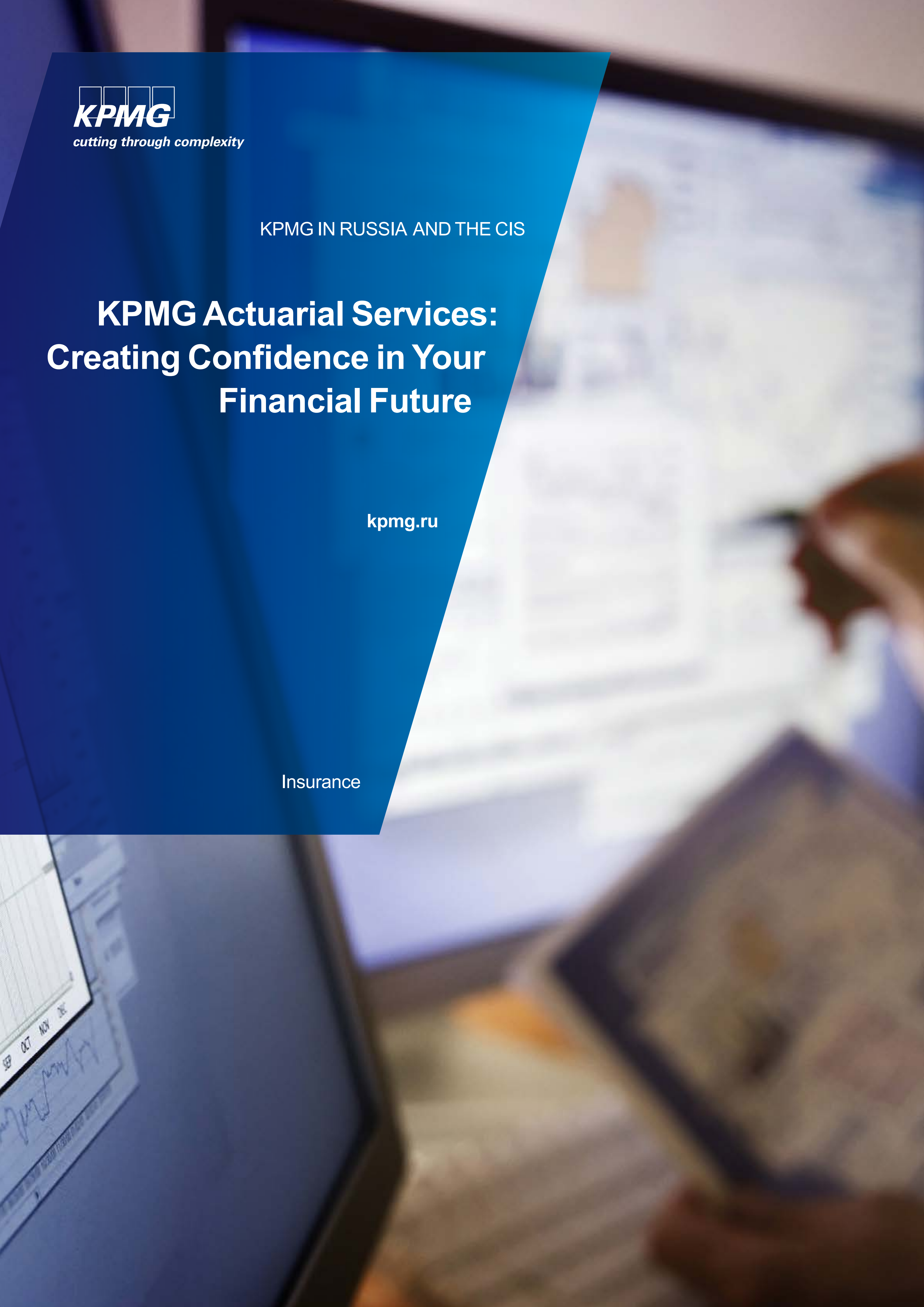


KPMG
cutting through complexity

KPMG IN RUSSIA AND THE CIS

KPMG Actuarial Services: Creating Confidence in Your Financial Future

kpmg.ru

Insurance

Contents

Services We Offer

KPMG Russia offers a wide range of valuation and advisory actuarial services, which include reviewing reserve amounts, providing reinsurance services advisory, analysing underwriting policies, and managing solvency capital requirement risks in both the life and non-life segments.

We provide actuarial consultancy services including valuation of pensions and other long-term employee benefits. In particular, we can assess their impact on financial reporting, as well as advise on the best ways to restructure and unify pension plans. We offer employee training on how to perform actuarial valuations of pensions and other long-term benefits, aimed at ensuring financial reporting can always be carried out in accordance with IAS 19 “Employee Benefits”.

In addition, we offer consulting services on performing actuarial valuations on the liabilities of non-state pension funds (NSPF) in accordance with IFRS 4 “Insurance Contracts”. This includes developing liability valuations and accounting policies to analyse cash flows. KPMG can also assist NSPFs when applying IFRS for the first time, by helping to develop and automate their liability valuation models.

When advising insurance companies, we actively collaborate with our KPMG management consultants and professionals from audit and advisory. By pooling our resources in such a way and working across departments, we can add extra value to projects requiring the application of IFRS and US GAAP. We offer risk management, due diligence and M&A consulting services, particularly in projects involving provision of actuarial analysis.

KPMG Actuarial Practice

The Actuarial Services Group at KPMG Russia and the CIS is composed of 10 analysts, and is part of the international KPMG actuarial practice. The KPMG international actuarial practice connects over 700 professionals from 20 European countries and provides actuarial insights to leading companies from all sectors of the economy.

Central Actuarial Services Group of KPMG is based in London and is a part of the Financial Services Department. It offers actuarial analysis and related services in almost all areas of the actuarial profession, including life and non-life insurance, pensions, medical insurance, investments, financial reporting, risk management and corporate governance.

Employees in the Actuarial Services group of KPMG in Russia and the CIS are members of various Russian and international actuarial societies, such as the UK Institute of Actuaries, the International Actuarial Association and the Russian Guild of Actuaries.

Types of Actuarial Services

Valuations of Benefit Obligations

Many large corporations, from manufacturers through to energy firms, are offering their employees, in addition to state pensions, additional social benefits that are designed to retain and motivate the most highly-qualified specialists.

While the introduction of employee benefits and new pension plans is beneficial to the company, they often create new reporting problems.
The long-term benefits that are expected to be paid out in periods larger then 12-month must be valued in accordance with IFRS or US GAAP.

Valuation and consolidation of pensions and other long-term employee benefits in financial reporting

We offer benefit obligation valuation services, as well as related support services. We also assist in preparing the necessary actuarial reports and accounting entries.

Pensions and other long-term benefits are highly sensitive to changes in actuarial assumptions. Graph 1 above depicts the sensitivity the main types of pension obligations have to changes in the discount rate.

The above benefit obligations can be either considerably underpriced or have an insufficient asset base, which may potentially carry a significant financial risk.

Our team offers a range of services on valuing the funding status of employee obligations in respect to employee benefits. Valuations are based on the rules governing the participation in these plans for current and future employees.

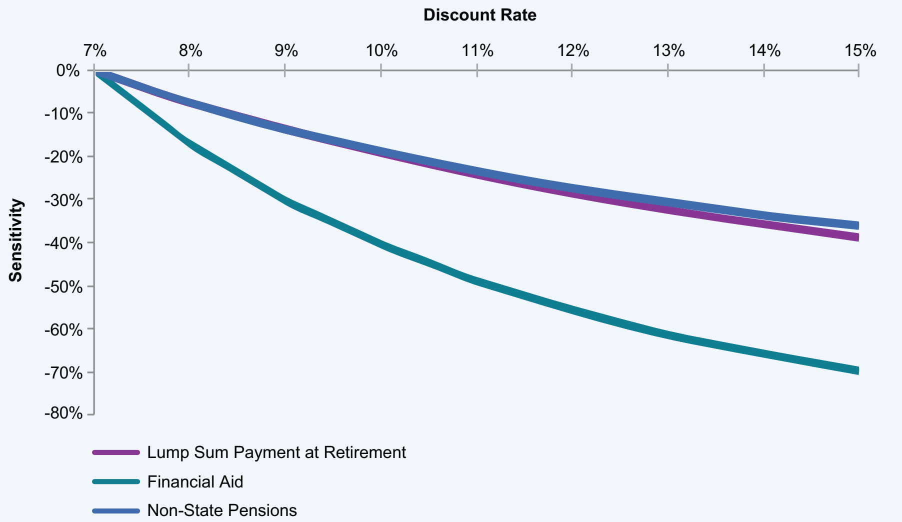
Unification of Pension Plans

Large Russian companies which provide long-term employee benefits are required to record their balance sheet liabilities in accordance with IFRS. These benefits may in essence constitute so-called defined benefit obligations.

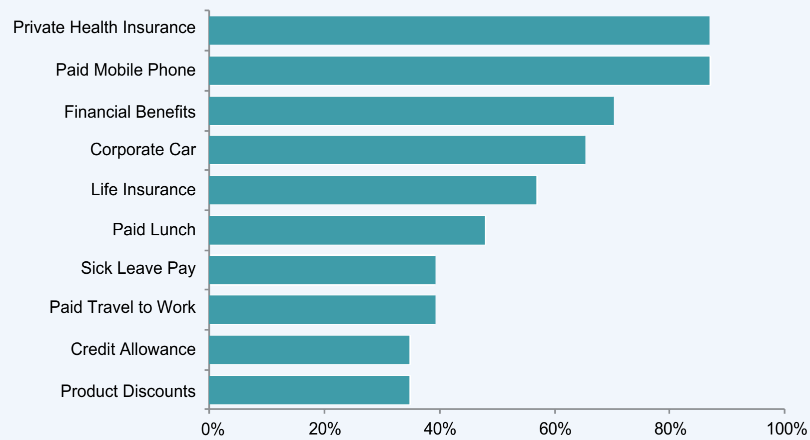
In large entities, the rules and motivational criteria controlling an employee's participation in long-term benefits schemes may differ in different branches of the company, leading to higher expenditures as well as costly and less efficient administration.

We offer services to unify long-term benefits and pension plans, designed to optimise expenditures and simplify the administration of payments. Graph 2 above shows the influence of different types of benefits on employee motivation.

Graph 1. Sensitivity of the Main Pension Benefits to the Discount Rate



Graph 2. Benefits Rating



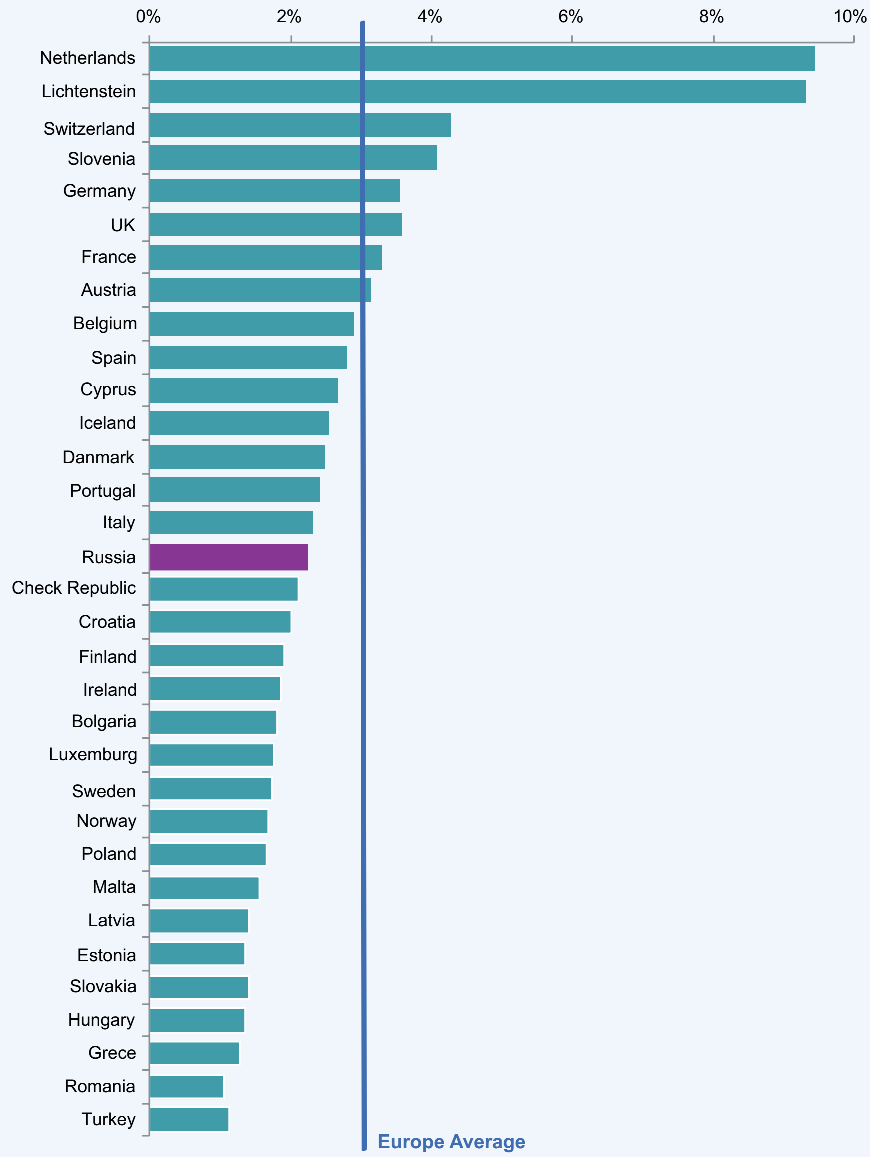
Non-Life Insurance Segment

The non-life insurance sector in Russia constituted 2.2% of GDP in 2011, compared with the 3.13% average in other European economies. This suggests that the potential for future development is high. Graph 3 gives a comparison of the share of the non-life insurance segments as a percentage of GDP in 33 European economies, further displaying the potential that non-life insurance has in the Russian economy.

The Russian insurance market witnessed stable development in 2011–2013, at a rate that was higher than the global average. An increase in the volume of credit lending in Russia has been driving this growth, along with a strengthening focus on the competitive advantages of insurance providers in lines of business where these advantages are most significant.

2011–2013 saw considerable changes in financial regulation, as capital requirements increased, compulsory IFRS reporting was announced, new compulsory types of insurance were introduced, and a new unified regulatory body was created. KPMG finds in all of this great potential for the active further development of the market.

Graph 3. Non-Life Insurance Industry as a Percentage of GDP



Reserve Valuation

When assessing changes in insurance portfolios, one of the most critical tasks is to value reserves that are booked on the balance sheet to cover unreported or not completely reported losses.

By performing regular reserve valuations, the risk of errors being made when calculating tariffs or working on tasks connected to capital distribution and the definition of the tax base is decreased.

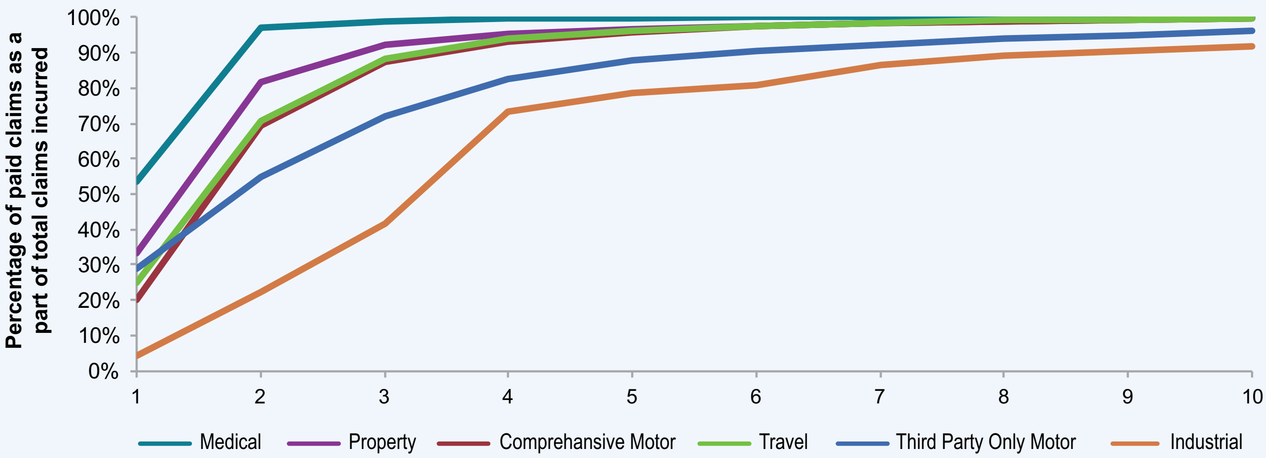
Graph 4 below shows how claims have developed for the biggest lines of business in Russia.

Large unsettled claims can have a major influence on the profitability of an insurance portfolio; in particular, policies with lengthy reporting lags and settlement-of-loss periods. One example of this is third-party liability, where the reporting and settlement of claims may occur many years after the insurance event. This has a significant influence on the volatility of reserves for incurred but not reported losses, which causes forecasting errors.

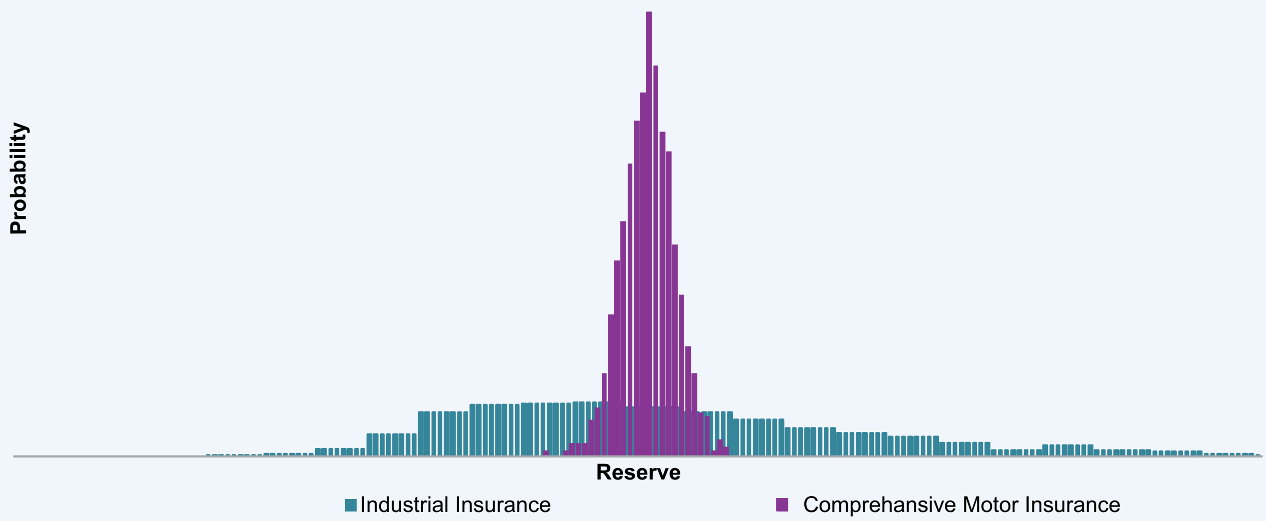
We assist insurance companies in valuing unsettled claims and the technical reserves connected to them by using methods specifically suited to each specific type of insurance policy.

As a part of our analysis, we calculate the distributions of the most likely outcomes to determine the best estimated reserve and loss ratios for each policy type. Additionally, we use stochastic models of future loss valuations, such as Mack Method and Bootstrapping, which allow us to estimate and deconstruct forecasting errors (i.e. evaluate the effects of loss volatility and the volatility of reserve model parameters). Graph 5 below depicts the distribution of probability to calculate reserves for comprehensive motor insurance (Casco) and industrial insurance risks, respectively.

Graph 4. Delays in paying insurance claims



Graph 5. Probability Distribution of Reserve Valuations



Life Insurance

Following the social and financial instability of the 1990s, households in Russia were for a long time very reluctant to hold savings.

However, this trend has changed, and the volume of long-term savings has increased. This is due to greater economic stability, further elaboration of the regulatory and legal framework, higher levels of consumer demand, and a general increase in disposable income. Together, these factors have increased the demand for life insurance products.

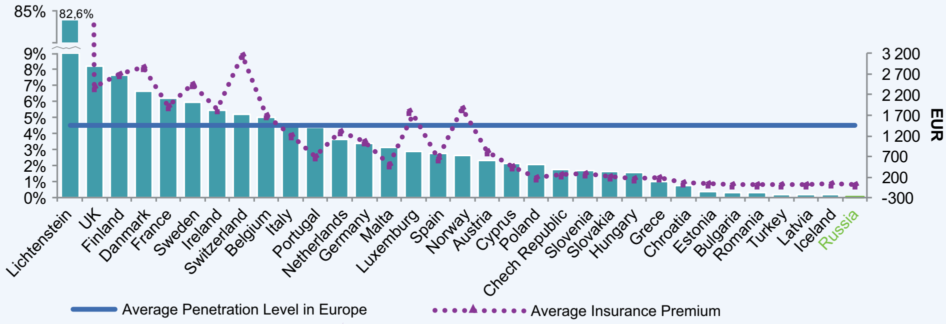
In terms of GDP, life insurance constituted only 0.1% of GDP in Russia in 2011. This compares with a 4.5% average in other large European economies, thus indicating strong growth prospects for the life insurance segment in Russia.

Reserve Valuation

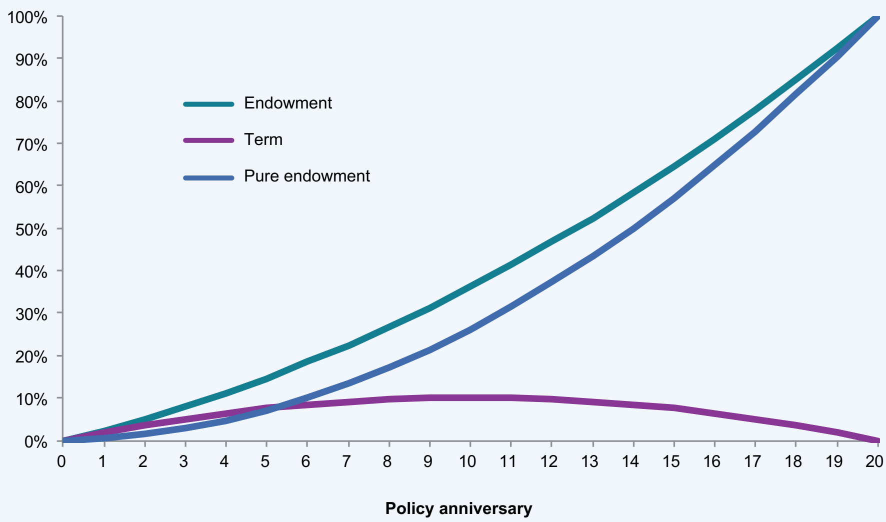
Valuing liabilities fairly and accurately is enormously important in life insurance, due to the long-term nature of the business, uncertainty in economic and demographic conditions, and the still-developing regulatory and legal framework.

We offer independent reserve valuation services that help facilitate higher transparency and reliability in company reporting. Our team will also assist you in creating and modernising reserve policies and in using best practice approaches. This will allow for a more precise valuation of liabilities and thus ensure improved overall risk control. A typical example of how changes in policy terms can affect the development of net reserves for three standard products is shown in Graph 7 above.

Graph 6. Life Insurance as a Percentage of GDP and Average Insurance Premium



Graph 7. Net reserves as a percentage of the assured sum



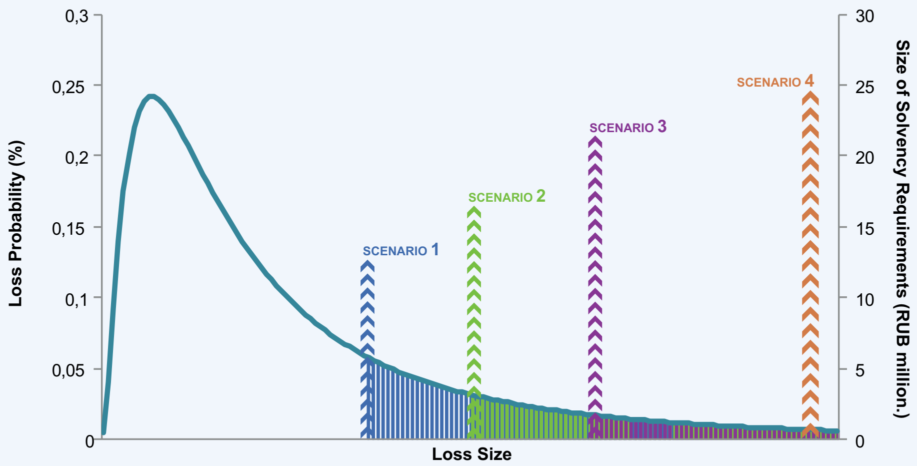
Reinsurance

Reinsurance offers third-party excess risk transfer as a tool to decrease the size of regulatory capital requirements and to facilitate profit smoothing. Reinsurance increases the stability of insurance portfolios and offers protection when large potential risks materialise, for example, in the event of a natural catastrophe.

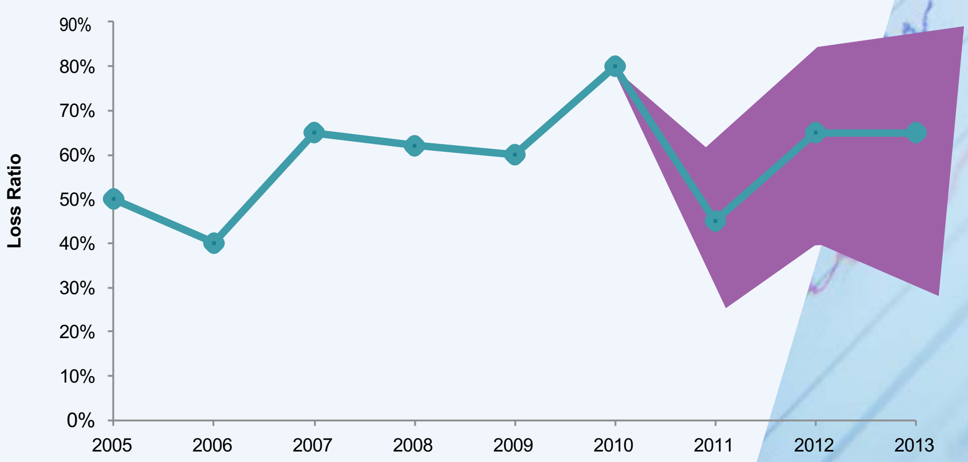
It should however be noted that the risk transfer that occurs in reinsurance involves additional business expenses.

KPMG offers the following services in this area: independent assessments on the adequacy of reinsurance policies, recommendations on how much risk to retain, and the choice of a company's reinsurance strategy. Our services are

Graph 8. Reinsurance of Large Losses and Corresponding Solvency Requirements



Graph 9. Loss Ratio Dynamics and Confidence Interval



aimed at finding the optimal balance between the amount of risk transferred and the profitability of your insurance portfolio.

Modelling behavioural scenarios for different portfolios when choosing a reinsurance policy helps lower reinsurance costs and increase the effectiveness of reinsurance policies. It also helps to determine the expected capital returns corresponding to specific reinsurance strategies.

Reinsurance is often used as a tool to lower required capital to enable more efficient capital management. Graph 8 above illustrates how different reinsurance strategies can affect the required capital level. The Y-axis on the right shows the amount of the required capital depending on what the company considers a high loss and thus worth reinsuring.

Underwriting

Underwriting policies allow for the quality of insurance portfolios to be managed by using a specific selection of risks. The relatively underdeveloped Russian insurance market currently does not have a standard transparent underwriting process. Insurance companies use different methodologies, resulting in little difference in tariffs between insurers with large risks and those with small risks.

Our team helps you to design your underwriting processes to ensure risks are managed in the most effective way.

The adoption of a correct underwriting policy will result in insurance companies lowering the likelihood of suffering anti-selection, while increasing their portfolio balance, in turn leading to increased profitability. Our work in this area includes identifying the main sources of loss and analysing the effect of the underwriting policy on the profitability of the portfolio.

Graph 9 above shows how the loss ratio has developed, and includes a confidence interval for the forecast loss ratio based on analysis by the KPMG Actuarial Services team.

Accounting Consultancy

Our staff have extensive experience of the Russian market and are intricately involved with the specific details of accounting for insurance operations, in accordance with both IFRS and Russian Accounting Principles (RAP). We in addition offer independent reviews of technical reserves, ensuring that they are in line with required accounting standards.

Graph 10 depicts an example of the difference in unearned premium reserve (UPR), calculated in accordance with RAP and IFRS.

The KPMG international network of member firms works in close collaboration to support each other on engagements, and also works across departments and functions, engaging professionals from our Audit and Management Consulting departments. Our combined teams offer financial institutions accounting and actuarial valuation consulting services in the following areas:

- Liability Adequacy Tests (LAT) in accordance with IFRS 4
- Risk management and capital requirements consultancy (in line with Solvency II)
- Calculation of European Embedded Value (EEV) and Market Consistent Embedded Value (MCEV)

We also offer additional consultancy services, such as assisting the financial markets service of the Russian Central Bank. As part of this project, we worked on providing methodology recommendations on consolidated financial reporting in accordance with IFRS requirements.

Other Services

We offer consultancy services to asset management organisations – such as Non-State Pension Funds (NSPF) – specialising in financing long-term obligations. In particular, we perform independent actuarial valuations that meet the requirements set by IFRS.

This service includes valuing liability asset management for non-state pension funds, offering actuarial valuations of the pension reserves of non-state pension funds, and general assistance in preparing financial reporting. It also extends to consulting on benefits accounting during mergers, demergers or restructuring.

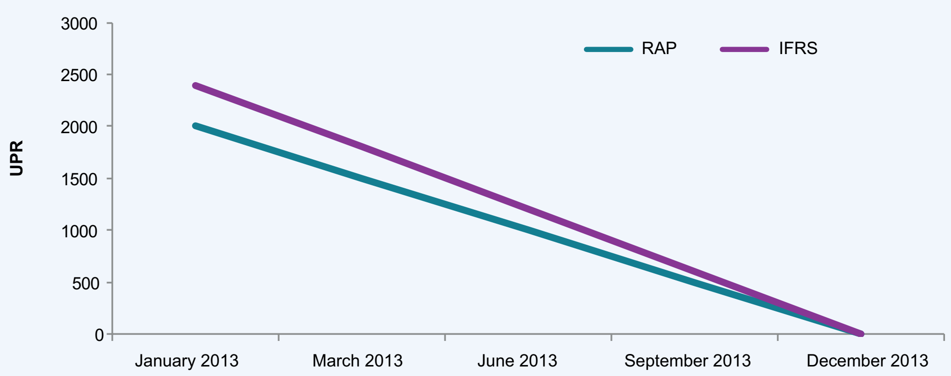
We assist NSPFs in developing reserve calculation models, as well as methodologies to support their choice of assumptions, such as discount and mortality rates, used in calculations.

Our team also takes part in projects connected with financial reporting and valuation, which demand detailed knowledge of financial mathematics and statistics.

These services include:

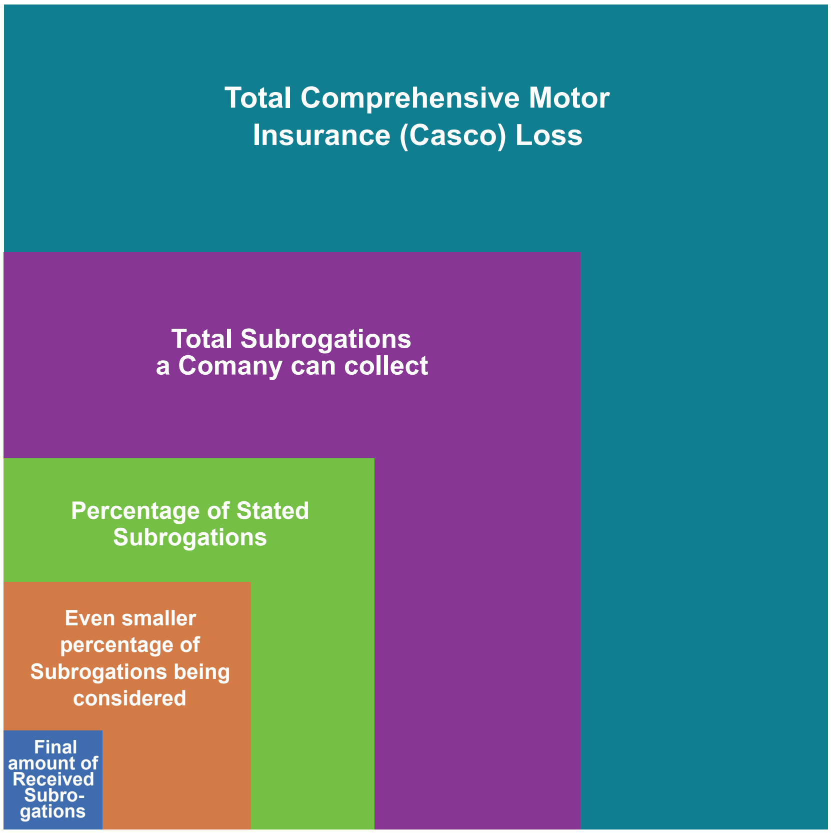
- Estimating the amount of assets needed to finance pensions and other benefits
- Analysing and forecasting the number of NSPF participants
- Statistically modelling losses and cash flows
- Asset Liability Matching, aimed at matching the expected income with expected expenditures for each asset type
- Analysing the methodology used in valuing option prices
- Staff training on performing actuarial valuations for pensions and other long-term benefits
- Performing diagnostics on and recommending how the general actuarial function in the company can be improved
- Carrying out profit testing used to specify the required return on capital and evaluate the expected profitability of life insurance products

Graph 10. UPR Difference Between RAP and IFRS

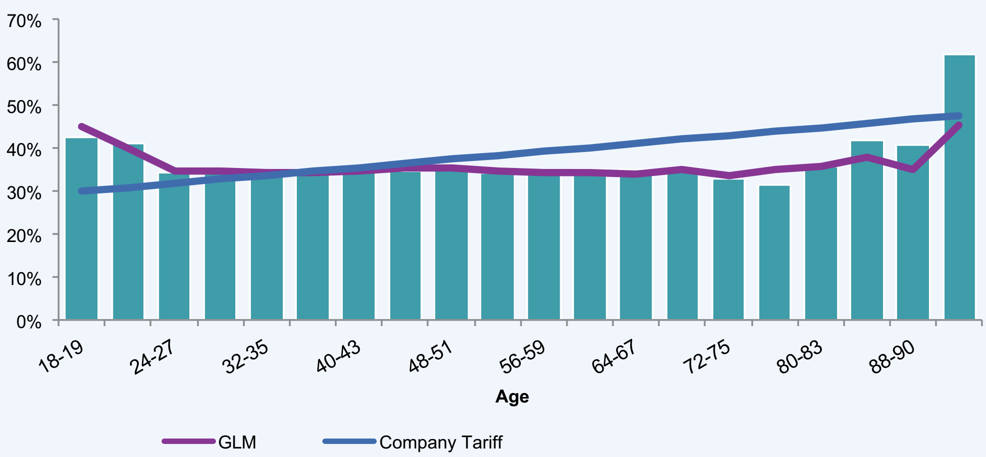


- Comparing the current level of subrogations with the market average and immediate competition; analysing the influence of current tariffs and the pricing policy for additional services on subrogation levels; assessing the influence of the regional risk structure on the level of subrogations; and developing the methodology used to increase subrogation levels based on the analysis performed.

Reduction in the Fraction of Subrogations Received During Processing



Graph 11. Propensity to Purchase "Road Assistance" policy add-ons



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