Our experience and competencies
Aon Hewitt has accumulated considerable expertise in ALM studies for Swiss occupational benefit institutions. We have been carrying out ALM studies for pension funds, collective pension foundations and other institutional investors since 1997.

With offices in Bern, Zurich, Nyon and Neuchâtel and a staff of about 200 employees, we are the leading pension fund consultant in Switzerland.

Our team of pension fund experts and investment specialists combines a broad range of skills and expertise, which guarantees a balanced presentation of both the assets and liabilities sides of the balance sheet. We conduct stochastic (random-based), and on request deterministic, simulations of assets and liabilities.

Our in-depth understanding of the specificities of the actuarial context and Swiss framework conditions enable us to realistically map trends in actuarial capital and other key values under different scenarios.

Our solution
Our ALM studies are based on iGALM (interactive Global ALM), our proprietary ALM model. This model presents the expected development of assets and liabilities over a longer time frame, as a rule 10 years. iGALM contains a sound financial and theoretical capital-market model which can be customised for the stochastic simulation of realistic scenarios (Monte Carlo method).

The assumptions pertaining to investment performance, volatility and correlations are reviewed and adjusted quarterly in the framework of a clearly defined process and taken over accordingly in the ALM model. Our analyses thus capture the dynamics of the financial market environment.

The probability distributions of results can be determined through the simulations. In the process, underfunding risks and possible deficit magnitudes are depicted for example. In a step-by-step investment strategy optimisation process, the 2 - 3 most efficient alternatives are determined and compared with the current investment strategy.

The most suitable investment strategy for a pension fund or investor depends on the latter’s risk capacity and risk tolerance. With regard to implementation, moreover, practicability, cost and reputation play an essential role.
ALM results

The most important results of an ALM study are:

- Assessment of risk capacity in terms of investment policy
- Qualitative and quantitative analysis of the current investment strategy and proposals for improvement
- Stochastic simulation of assets and liabilities
- Expected net cash flows over a 10-year horizon
- Optimal asset allocations for each class of risk within the given risk tolerance
- Expected evolution of target values (e.g. funded status), the probabilities of attaining those target values and the corresponding risks (value at risk and conditional value at risk)
- Definition of a risk budget
- Determining gross and net target returns
- Calculation of investment fluctuation reserves

Future risks and opportunities are mapped and presented based on these results. We believe it is essential to provide decision-makers (e.g. the pension board) with a clear and comprehensible presentation of the ALM process phases and results so that they may draw their own conclusions.

The following table shows how the output of our ALM studies is presented with reference to the simulated development of funded status (based on 10,000 stochastic simulations):

The 95% value at risk (VaR) for funded status in 2015 is 77.7%. With a 95% probability, funded status will not drop below 77.7% until 2015. The conditional value at risk (CVaR) for funded status in 2015 is 70.8%. If funded status falls below the VaR in 2015, then its expected value will be 70.8%.
Important differences in ALM studies

Depending on the provider, ALM studies differ significantly in terms of scope, depth and independence. Our ALM studies are independent from banks and insurance companies. Since we do not sell investment products or insurance solutions, our recommendations are guided exclusively by the client’s interests. Other important differences, which we would be happy to explain more fully at a personal meeting, are:

<table>
<thead>
<tr>
<th>Subject</th>
<th>Standard ALM studies</th>
<th>Aon Hewitt ALM study</th>
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</thead>
<tbody>
<tr>
<td>ALM model</td>
<td>Standard solution</td>
<td>Flexible modelling based on client-specific parameters</td>
</tr>
<tr>
<td>Integrated actuarial, financial and economic perspective</td>
<td>Focus on assets or liabilities</td>
<td>Focus on both assets and liabilities</td>
</tr>
<tr>
<td>Modelling of assets and liabilities</td>
<td>Often only deterministic</td>
<td>Stochastic or deterministic</td>
</tr>
<tr>
<td>Qualitative research on asset classes</td>
<td>Hardly done</td>
<td>Specialised research teams per asset class</td>
</tr>
<tr>
<td>Capital market model</td>
<td>Often omitted</td>
<td>Consistent global capital market model</td>
</tr>
<tr>
<td>Risk and return assumptions</td>
<td>Annual</td>
<td>Updated quarterly</td>
</tr>
<tr>
<td>Risk premiums</td>
<td>Static concept</td>
<td>Dynamic concept</td>
</tr>
<tr>
<td>Taking into account implementation</td>
<td>Incomplete or not done at all</td>
<td>Implementation is integrated</td>
</tr>
<tr>
<td>Risk budgeting</td>
<td>Strategy only</td>
<td>Strategy, bandwidths and implementation (active/passive)</td>
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</tbody>
</table>

Modular concept

At the client’s request, our ALM studies can be supplemented by the following modules:

<table>
<thead>
<tr>
<th>Description</th>
<th>Results</th>
</tr>
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</table>
| 1. Adjustment of discount rate and possible conversion rate (possibly combined with an increase in savings contributions) | • Effects on actuarial balance sheet  
• Expected funded status over 10 years  
• Expected funded status compared with current discount rate  
• Probability of falling below a minimum funded status (VaR)  
• Effects on required investment fluctuation reserves                      |
| 2. Half-day workshop for Pension Board members                              | • “The journey is the reward”: Recognising the uses and limits of ALM studies  
• Compliance with the training requirements under Article 51a(i) BVG/LPP                                                 |
| 3. Effects of temporary remedial contributions and/or reduction in benefits | • Considerations on the pension fund recovery capacity  
• Implications for various parameters (funded status, investment fluctuation reserves)                                       |
| 4. Stress tests for 3 specific ex-post scenarios                            | • Consideration of specific risks on the assets side  
• Results of the stress test for 3 specific scenarios (e.g. stock market crash)  
• Effects on various parameters (funded status, investment fluctuation reserves)                                           |
| 5. Implementation concept for selected asset classes (e.g. Private Equity)  | • Proposal for strategy-consistent implementation  
• Weighting of asset sub-categories  
• Recommended investment instruments  
• Recommended benchmark index                                                  |
| 6. Support for new mandate structure                                         | • Implementation proposal for a cost-efficient core-satellite structure  
• Number of mandates and funds  
• Investment approach (passive, enhanced, active) recommendation for each asset category                                  |

Depending on the client’s individual circumstances and needs, this process facilitates implementation of an integrated and consistent investment solution.
Project implementation

A typical project involves the 5 stages described below. The kick-off meeting is especially important since this is where we identify and record the client’s needs and define all the relevant parameters. The client specific requirements are also taken into account.

1. **Joint kick-off meeting with pension fund representatives**
   - Determine ALM data and assumptions
     - Assumptions concerning development of membership figures
     - Discussion of assumptions on expected returns, volatilities of individual asset classes and correlations
     - Investment restrictions / investment regulations
     - Determining security levels and risk tolerance
     - Relevant dates (reference dates, etc.)
     - Time schedule and deadlines

2. **ALM-Modelling**
   - Client-specific adjustments to our capital market model based on the agreed assumptions
   - Liabilities modelling based on the actual parameters in the pension fund regulations
   - Retirement savings capital, actuarial reserve and cash flow projections over the 10-year planning horizon

3. **Stochastic (and deterministic on request) simulations**
   - Definition and analysis of possible investment strategies
   - Simultaneous simulation of assets and liabilities for each selected investment strategy (normally 10’000 projection paths for each asset allocation)
   - Presentation of main results, in particular expected development of funded status, underfunding risks, scope of a possible deficit and cash flows
   - Definition of the best investment strategy for the various risk levels
   - Calculation of investment fluctuation reserve based on the agreed security criteria

4. **Interim meeting**
   - Interim report presenting the first results and evaluations
   - Presentation of simulation results
   - Recommendation of 2 - 3 efficient investment strategies with different risk levels
   - Calculation of the relevant investment fluctuation reserves
   - Further recommendations for the recovery of financial equilibrium and full risk capacity over the medium term, where applicable
   - Discussion of desired changes and additions

5. **Closing meeting**
   - Presentation and discussion of final report
   - Recommendations in the framework of the investment strategy
   - Further results of the ALM study
   - Definition of further procedure

To learn more about the advantages of an Aon Hewitt ALM study, contact us for a personal meeting.

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**About Aon Hewitt**

Aon Hewitt is the global leader in human resource solutions. The company partners with organisations to solve their most complex benefits, talent and related financial challenges, and improve business performance. Aon Hewitt designs, implements, communicates and administers a wide range of human capital, retirement, investment management, health care, compensation and talent management strategies. Aon Hewitt is represented worldwide with 29,000 employees in 90 countries. In Switzerland, more than 200 employees are at your service in Aon Hewitt’s offices in Berne, Geneva, Neuchâtel, Nyon and Zurich. For more information on Aon Hewitt, please visit www.aonhewitt.ch.