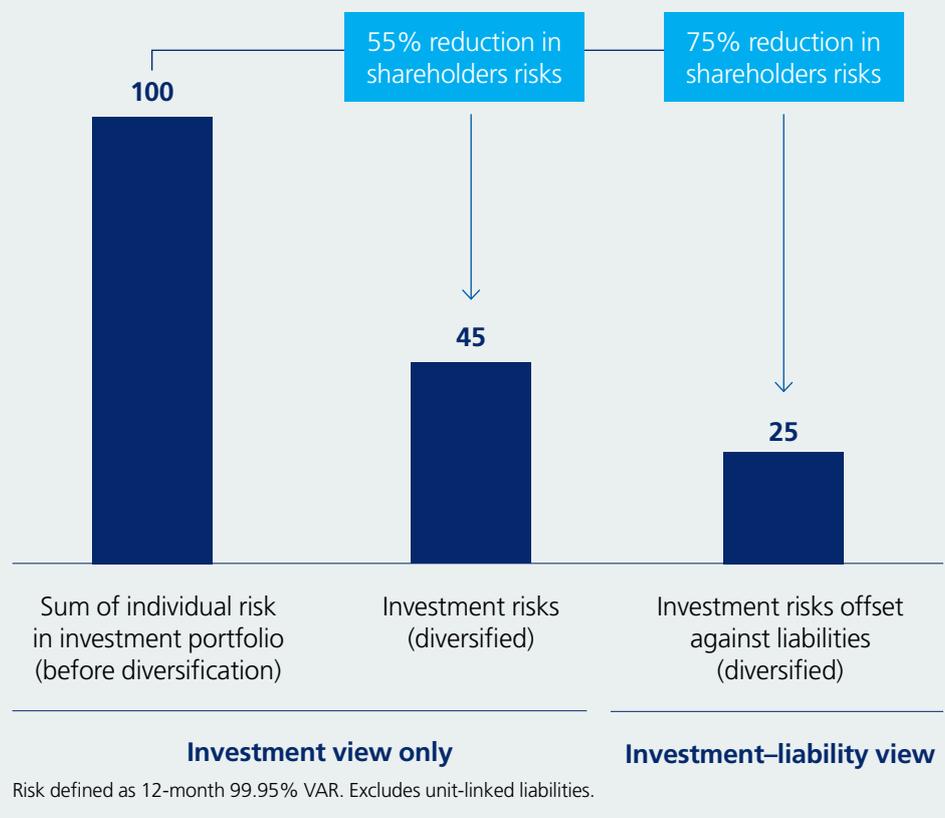


Chart 3: Illustrative impact on risk of diversification

This illustration underlines the importance of Zurich's well-diversified portfolio, but also of understanding the interaction between assets

and liabilities. Zurich's investment portfolio is balanced in terms of investment risks taken, and spread over a range of different risk types.

Zurich's investment portfolio is balanced in terms of market risks taken and spread over a range of different risk types

Consequently, when the asset allocation is looked at purely from a risk perspective, it can be seen in Chart 4 that risks are much more

balanced than implied from the asset class distribution previously shown in Chart 2.

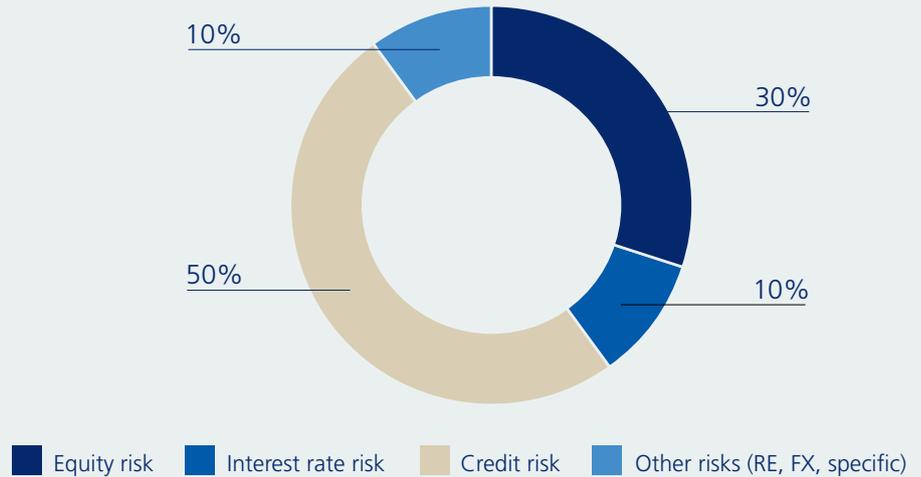


Chart 4: Illustrative breakdown of market risk of diversified investments relative to liabilities (%)

Market Strategy provides a consistent and profitable approach to asset allocation and market opinion for the Group

A clear view and deep understanding of both economic and financial markets is a prerequisite to being able to identify and exploit opportunities to generate excess returns (alpha). While over time markets are deemed to be fairly efficient, there are periods in which opportunities arise, allowing a skill-based investment approach to capture alpha across asset classes, by spotting mispriced assets, or trends that may persist.

Asset Manager Selection is integral to Zurich's model and is a valuable skill

Investment Management always aims to appoint the best manager for each portfolio, whether they are internal or external. A stringent, fact-based manager evaluation process is applied. Selection criteria include the performance record, investment philosophy and process, trade execution capabilities, risk management, organization and operations processes, as well as costs and responsible investment practices.

Portfolio Construction and implementation of the investment strategy are critical in the complex world of insurance

Implementing group-wide strategies quickly and effectively, while taking into consideration regulatory and financial requirements, is vital. Zurich is a global company, with over 200 balance sheets in more than 30 countries. Hence, Investment Management employs a team of Regional Investment Managers (RIM), who engage with Zurich's local investment teams, often led by a local Chief Investment Officer (CIO), and local business management. Together, they work to incorporate local constraints, such as regulatory restrictions, in addition to Environmental, Social and Governance (ESG) factors, into the implementation of the Group's investment strategy.

Investment Management creates value following a stylized investment process chain

Efficient Asset Management including security and asset selection, trade execution and transaction management adds extra return

Asset Management requires access to the best talent and research. Therefore, Zurich carefully analyzes whether portfolios should be managed internally or externally and if security selection is likely to add extra returns to a portfolio on a consistent basis. When appropriate, asset managers are selected for active portfolio management and they are carefully monitored to ensure performance is delivered consistently.

The external as well as in-house asset managers transact within their mandates and depend on an in-house Investment Operations & Accounting organization which turns positions and transactions into a global multi-GAAP accounting while supporting with regulatory reporting and analytics.

Investment Management Value Chain

The described process by which superior risk-adjusted investment returns relative to liabilities are generated is reflected in the Investment Management Value Chain that is fully aligned with Group Investment Management's organizational structure.



Chart 5: Investment Management Value Chain

II. Zurich's investment philosophy

Investment Management at Zurich Insurance Group aims to achieve superior risk-adjusted investment returns relative to liabilities. The focus is on value creation for all of Zurich's key stakeholders: our customers, shareholders, our people and the communities in which we live and work.

Economic value is created if the return on capital required to support the insurance investment risk is greater than the cost of

capital. Capturing this value requires that Investment Management should be a key function within the Zurich Group, in which insurance investments have to be analyzed and managed relative to liabilities. Generating superior returns requires taking additional risks, which necessitates a structured and disciplined investment approach. Zurich's investment philosophy can be articulated by four key principles that guide all investment decisions.

- 1. We aim to maximize economic objectives**
- 2. We aim to minimize unrewarded risks**
- 3. We believe that capital markets are fairly efficient over time**
- 4. We are a responsible investor**

At Zurich we strive to maximize rewarded risk with our allocated capital, while minimizing unrewarded risks

1. Maximize economic objectives

The investment function of a large insurance company such as Zurich is a highly complex business that involves many stakeholders with many different interests and opinions. Hence, defining a clear hierarchy of targets and priorities is of high importance to guide decision making. Investment Management at Zurich creates value by maximizing economic objectives.

Specifically, this means we:

- Strive to create long-term value by developing and implementing a global investment strategy that optimizes the investment risk/return trade-off for stakeholders
- Measure investment risks and returns relative to liabilities on an economic, market value basis
- Adhere to regulatory restrictions
- Minimize short-term activism and strive for best execution when transacting in the capital markets.

2. Minimize unrewarded risks

'Rewarded' risks are those that reward investors with a higher expected return (risk premium) for taking them. Examples are the equity risk premium and credit spreads. 'Unrewarded' risks

are those for which investors receive no expected compensation from markets. However, these risks can be diversified away at very little or no cost. Examples of unrewarded risks include holding only very few shares in an equity portfolio. Different investors have different investment strategies. However, systematically taking unrewarded risks does not create value. Not surprisingly, at Zurich we strive to maximize rewarded risk, and thus return, while minimizing unrewarded risks.

At Zurich, we avoid:

- Holding a concentrated portfolio – this increases risk but not necessarily return
- Frequent trading – trading always increases costs. These costs are certain, while additional returns from higher trading activity are uncertain
- Investing in instruments with complex and opaque risk and return characteristics, such as highly leveraged structured credit products.

3. Capital markets are fairly efficient over time

Over time, market forces eliminate deviations from an equilibrium (or fair value) of freely tradable assets. New public information is quickly incorporated into prices and expectations.

We can achieve a positive impact on society and the environment, with the highest standards of integrity, without sacrificing investment returns

In other words, Zurich takes note of the generally accepted view of academia and practitioners that investors cannot consistently earn a higher return without incurring higher risk. Consequently, we:

- Have the efficient markets principle as a reference point
- Have realistic expectations of returns
- Have a realistic view of our skills and those of our asset managers
- Only take risks that are expected to provide excess returns relative to liabilities
- Strive to identify inefficiencies when they do occur and rationally act on them.

4. We are a responsible investor

There are many different approaches to responsible investment. For Zurich, responsible investment is about achieving our mission of 'doing well and doing good', by not only creating long-term, sustainable financial value, in line with our fiduciary duty, but, at the same time, also creating non-financial value such as reduction of CO2 emissions. Responsible investment is not philanthropy. It is the creation of long-term benefits for all our key stakeholders, while remaining true to our proven approach of maximizing economic value based on a structured and disciplined investment process.

We believe that we can add this non-financial value through the proactive integration of relevant Environmental, Social and Governance (ESG) factors into the investment process across asset classes and alongside traditional financial metrics. By taking these actions, for example by exercising shareholder voting rights in our equity investments that are in line with ESG objectives, we can achieve a positive impact on society and the environment, and promote governance practices consistent with high standards of integrity, without sacrificing investment returns. In addition, impact investing allows attractive investment returns to be captured, while making a tangible and measurable contribution to the environment and our communities.

Sources of investment return are clear and unambiguous

Having identified our four guiding principles, we have determined three sources (a. minimum risk return, b. 'beta' and c. 'alpha') of investment returns from which we can achieve our mission of superior risk-adjusted returns relative to our liabilities.

a. Minimum risk return

In the insurance context, the minimum risk return is normally the yield on a government bond portfolio of the highest available credit quality. Ideally, this should have the same maturity profile as the underlying insurance claims or benefits that

need to be paid in the future. For example, the minimum-risk investment for certain business lines in Zurich's non-life insurance business is close to the yield on a three-year government bond.

b. 'Beta' (market return) can be earned by taking on additional market risks

Certain types of investments, such as equities, corporate bonds and real estate, provide higher expected returns compared to the minimum-risk return. However, investors can only capture these extra returns if they:

- Have a long-term strategy to take the necessary risks
- Understand the risks they incur
- Can afford the risks they are taking at any time by holding sufficient capital.

In addition, the fact that illiquid investments cannot be easily sold requires that investors are provided with an additional 'reward' for taking on this risk. Insurance companies can have long-term (30 years or more) and relatively static liabilities. This positions them well to invest in illiquid, long-term assets such as real estate. This can provide the insurer with additional income and may also aid in better matching assets to long-term liabilities. Consequently, Zurich has identified a portion of its balance sheet to dedicate to capturing this illiquidity premium.

c. 'Alpha' (skill-based return) can be generated through the application of skill and judgement

Generating alpha requires the skill to identify and exploit profitable investment opportunities. Given that financial market prices generally adjust quickly to new information, skill-based returns are difficult to generate and unpredictable. Across all investors, they aggregate to zero (before cost). That is, alpha is a zero sum game: for every investor who earns positive alpha, there is an investor who earns negative alpha. The more efficient the market and skilful investors are, the more difficult it will be for an investor to consistently earn positive alpha. Incremental alpha can still be significant and worth pursuing, but investors have to be realistic about their own skills and those of their asset managers. Only a small proportion of investment returns can be expected to be generated this way. Consequently, Zurich adopts a selective and targeted approach to capture alpha.

By combining our four key principles with targeted sources of returns, Zurich has established a philosophy enshrined in our investment process conducted globally.

III. Investment Management as a business

Investment Management

The last piece on how we think about value creation within Investment Management is our focus on five business areas.

At Zurich, Investment Management is a global business that engages in five distinct yet interlinked business areas:

- Insurance Investment Management
- Asset Management
- Investment Operations
- Unit Linked Investments
- Advisory

At Zurich, Investment Management is a global business that engages in five distinct yet interlinked business areas

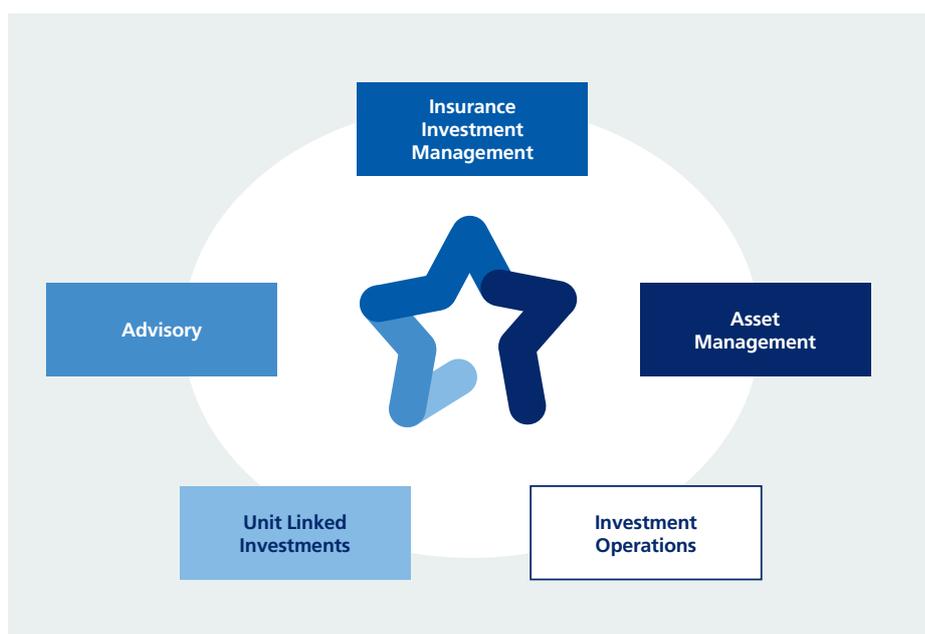


Chart 6: Five business areas of Investment Management

Investment Management business areas are distinct in their client base, the markets and competitors

These business areas are distinct in their client base, the markets and competitors. Each business area has different drivers of competitive advantage. Yet they are interlinked – each one of the business areas supports or enables other areas of the Investment Management business.

Insurance Investment Management: Insurance companies need to hold sufficient assets to back liabilities, including equity buffers to ensure the insurer has adequate funds to pay claims even when unforeseeable events occur. Insurance Investment Management is the key function which ensures this can happen while at the same time generating superior risk-adjusted returns relative to our liabilities. This business area is core to Investment Management at Zurich.

Asset Management: Investment Management invests long-term in a variety of asset classes, including less-liquid assets such as corporate lending, real estate and infrastructure debt, while continuing to select equity and corporate bond holdings through qualified internal and external asset managers. The Asset Management business area covers the internal portfolio management teams who manage a portion of Zurich's investment portfolio for Insurance Investment Management, Unit Linked and Third Parties. The portfolio managers select the individual securities to invest in, adding value to Zurich through alpha generation.

Investment Operations: The business area of Investment Operations provides the foundation for Investment Management's investment processes. The external as well as in-house asset managers are supported by investment administration and accounting teams who capture and settle transactions, maintain investment positions, do account bookings and reconciliations and close the various IFRS and local GAAP investment sub-ledgers. The Investment Operations business area also provides various investment and regulatory reporting, insights and analytics, thereby supporting the Insurance Investment Management and Unit Linked business areas.

Unit Linked Investments: Unit Linked investments are the investments of our insurance clients - Investment Management provides the investment expertise to the life insurance businesses through, for example, insurance product development, Asset Management and advisory services.

Advisory: The Advisory business area is an integral part of Investment Management and provides services to various clients of Insurance Investment Management, Asset Management and Unit Linked Investments. Services include strategic asset allocation, asset manager selection, market strategies and macroeconomic research.

Conclusion

It is important to remember that all of the activities undertaken by Group Investment Management are driven by our mission to generate superior risk-adjusted investment returns relative to liabilities. In order to meet the challenge of achieving this mission, Group Investment Management is required to continuously explore and exploit new

opportunities and improve its investment and business strategy. Through a clear and disciplined framework, populated by a team of leading investment professionals, Zurich is in a strong position to continue to generate positive impact to benefit society, the environment and the communities in which we live and work.

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