

A photograph of a man and a young boy on a wooden dock by a lake. The man, on the left, is wearing a white shirt and dark pants, leaning over a white bucket. The boy, on the right, is wearing patterned shorts and is also leaning over the bucket. The background shows a calm lake with rocks and a red house on the shore under a clear sky.

IF'S INTERNAL MODEL

Daniel Rufelt

Head of Capital Management



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AGENDA

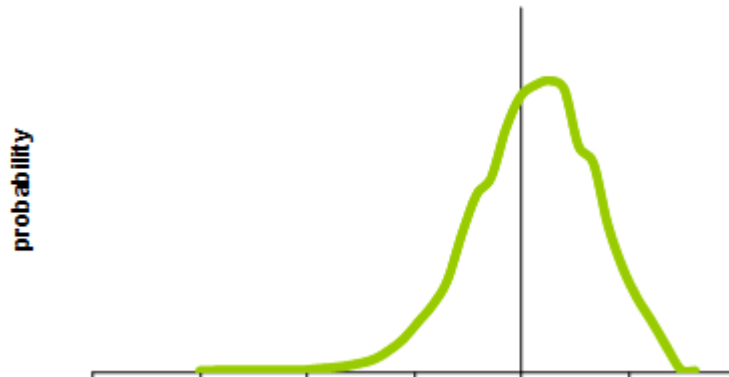
- Overview of If's Internal Model.
- Differences to the Solvency II Standard Formula.
- Insurance risk diversification.
- Impact on the solvency position for If Sweden.



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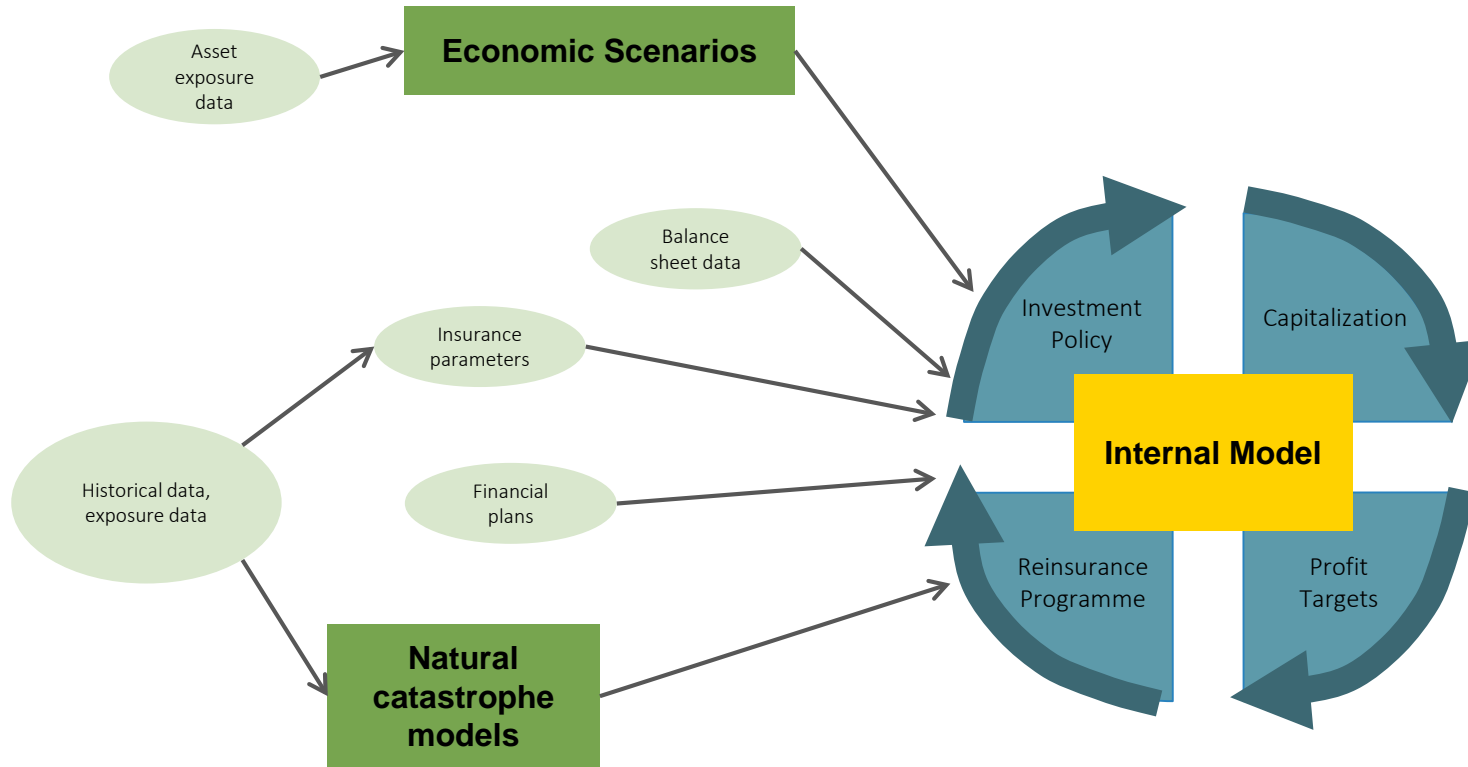
INTERNAL MODEL OVERVIEW

- A stochastic model for the aggregated risk within If.
- Covers insurance risk and market risk, bottom-up approach.
- In full use within If since 2003.
- Approved for Solvency II SCR for Insurance risk in If Sweden.
- Recognized by Standard & Poor's in the rating assessment.
- Gives If an independent model-based view on the capitalization.



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INTERNAL MODEL OVERVIEW

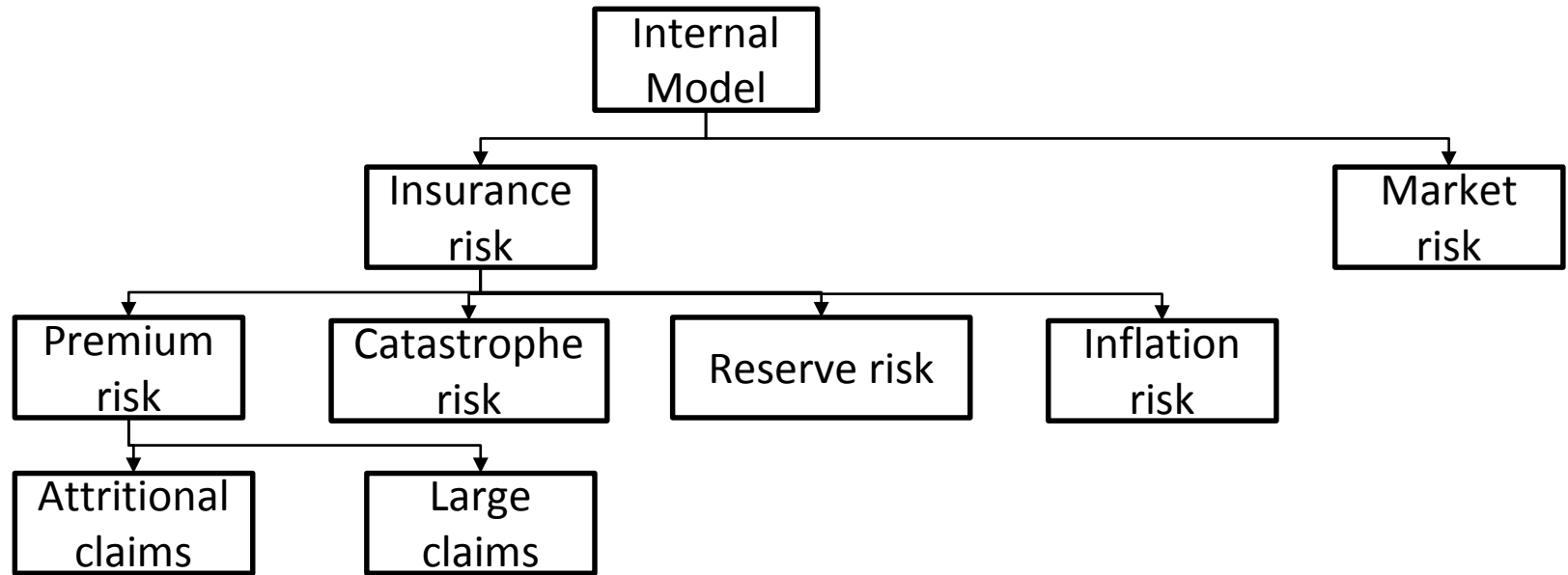


- A combination of internal methods and data, and external models for natural catastrophe risk and economic scenarios.



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INSURANCE RISK IN THE INTERNAL MODEL



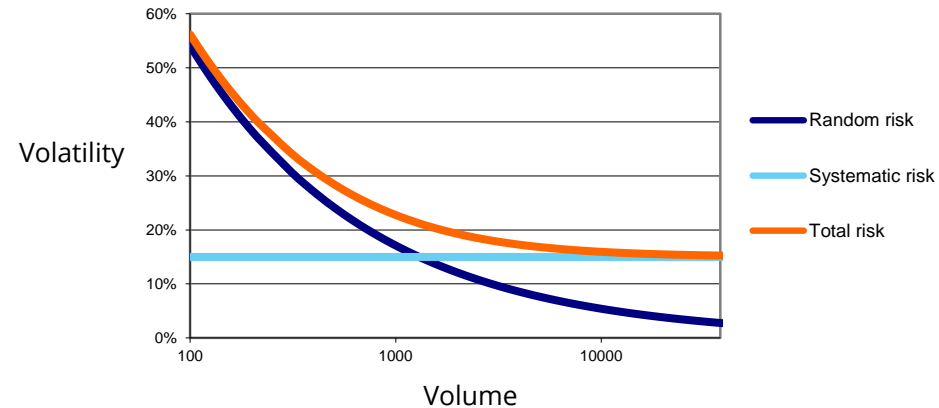
- Based on actuarial methods, historical data and expert judgement.
- Premium risk: New accident year risk split into frequency claims and large claims.
- Catastrophe risk: Exposure based modelling, external catastrophe models.
- Reserve risk: Risk related to previous accident years, bootstrapping methods.
- Inflation risk: Modelled with economic scenarios for CPI.



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INSURANCE RISK EXAMPLE: ATTRITIONAL CLAIMS

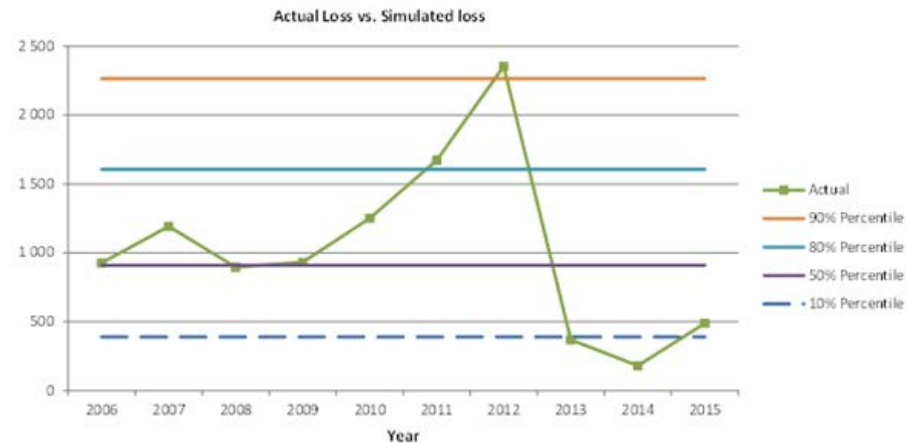
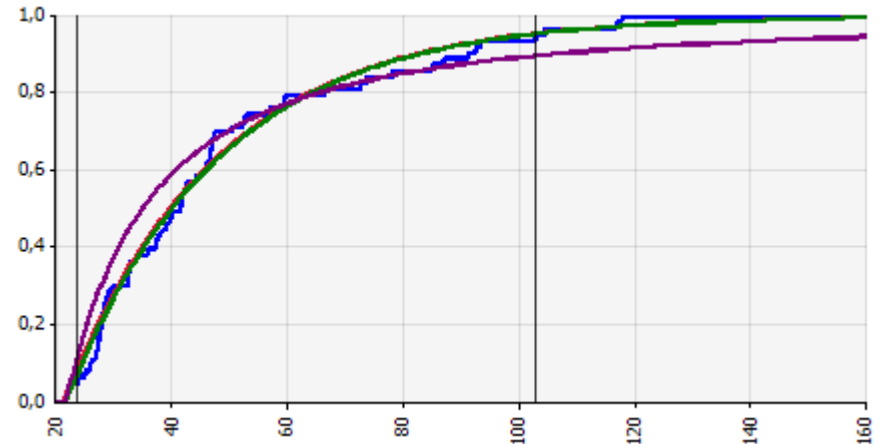
- Analysis of historical claims data, both frequencies and severities.
- Covers both random risk and systematic risk.
- Appropriately reflects the impact of both parameter uncertainty and portfolio size.



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INSURANCE RISK EXAMPLE: LARGE CLAIMS

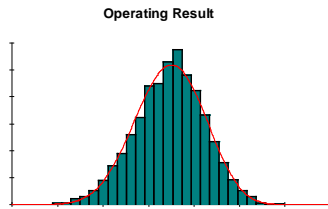
- Analysis of historical claims data, including effects of claims inflation and exposure changes.
- Discussions with business experts.
- Back-testing of the model compared to realised outcomes.
- Simulation of individual claims in the Internal Model, applying reinsurance programs where applicable.



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INTERNAL MODEL USE: CAPITAL ALLOCATION

Internal Model

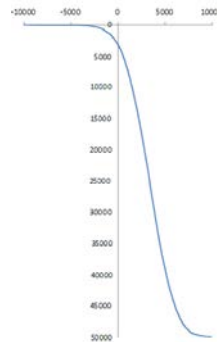


Simulations of profit and loss

Claims, premiums

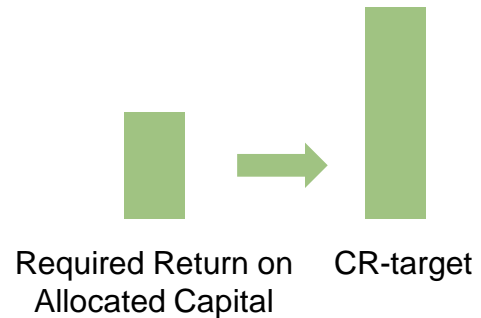
For all LoBs and aggregated

Allocation of capital



Allocate capital to LoBs/BAs

Calculation of CR targets



Calculate CR-targets

'Backward calculation'

The same return on capital required for all LOBs

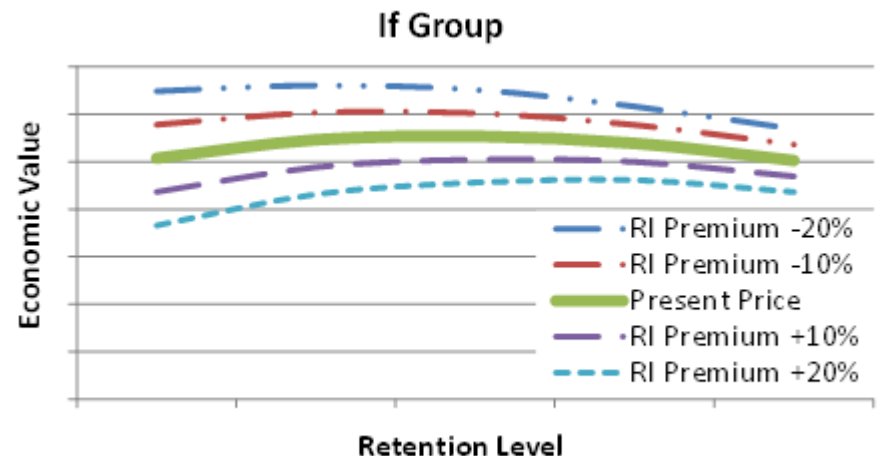
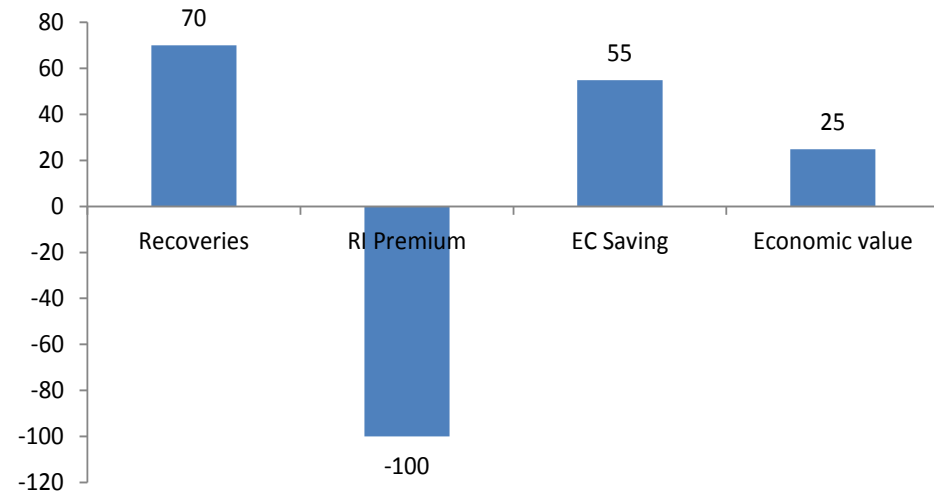
Investment income is allocated to LOBs



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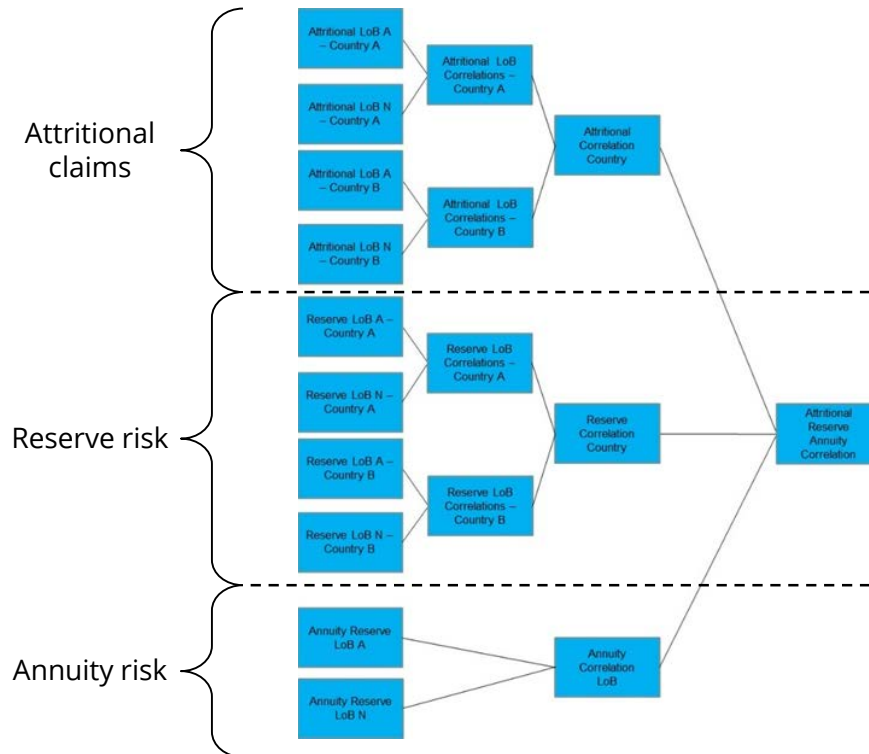
INTERNAL MODEL USE: REINSURANCE ANALYSIS

- Economic value of core reinsurance is compared for different alternatives.
- The main focus is to evaluate and optimize the core reinsurance, including retentions.
- Where applicable, also the capacity is evaluated.



DIFFERENCES TO THE SOLVENCY II STANDARD FORMULA

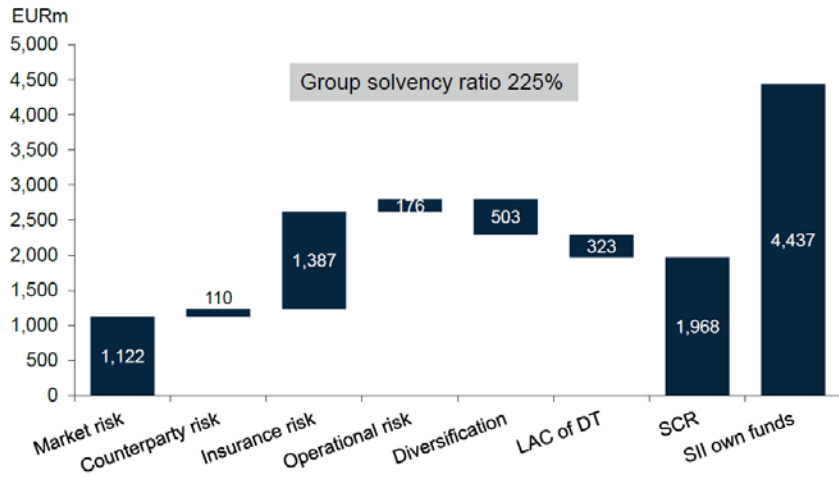
- Simulation of all possible outcomes instead of specific scenarios.
- Bottom-up model based on If's historical data and not generic EU data.
- Overly prudent calibration avoided.
- Appropriate recognition of diversification, including geographical.



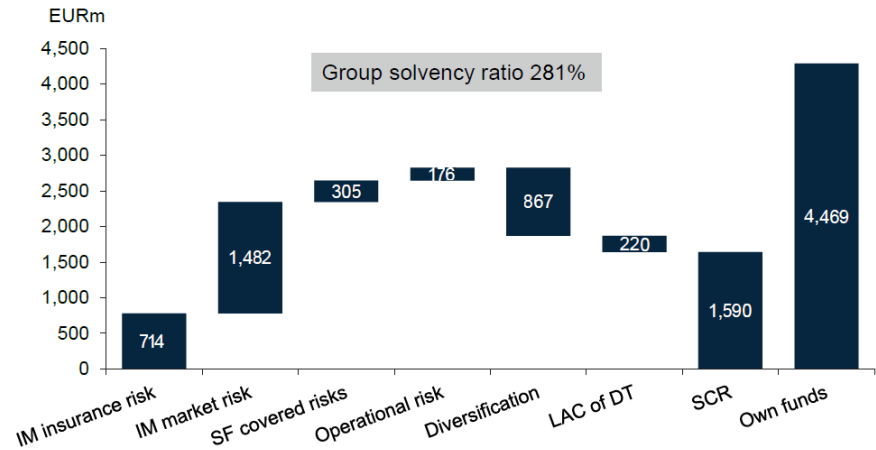
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DIFFERENCES TO THE SOLVENCY II STANDARD FORMULA

If P&C, Solvency Capital Requirement (SCR), Standard Formula (SF), 30 June 2017



If P&C, Solvency Capital Requirement (SCR), Partial Internal Model (PIM), 30 June 2017



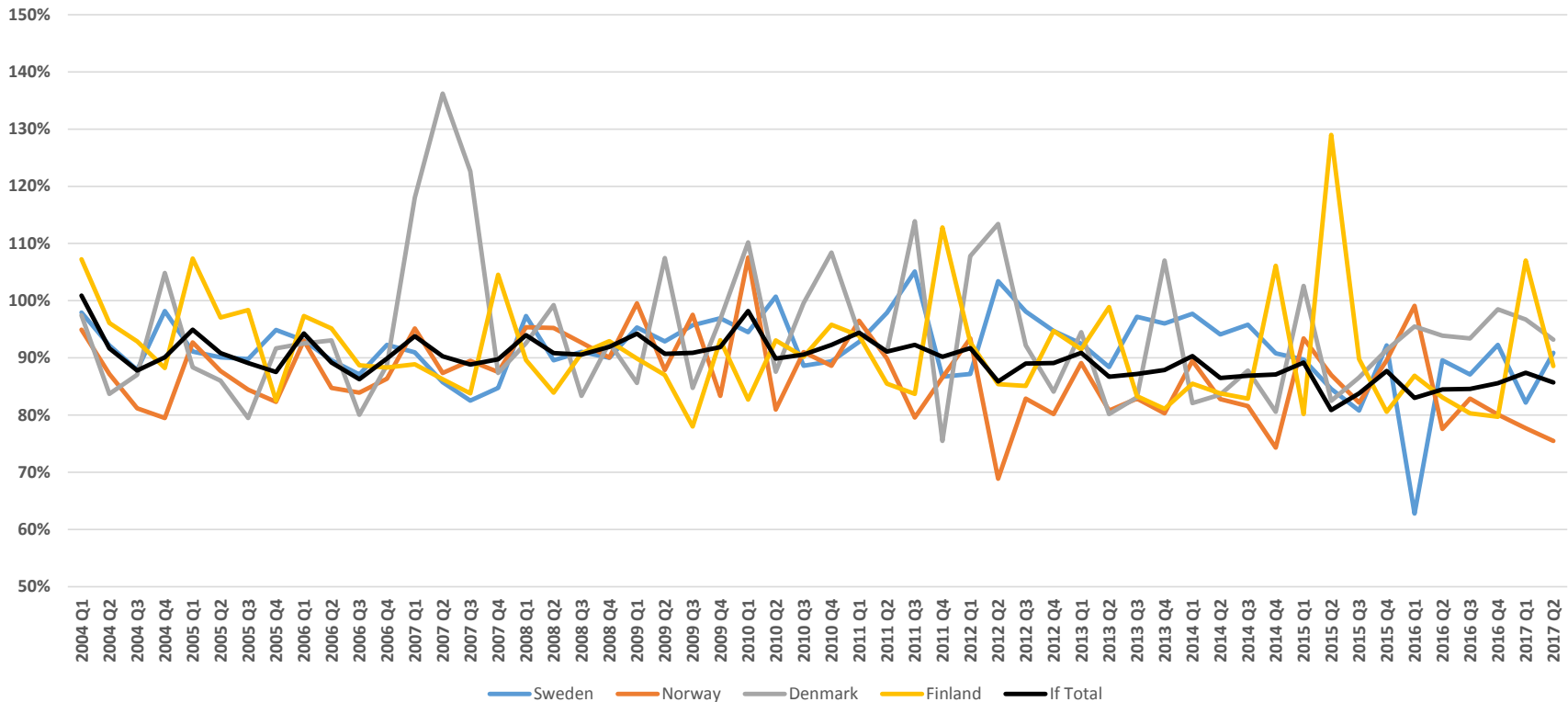
- The main driver for the lower insurance risk is differences in diversification effects, but also differences in calibration per line of business.
- The Standard Formula market risk include the effect of the equity transitional measure.



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INSURANCE RISK DIVERSIFICATION

Combined Ratio per quarter 2004 - 2017

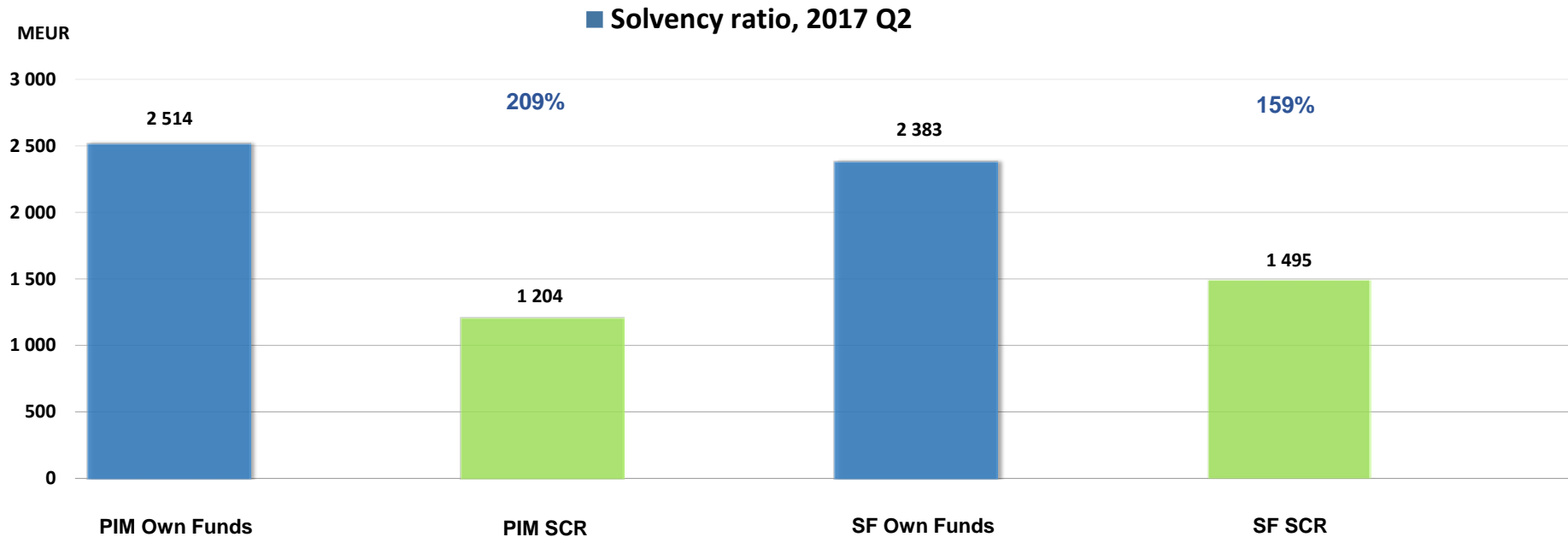


- Significant diversification between lines of business, business areas and countries, all reflected in the Internal Model.
- Net aggregated level of insurance risk low due to diversification, size and reinsurance protections.



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IF SWEDEN SOLVENCY IMPACT, Q2 2017



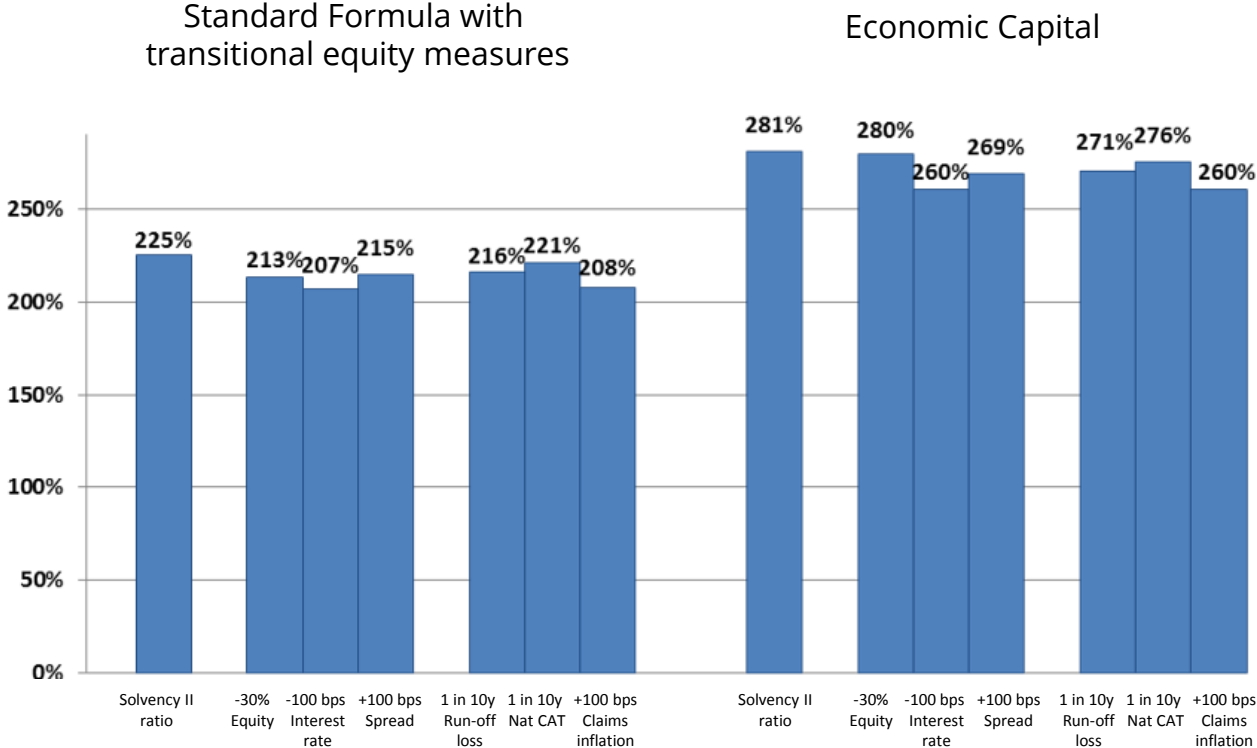
- The Partial Internal Model application for Insurance risk for If Sweden was approved in November 2016.
- Positive impact of the Internal Model approval both on the SCR and own funds.



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IF GROUP – SOLVENCY RATIO STRESSES

ESTIMATION OF STRESS IMPACT ON SOLVENCY II SOLVENCY RATIO



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SUMMARY OF THE IF INTERNAL MODEL

- An aggregated risk model covering insurance risk and market risk, utilized for assessing capitalization, allocating capital and for optimization.
- The insurance risk diversification provides a stable basis for low volatility.
- The Internal Model has a positive impact on the regulatory solvency position and on the S&P rating assessment.



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