2019

SFCR ASR Levensverzekering N.V.

a.s.r.
de nederlandse
verzekerings
maatschappij
voor alle
verzekeringen

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Archimedeslaan 10
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2019

SFCR
ASR Levens-verzekering N.V.

Contents

Introduction

The structure of the Solvency and Financial Condition Report (SFCR) has been prepared as described in annex XX of the Solvency II Directive Delegated Regulation. The subjects addressed are based on article 51 to 56 of the Solvency II Directive and act 292 up to and including 298 and act 359 of the Delegated Regulation. Furthermore, the figures presented in this report are in line with the supervisor's reported Quantitative Reporting Templates.

All amounts in this report, including the amounts quoted in the tables, are presented in millions of euros (€ million), being the functional currency of ASR Levensverzekering N.V. (hereafter referred to as a.s.r. leven), unless otherwise stated.

In 2019, the NBA-handreiking 1143 was published. The alert describes how insurance companies handle their materiality policy for Solvency figures. The materiality policy of a.s.r. is aligned with the alert.

Summary

The 2019 Solvency and Financial Condition Report provides ASR Levensverzekering N.V.'s (hereinafter: a.s.r. leven) stakeholders insight in:

A. Business and performance

The Solvency II ratio stood at 192% as at 31 December 2019, based on the standard formula as a result of € 5,802 million Eligible Own Funds and € 3,018 million Solvency Capital Requirement (SCR).

a.s.r. leven generated € 1,619 million in Gross Written Premiums (GWP) in 2019 (2018: € 1,566 million). The increase was mostly due to the additional contribution of Loyalis and increased sales in the Pension DC-product ('WerknemersPensioen'). Profit for 2019 was € 703 million (2018: € 575 million). Last year's profit before tax included a higher level of realised capital gains in indirect (incidental) investment results. In 2019, operating expenses increased by € 6 million to € 192 million (2018: € 185 million), due to the acquisition of Loyalis. Full details on the a.s.r. leven's business and performance are described in chapter *A Business and performance* (page 11).

B. System of governance

This paragraph contains a description of group policy, which is applicable for the solo entity.

General

a.s.r. is a public company with limited liability under Dutch Law. The company has a two-tier board system; with a Supervisory Board (SB) and an Executive Board (EB). a.s.r. has been listed on Euronext Amsterdam since 10 June 2016. a.s.r. applies the full two-tier regime (volledige structuurregime).

The SB performs its duties based on three roles; the supervisory role, the advisory role and the employer's role. The SB supervises the policy pursued by the EB and the general course of affairs at a.s.r. and its group entities. Specific powers are vested in the SB, including the approval of certain decisions taken by the EB.

Risk management

It is of great importance to a.s.r. that risks within all business lines are timely and adequately controlled. In order to do so, a.s.r. has implemented a Risk Management framework based on internationally recognized and accepted standards. With the aid of this framework, material risks that a.s.r. is, or can be, exposed to are identified, measured, managed, monitored and evaluated. The framework is both applicable to a.s.r. group and the underlying business entities.

Control environment

In addition to risk management, a.s.r.'s Solvency II control environment consist of an internal control system, an actuarial function, a compliance function and an internal audit function. The system of internal control includes the management of risks at different levels in the organisation, both operational and strategic. Internal control at an operational level centres around identifying and managing risks within the critical processes that pose a threat to the achievement of the business line's objectives. The actuarial function is responsible for expressing an opinion on the adequacy and reliability of reported technical provisions, reinsurance and underwriting. The mission of the compliance function is to enhance and ensure a controlled and sound business operation where impeccable, professional conduct is self-evident. The Audit Department provides a professional and independent assessment of the governance, risk management and internal control processes with the aim of aiding management in achieving the company's objectives. The Audit Department evaluates the effectiveness of governance, risk management and internal control processes, and gives practical advice on process optimisation.

Full details on the a.s.r.'s system of governance are described in chapter *B System of governance* (page 22).

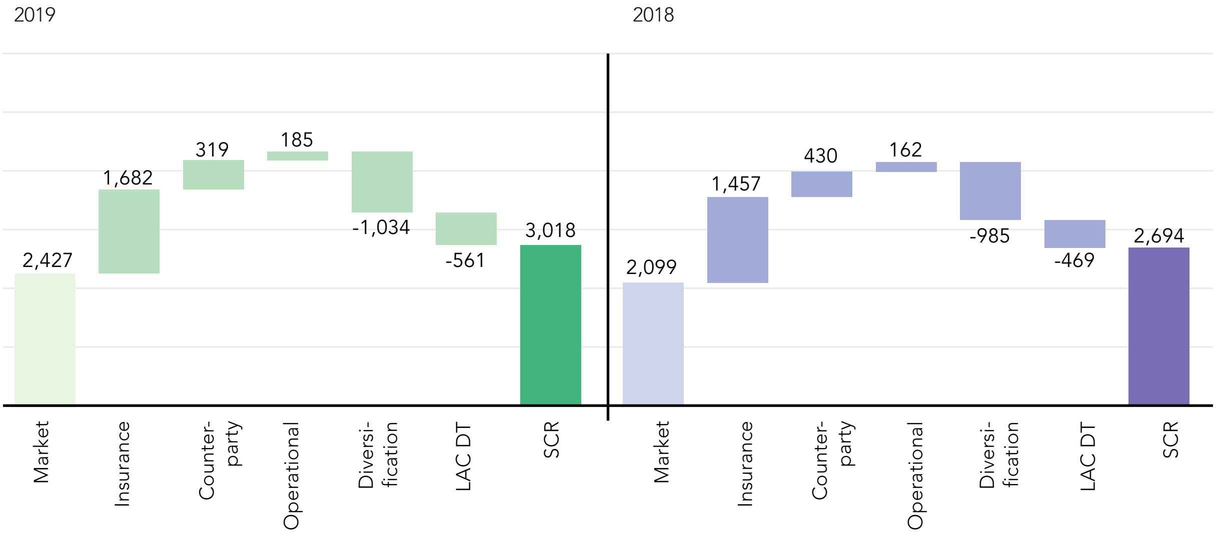
C. Risk profile

a.s.r. leven applies an integrated approach in managing risks, ensuring that our strategic goals (customer interests, financial solidity and efficiency of processes) are maintained. This integrated approach ensures that value will be created by identifying the right balance between risk and return, while ensuring that obligations towards our stakeholders are met. Risk management supports a.s.r. leven in the identification, measurement and management of risks and monitors to ensure adequate and immediate actions are taken in the event of changes in a.s.r. leven's risk profile.

a.s.r. leven is exposed to the following types of risks: insurance risk, market risk, counterparty default risk, liquidity risk, operational risk and strategic risk. The risk appetite is formulated at both group and legal entity level and establishes a framework that supports an effective selection of risks.

The solvency capital requirement is built up as follows

SCR



Full details on the a.s.r.'s risk profile are described in chapter C Risk profile (page 44).

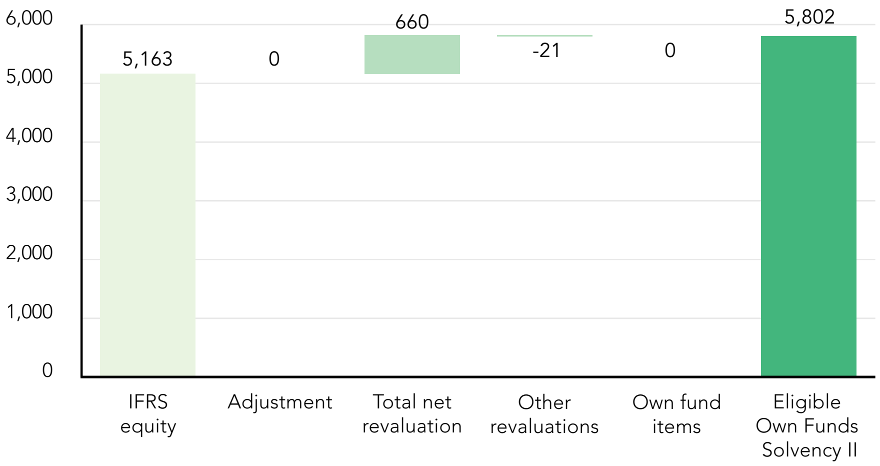
D. Valuation for Solvency purposes

a.s.r. leven values its Solvency II balance sheet items on a basis that reflects their economic value. Where the IFRS fair value is consistent with Solvency II requirements, a.s.r. leven follows IFRS for valuing assets and liabilities other than technical provisions.

The reconciliation of IFRS equity and Excess Assets over Liabilities (Solvency II basis) can be summarised as follows:
- derecognition of items on the Solvency II economic balance sheet which are admissible on the IFRS balance sheet, for instance goodwill, and other intangible assets;
- revaluation differences on mainly insurance liabilities and other assets which are valued other than fair value in the IFRS balance sheet.

A graphical representation of the reconciliation from Solvency II equity to EOF is presented below:

Reconciliation from Solvency II equity to EOF



Full details on the reconciliation between a.s.r. leven's economic balance sheet based on Solvency II and consolidated financial statements based on IFRS are described in chapter D Valuation for solvency purposes (page 68).

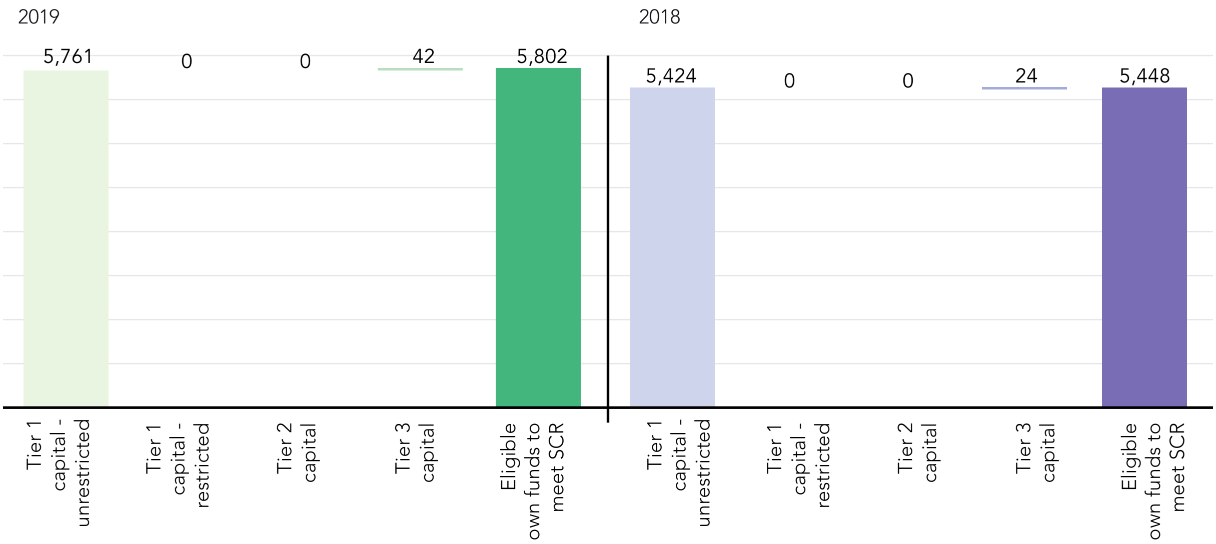
E. Capital management

Overall capital management is administered at group level. Capital generated by operating units and future capital releases will be allocated to profitable growth of new business or repatriated to shareholders, beyond the capital that is needed to achieve management's targets.

a.s.r. leven has no internal model and follows the default method for the determination of the group solvency. a.s.r. leven maintains an internal minimum and management target for the Solvency II ratio. The internal minimum Solvency II ratio for a.s.r. leven as formulated in the risk appetite statement is 120%. The management threshold level for the Solvency II ratio is above 160%. a.s.r. only distributes cash dividends if the interest of the policyholders has been ensured (i.e. a Solvency II ratio above 140%). The Solvency II ratio was 192% at 31 December 2019.

The EOF are built up as follows:

Eligible Own Funds



The eligible own funds increased to € 5,802 million at 31 December 2019 (31 December 2018: € 5,448 million).
As a result of organic growth, the acquisition of Loyalis, the increase in equity markets, lower interest rates and spread tightening on credits the eligible own funds increased. These effects were partially offset by a lower UFR, tightening of the VA, the dividend upstream to the group.

Full details on the capital management of a.s.r. leven can be found in chapter *E Capital Management* (page 79).

A Business and performance

A.1 Business

A.1.1 Profile

Object of the company

ASR Levensverzekering N.V. (hereinafter: a.s.r. Leven) is a subsidiary of ASR Nederland N.V. (hereinafter: a.s.r.). a.s.r. Leven wants to enable people to insure themselves against risks they are unable or unwilling to bear themselves. a.s.r. Leven is convinced that its right to exist is justified by thinking in terms of customer interests and perception. The products and services of a.s.r. Leven must be in line with this. Understandability and simplicity combined with efficient business processes and a solid financial position are essential. Customers can count on their risk coverage being held by an insurer that avoids waste, listens to them, thinks along with them and is accessible through various channels.

Customers need transparent products, clear communication and personal service.
a.s.r. Leven has made it its main goal to meet these needs. For example, activities and objectives of a.s.r. Leven are tested against the interests of the customer and products are presented to customer panels. Customer demands and the wishes expressed by customers are included in product development. Ultimately, this is reflected in the valuation of customers as measured by the Net Promoter Score (NPS). The NPS measures the extent to which customers would recommend a.s.r. Leven to their relatives and friends.

Core activities

The Life segment comprises Pensions, Individual life and Funeral. As from 2019 figures are inclusive Loyalis. The segment offers insurance policies that involve asset building, immediate (pension) annuities, asset protection, term life insurance and funeral expenses insurance for consumers and business owners. The insurances are offered via the brands a.s.r. and Ardanta. The market share of Life in 2018 was 14.3% (2017: 13.0%).

Legal structure of the company

a.s.r. leven is a wholly-owned subsidiary of a.s.r. a.s.r. is a public limited company under Dutch law having its registered office located at Archimedeslaan 10, 3584 BA in Utrecht, the Netherlands. a.s.r. has chosen the Netherlands as 'country of origin' (land van herkomst) for the issued share capital and corporate bonds which are listed on Euronext Amsterdam and the Irish Stock Exchange (Ticker: ASRNL).

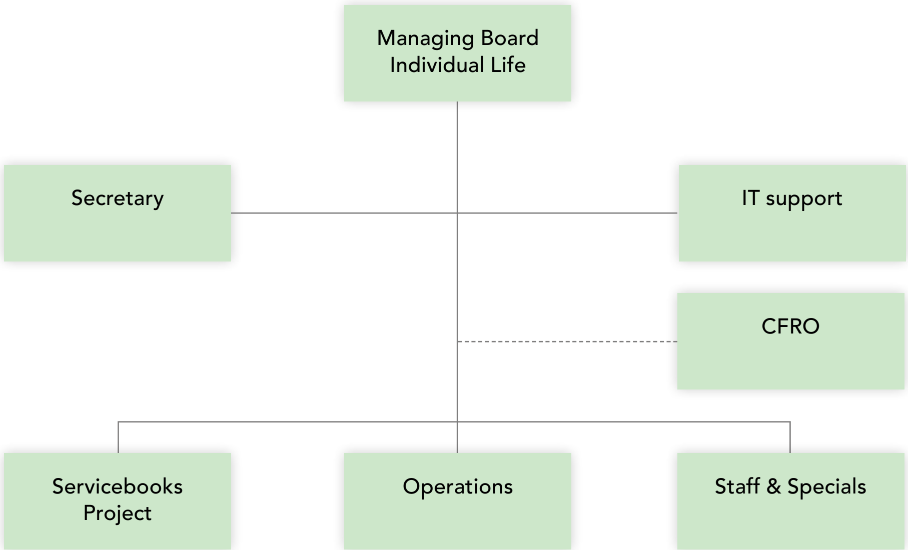
Internal organisational structure and staffing

a.s.r. Leven includes the product lines Life, Pensions and Funeral. Each product line has its own management and reports directly to the Executive Board. a.s.r. decided to integrate management and reports of Life and Pensions, as from January 1st 2020. Funeral will preserve its own management and reports. Various services are purchased internally from a.s.r. (Payment Centre, HR, Finance & Risk, Information Technology & Communication (IT&C)). In 2020, the Life and Pensions activities of Loyalis N.V. (Loyalis), which are now located in Heerlen, are expected to be integrated into those of a.s.r. in Utrecht.

Organisational charts

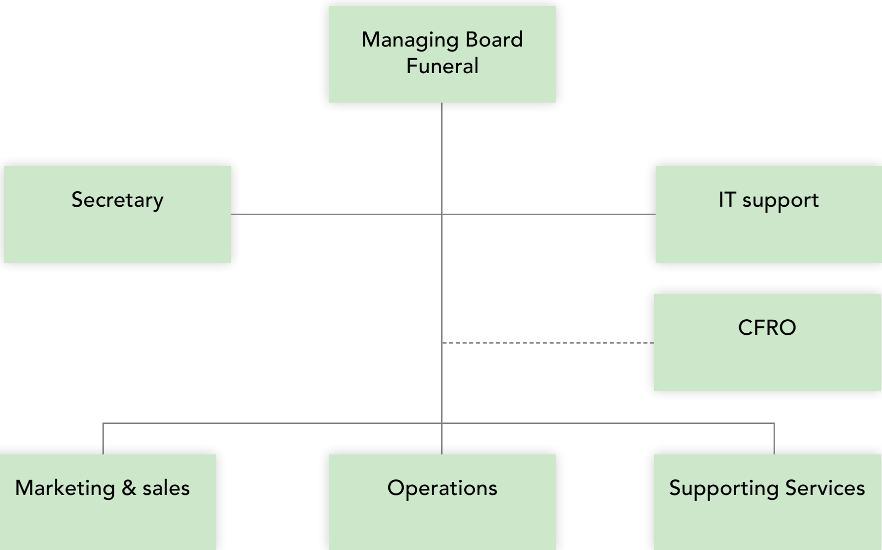
Below, the organisational charts of the three productions lines within ASR Levensverzekering N.V. are presented:

Structure Life

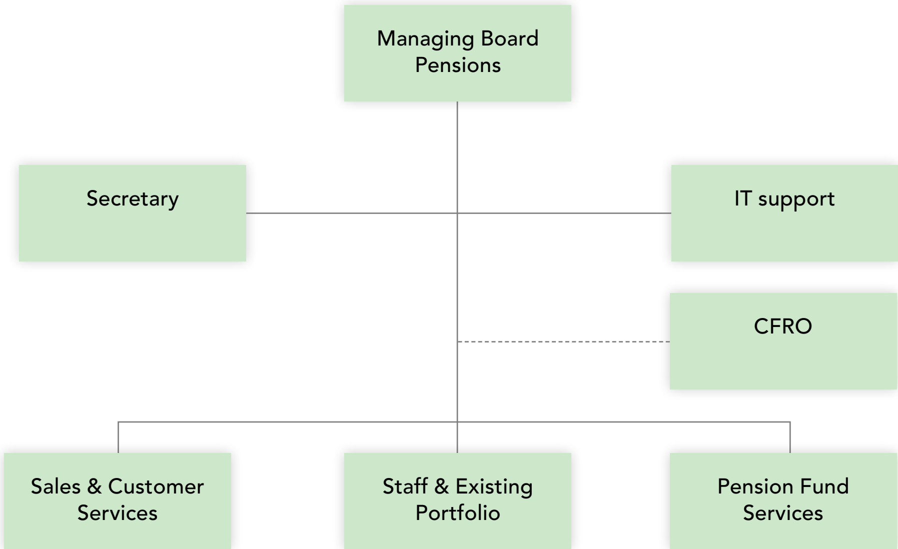


Structure funeral business

Ardanta



Structure Pensions



Headcount
All employees of a.s.r. Leven are employed by a.s.r. Total FTE staff of a.s.r. Leven (including former Loyalis staff) increased to 460 FTEs at year-end 2019 (2018: 443 FTEs).

Key elements of policy pursued
The Life segment comprises the life insurance entities Pensions, Individual life and Funeral. The segment offers insurance policies that involve asset building, immediate (pension) annuities, asset protection, term life insurance and funeral expenses for consumers and business owners.

Pensions
a.s.r. is a major provider of pension insurance products in the Netherlands. Under the brand of a.s.r. pensions has a joint venture with Brand New Day for an IORP (Institution of Occupational Retirement Provision). The current customer base of the pensions business comprises approximately 25,000 companies and 728,000 participants

a.s.r. provides pension products based on defined contribution with recurring premiums where benefits rebased on investment returns on specified funds, in some cases with guarantees. It has been five years since a.s.r. successfully launched its DC proposition, WerknemersPensioen (WNP). In 2019,WNP had more than 100,000 participants and more than € 1 billion in assets under management in SRI funds.

a.s.r. introduced a new pension product, the variable pension, which offers customers a sustainable product for the accrual phase of their pension, with a good balance between risk and return.

The business strategy in Pensions is to focus on clear, simple, cost-conscious pension products. a.s.r.'s DC proposition (WerknemersPensioen) is competitively priced and has been rewarded for its fund selection (SRI funds) by independent intermediaries.

The renewal of DB contracts is considered if customers intend to shift to DC in the near future and meet strict financial criteria. The strategy for the existing DB book is to maintain its value, reduce capital requirements, enhance cost coverage and minimise risks. The DB book will become a service book as more employers opt for other pension solutions.

In 2019, Pensions improved its digital customer service by taking further steps to introduce robotics into its day-to-day operations and by investing in more user-friendly client portals and a more fully integrated online environment for its portfolio. All communications to participants are digital. All of these actions resulted in increased customer satisfaction. All of these resulted in increased customer satisfaction of 52 in 2019.

Cost control and cost variability are essential for value creation and value retention. Various plans were implemented in 2019 to further simplify the organisation and processes. The migration of the Generali Nederland and Loyalis books and their integration into the existing a.s.r. platform is on track (completion scheduled for 2020); the same services will be offered to customers and the market position will improve.

Individual life
a.s.r. is one of the largest providers of individual life insurance products in the Netherlands, measured in GWP.

Term life insurance, the sole selling proposition, consists of traditional life insurance policies that pay out death benefits without a savings or investment feature. a.s.r.'s term life insurance products are mainly sold in combination with mortgage loans or investment accounts and generally require recurring premium payments. a.s.r. only offers term life insurance products. All other products are managed as a closed service book.

In order to preserve the value of the individual life book, Life has simplified its organisation, shifting its cost base from fixed costs to more variable costs. Life is in the process of simplifying processes and rationalising and migrating its service book to a SaaS platform. With the migration of more than 800,000 policies from 9 different Life systems to the Keylane platform (SaaS), including the book of Generali Nederland, the Service Books programme was finalised after five years. This successful project shows a.s.r.'s strength to carry out large-scale migrations. Migrating the recently acquired Loyalis and VvAA life books is planned for 2020.

With a NPS score of 42 in 2019 (37 in 2018), the Individual life business improved its customer satisfaction.

Funeral
As at 31 December 2019, the funeral portfolio consisted of 6.4 million policies and 4.7 million customers. Based on the volume of premiums, Ardanta, a.s.r.'s funeral brand, is the second largest funeral insurer in the Netherlands.

Ardanta's primary objective is to insure funeral expenses, for which it offers capital and in-kind insurance products.

The focus of Ardanta continues to be undiminished capital generation and a further strengthening of its competitive position through cost leadership.

Ardanta offers practical support to its customers and their relatives in overcoming personal losses and in practical matters relating to bereavement. Practical guidance consists of initiatives such as the portal www.doodgaanendoorgaan.nland the services of a 'funeral coach', who assists relatives in the days immediately after a loved ones has passed away. In a recently developed online initiative, Ardanta provides answers to frequently asked questions in short video clips.
In 2019,the active product range was reviewed. In 2020,new products will be launched that focus on the theme of 'enhanced flexibility for customers'.

Ardanta is committed to increasing digital process support. In 2019, the '100% digital in 2023 program' was launched. The digital transformation means fundamental changes in customer interaction and customer experience, value propositions and business models, as well as operational processes. Also in 2019, the first business processes were robotised. All of these actions aim to increase customer satisfaction with Ardanta.

The NPS score slightly decreased to 40 (2018; 41).

Ardanta's CSR initiatives focus on 'address enrichment' in order to contact customers again with whom Ardanta has lost contact over the years. In addition, the 'Old Case Team' project tries to trace relatives of deceased customers in order to make payments they are entitled to.

Market and distribution developments

Pensions
As a provider of various insurance pension products, a.s.r. plays an important role in the Dutch pensions market, both under the brand of a.s.r. and in a joint venture with Brand New Day for an IORP. Driven by the low interest environment and the current pension debate in the Netherlands, there has been a steady shift in the pensions market towards capital-light products. This trend is expected to continue in the years to come. With its DC and IORP proposition, a.s.r. believes it is well positioned to increase its market share through high-level service, cost effectiveness and execution capabilities.

a.s.r.'s DB pension products are traditional insurance products based on lifelong guaranteed pension payments with recurring premiums, either with or without profit sharing, including an option for additional single premiums for indexation and back services. a.s.r. is also active in the DB pension market through Het nederlandse pensioenfonds (Hnpf), for which it provides pension administration and asset management.
a.s.r. provides two types of immediate annuities (i) the fixed annuities product and (ii) post-retirement annuities. The latter is based on single premiums and has the option of postponing benefits in response to the low interest rate environment.

Individual life
The premium volume in the individual life market has declined in recent years due to low interest rates and tax reforms. The decline is expected to continue in the years to come.

Funeral
The market is characterised by rapid consolidations. Due to the low interest rate environment, funeral insurance premium levels increased in recent years. The distinguished proposition of Ardanta was recognised in the market: business targets were well exceeded in 2019. The 'multichannel' distribution strategy of Ardanta proved to be successful as 65% of new business was derived from direct channels (internet, direct mail and own advisors) whereas the remaining 35% came from the traditional independent intermediaries. For comparison: in 2014, 60% of new business was derived from indirect (broker) channels.

Internal control of processes and procedures
Risk management is an integral part of a.s.r.'s daily business operations. a.s.r. applies an integrated approach to managing risks ensuring that strategic objectives are met. The Risk Management Function (RMF) supports and advises a.s.r. leven in identifying, measuring and managing risks, and monitors that adequate and immediate action is taken in the event of developments in the risk profile. a.s.r. leven is exposed to the following types of risk: market risk, counterparty default risk, liquidity risk, insurance risk (Life), strategic risk and operational risk.

The quality of internal control within a.s.r. leven is assured by means of a Risk and Control Matrix (RCM) as part of a.s.r.'s Operational Risk Management (ORM) policy. This framework has been developed from an integral risk management perspective and, based on the framework and the a.s.r. ORM policy, the effectiveness of key controls in the core processes is periodically tested and management is informed of the results.

The results are reported every quarter to the Business Risk Committee of Life as well as to the Non-financial Risk Committee of a.s.r. on a quarterly basis. The report also focuses on the management of strategic and compliance risks.

New products and services with the corresponding customer brochures are subjected to an internal 'Product Approval and Review Process (PARP)'. Submitting products and services to customer and intermediary panels is often part of this before the PARP board gives its approval. It is assessed to what extent the wishes and ideas of customers can be included in the product development.

Existing products and services are regularly tested against the changing customer needs based on PARP. In addition, work processes at customers are tested on the basis of a customer journey. In this context, a process from the first to the last step is presented to customers and their comments are taken into account in order to improve the process so that it better meets the needs and expectations of the customer. Ultimately this can be seen in the customer's valuation as measured by the Net Promoter Score (NPS).

The risks due to outsourcing, are mitigated by periodically monitoring Service Level Agreements and controls based on ISAE3402 reports.

Quality control
The quality management of a.s.r. leven contains policies, procedures and principles about how we want to serve our customers. The quality management is aimed at achieving optimal customer satisfaction and is taken into account in all contacts with our customers. Internal standards have been set and are used to actively comply with the a.s.r. leven quality standards and in the continuous improvement of our services.

For the operational departments, including the client contact offices (front office) and the back office, the objectives in terms of customer focus and the internal standards of a.s.r. leven have been translated into operational KPIs. These contribute to the control of our communication with customers in terms of being error-free, transparency and speed of processing. Handling complaints is also central in this context. The KPIs are managed on a daily basis by the relevant management and staff. The results of the KPIs are periodically shared and discussed at all levels within a.s.r. leven. Collaboration in risk governance contributes to ensuring customer satisfaction and putting the client's interests first.

Training of employees
a.s.r. leven believes it is important to continuously educate its employees in knowledge and skills. Various training initiatives have been set up for this purpose. The initiatives receive continuous attention at both a general level and an individual level.

Continuous training takes place through:
- Twice a year the compulsory Permanent Training sessions for all employees.
- At individual level, the training tool of a.s.r. is used and appropriate education is provided at job level. The aim is to ensure that every employee is and remains permanently trained and up-to-date.
- A training plan is drawn up for new employees and updated after each evaluation session based on experience.
- The Gamification tool is available to all employees, which helps them interactively to refresh and deepen their knowledge of, among other things, integrity issues on a daily basis.
- Awareness programme on various themes as for instance information (cyber) security risk and the General Data Protection Regulatory.

Finance
Overall capital management is administered at group level. a.s.r. currently plans to consider investing capital above the Solvency II ratio (calculated based on the standard formula) of 160% (management threshold level) with the objective of creating value for its shareholders. If and when a.s.r. operates at a level considerably above the management threshold level and it believes that it cannot invest this capital in value-creating opportunities for a prolonged period of time, it may decide to return (part of this) capital to shareholders. If a.s.r. chooses to return capital, it plans to do so in a form that is efficient for shareholders at that time. a.s.r. actively manages its in-force business, which is expected to result in free capital generation over time. Additionally, business improvement and balance sheet restructuring should improve the capital generation capacity while advancing the risk profile of the company. a.s.r. Leven is capitalized separately, and excess capital over management's targets are intended to be up-streamed to the holding company to the extent local regulations allow and within the internal risk appetite statement. In 2019, a capital upstream of € 356 million (2018: € 386 million) to the holding company took place.

A.1.2 General information
The SFCR has been prepared by and is the sole responsibility of the Company's management. Selected Own Funds and SCR information are also reported in a.s.r. financial statements. EY has examined the 2019 financial statements and issued an unqualified audit report thereon.

Name and contact details of the supervisory authority

Name:	De Nederlandsche Bank
Visiting address:	Westeinde 1, 1017 ZN Amsterdam
Phone number (general):	+31 800 020 1068
Phone number (business purposes):	+31 20 524 9111
Email:	info@dnb.nl

Name and contact details of the external auditor

Name:	EY
Visiting address:	Cross Towers, Antonio Vivaldistraat 150, 1083 HP Amsterdam
Phone number:	+31 88 407 1000

A.2 Underwriting performance

Key figures

- The profit before tax amounted to € 920 million (2018: € 816 million);
- Gross insurance premiums increased by 3% to € 1,619 million (2018: € 1,566 million);
- Operating expenses increased to € 192 million (2018: € 185 million).

Key figures a.s.r. leven

(in € millions)	2019	2018 [1)]
Gross premiums written[1]	1,619	1,566
Operating expenses	-192	-185
Profit before tax	920	816
Income tax (expense) / gain	-216	-241
Profit for the year	**703**	**575**
New business (APE)	**159**	**119**

Gross insurance premiums

The gross written premiums amounted to € 1,619 million (2018: € 1,566 million). Recurring premiums (€ +41 million) as well as single premiums (€ +12 million) increased. This year, the WnP product continued to be successful and the AuM further increased to € 1.3 billion (2018: € 0.7 billion) primarily due to the growth of the portfolio and higher stock markets. The number of active participants is now over 80,000 (2018: 55,000). The additional contribution from Loyalis (€ 59 million) and WnP portfolio growth exceeded the decrease of the existing DB/DC Pension portfolio and recurring premiums in Individual life. The level of surrenders of nominal policies at Individual life was stable at 0.79% (2018: 0.83%). Excluding the single premium in the figures of the previous year related to the acquisition of PC Uitvaart (as from October 2018), gross written premiums from Funeral increased this year (€ +2 million).

Operating expenses

The acquisition of Loyalis resulted in an increase in operating expenses by € 6 million to € 192 million (2018: € 185 million). Underlying operating expenses decreased (€ 6 million) due to the integration of Generali Life and system rationalisation at Individual life. This year a.s.r. completed the large-scale migration to a.s.r.'s Software as a Service platform. In total, more than 800,000 policies from all nine different Individual life systems, including several 'closed-book' systems, have been converted.

Profit before tax

The profit before tax for 2019 amounted to € 920 million (2018: € 816 million). Realised capital gains increased as a result of increasing stock markets and low interest rates had a positive impact on the value of bonds and derivatives. The increase was also driven by a higher investment margin due to less required interest at Individual life and higher investment income as a result of the re-risking of investments and the integration of the Loyalis investments. Underlying earnings of the Life Portfolio decreased due to the decline of a substantial part of the Individual Life book.

New business (APE)

New business increased by € 40 million to € 159 million (2018: € 119 million). This is mainly explained by a firm increase in Pension ('WnP').

1 Including DC staff pension plan of € 106 million (2018: € 106 million)

A.3 Investment performance

a.s.r.'s investment policy is aimed at striking a balance between generating returns and preventing risks. Protecting the solvency position is an important factor in this context.

A.3.1 Financial assets and derivatives

Investments

	31 December 2019	31 December 2018
Investments (financial assets)		
Available for sale	26,059	20,797
At fair value through profit or loss	2,138	1,964
	28,198	**22,761**

The investments at fair value through profit or loss increased in 2019 by € 175 million primarily due to additional investments in a.s.r.'s mortgage equity fund and real estate equity funds.

Breakdown of investments

	31 December 2019			31 December 2018		
	Available for sale	Fair value through profit or loss	Total	Available for sale	Fair value through profit or loss	Total
Fixed income investments						
Government bonds	13,496	-	13,496	9,523	-	9,523
Corporate bonds	9,680	-	9,680	8,613	-	8,613
Asset-backed securities	312	-	312	96	-	96
Preference shares	258	-	258	373	-	373
Equities and similar investments						
Equities	2,314	26	2,340	2,192	31	2,223
Real estate equity funds	-	1,465	1,465	-	1,296	1,296
Mortgage equity funds	-	54	54	-	44	44
Subsidiaries	-	593	593	-	593	593
Total investments	**26,059**	**2,138**	**28,198**	**20,797**	**1,964**	**22,761**

In 2019, government bonds increased to € 13,496 million (2018: 9,523 million) primarily due to received cash collateral on derivatives which was reinvested in government bonds. Corporate bonds increased to € 9,680 million (2018: € 8,613 million) mainly due to the decrease in interest rates. Equities increased due development of the stock market. The increase in real estate equity funds is primarily related to positive revaluations. For the real estate equity funds for which a.s.r. leven has significant influence, being ASR DMOF, ASR DPRF and ASR DCRF, the exemption of IAS 28 was used, thereby measuring the investments at fair value through profit or loss and presenting them as a separate category within the investments at fair value through profit or loss.

All investments at fair value through profit or loss are designated as such by a.s.r. upon initial recognition. For more detailed information about the fair value valuation of the investments.

Based on their contractual maturity, an amount of € 20,238 million (2018: € 18,089 million) of fixed income investments is expected to be recovered after one year after the balance sheet date. For assets without a contractual maturity date, it is expected that they will be recovered after more than one year after the balance sheet date.

Investment income

Breakdown of investment income per category

	2019	2018
Interest income from receivables due from credit institutions	128	147
Interest income from investments	300	322
Interest income from amounts due from customers	232	244
Interest income from trade receivables and derivatives	438	359
Other interest income	33	19
Interest income	**1,132**	**1,092**
Dividend on equities	59	60
Dividend on subsidiairies	15	23
Dividend on real estate equity funds	47	47
Dividend on mortgage equity funds	1	-
Rentals from investment property	47	48
Other investment income	-	-
Dividend and other investment income	**169**	**178**
Total Investment income	**1,301**	**1,270**

The effective interest method has been applied to an amount of € 661 million (2018: € 714 million) of the interest income from financial assets not classified at fair value through profit or loss. Interest income includes € 4 million (2018: € 5 million) in interest received on impaired fixed-income securities.

Interest income from investments 2018 is restated for a change in presentation for negative interest paid on derivative assets and positive interest received on derivative liabilities.

A.3.2 Company statement of comprehensive income

Company statement of comprehensive income for the year ended 31 December

(in € millions)	2019	2018
Profit for the year	**704**	**575**
Unrealised change in value of property for own use	7	8
Income tax on items that will not be reclassified to profit or loss	-2	-2
Total items that will not be reclassified to profit or loss	**5**	**6**
Unrealised change in value of available for sale assets	1,445	-323
Realised gains/(losses) on available for sale assets reclassified to profit or loss	-129	-206
Shadow accounting	-979	239
Segregated investment pools	-101	114
Income tax on items that may be reclassified subsequently to profit or loss	-24	30
Total items that may be reclassified subsequently to profit or loss	**212**	**-145**
Total other comprehensive income for the year, after tax	**217**	**-140**
Total comprehensive income	**920**	**435**
Attributable to:		
- Shareholders of the parent	920	435
Total comprehensive income attributable to holders of equity instruments	**920**	**435**

Shadow accounting allows a recognised but unrealised gain or loss on an asset to be transferred to liabilities arising from insurance contracts.

A.3.3 Information about investments in securities

As a.s.r. leven has no investments in securitisation, no further information is included here.

A.4 Performance of other activities

No other activities are material.

A.5 Any other information

Integration of last year's acquisition Generali Nederland

The Generali Nederland life products are being rebranded into one of a.s.r.'s leven labels. After the integration of the Funeral portfolio of Generali life was already finalised in 2018, a.s.r. has integrated Generali life activities. After the integration of a small Pension portfolio in the first quarter of 2020, the integration of Generali will be completed.

a.s.r. acquired Loyalis

In December 2018, a.s.r. and APG Groep N.V. (APG) have agreed that a.s.r. will acquire insurer Loyalis N.V. (hereafter Loyalis) from APG. On 1 May 2019, a.s.r. announced the completion of its acquisition of Loyalis by acquiring all issued and outstanding shares for a total consideration of € 436 million paid in cash, financed by a.s.r. with a subordinated Tier 2 liability.

Loyalis Levensverzekeringen N.V. (Loyalis Life) legally merged into a.s.r. leven as per 30 September 2019. Loyalis was founded in 2002 and employs circa 300 FTEs of which approximately 45 FTEs dedicated to Life insurance. The Heerlen based insurer offers disability insurance, life insurance and supplementary pensions for employers, employees and selfemployed persons. Loyalis Leven has approximately 125,000 insured persons and around 1,000 employers. The company also offers services in the field of prevention, vitality, absenteeism and reintegration. The life and pension activities of Loyalis are expected to be integrated into those of a.s.r. in 2020.

a.s.r. acquires VvAA

On 19 July 2019 it was announced that ASR Nederland N.V. (a.s.r.) and VvAA have agreed that a.s.r. will acquire the Life portfolio of insurer VvAA. This portfolio amounts to approximately 18,000 policies, annualised premium of € 28 million and a total assets of € 430 million. The total consideration paid amounts to € 34 million. VvAA is a Dutch association that assists physicians, paramedics and students for those professions with financial, business and legal advice, insurance and training. VvAA was founded in 1924 by three physicians and grown to an association of more than 120.000 employees working in healthcare. 14 employees were transferred from VvAA to a.s.r. The life activities of VvAA are expected to be integrated into those of a.s.r. in 2020.

B System of governance

In the case where the text below refers to 'the company', a.s.r. leven is meant.

B.1 General information on the system of governance

B.1.1 Corporate governance

Executive Board

The Executive Board (EB) is collectively responsible for the day-to-day conduct of business of a.s.r. as a whole and for its strategy, structure and performance. In performing its duties, the EB is guided by a.s.r.'s interests, which include the interests of the businesses connected with a.s.r., which, in turn, include the interests of customers, shareholders, employees and society in general. For the performance of its duties, the EB is accountable to the SB and to the General Meeting of shareholders.

The EB consists of four members. The General Meeting of Shareholders appoints the members of the EB and may suspend or dismiss any member of the EB at any time.
The SB may also suspend any member of the EB. A suspension by the SB may be initiated by the General Meeting of Shareholders at any time.

In addition to the EB, the three divisions of a.s.r. Leven each have their own management team (MT).

Supervisory Board

The SB performs its duties on the basis of three roles; the supervisory role, the advisory role and the employer's role. The SB supervises the policy pursued by the EB and the general course of affairs at a.s.r. and its group entities. Specific powers are vested in the SB, including the approval of certain decisions taken by the EB.

The SB consists of four members. The General Meeting of Shareholders appoints the members of the SB and may suspend or dismiss any member of the SB at any time.

B.1.1.1 Supervisory Board Committees

This paragraph contains a description of group policy, which is applicable for a.s.r. leven.

The SB has three committees that discuss specific issues and prepare items on which the full SB takes decisions. The chairperson of each committee reports on the main points of discussion and the resulting recommendations are discussed at the subsequent SB meeting. The minutes of the committee meetings are available to the members of the SB.

The three committees are:
- The Audit & Risk Committee;
- The Remuneration Committee;
- The Selection & Appointment Committee.

Audit & Risk Committee
- Cor van den Bos (Chairman)
- Sonja Barendregt
- Herman Hintzen

The Audit & Risk Committee comprises three SB members. The composition of the committee is such as to represent the specific business know-how, financial, accounting and actuarial expertise relating to the activities of a.s.r.

The committee held ten regular meetings in 2019. In accordance with the Audit & Risk Committee Rules of Procedure, committee meetings are also attended by the CFO, the Director of Group Risk Management, the Director of Finance, Risk and Performance Management, the Director of Compliance, the Director of Audit and the independent external auditor.

During the year, outside the regular meetings, the committee met on two occasions with the Audit, Compliance, Risk Management and Actuarial Functions in their roles as countervailing powers. The Chairman of the committee also had two one-on-one meetings with each of the directors of Audit, Compliance and Group Risk Management, and two meetings with the external auditor EY.

After each financial quarter, the committee discussed the financial results based on detailed financial, risk, compliance and internal and external audit reports and analyses. Progress on the recommendations of the internal and external auditor was monitored. The full 2019 reporting year was discussed in the first quarter of 2020 based on the (quarterly) internal finance report, the press release, the Annual Report, the financial statements, the Board Report and the actuarial report. The discussion of the actuarial report was also attended by the Actuarial Function. The committee issued positive opinions on the Annual Report and on the financial statements to the SB.

The committee discussed and adopted the external auditor's letter of engagement and the audit plan for 2019. The external auditors' independence and additional fees were also reviewed each quarter. The management letter of the external auditor highlighting key internal control observations was discussed. Also, the audit results report of the external auditor was discussed. Special attention was given to the reported key audit matters: valuation of insurance contract liabilities including shadow accounting, fair value measurement of non-listed investments, Solvency II ratio and explanatory notes, unit-linked exposure, the reliability and continuity of electronic data processing and the acquisition of Loyalis. In addition, the committee discussed with the external auditor their assessment report regarding the Solvency II and IFRS LAT key non-economic assumptions. The Audit & Risk committee approved the updated charters and annual plans for 2020 of the Actuarial and Risk Management Function and the Compliance Function. It advised the SB to approve the updated charter and the audit plan 2020 of the internal Audit Function; this advice was followed.

Specific topics discussed in the committee included (i) cyber risks and IT security, with a focus on outsourced activities, (ii) fraud issues (both from external clients - e.g. inappropriate claims behaviour - or from employees) and measures taken, (iii) decreasing interest rates and impact on solvency through the balance sheet plan 2019 and quarterly projection updates and (iv) following the completion of the acquisition of Loyalis in early 2019, the integration plan and status report in view of the integration of Loyalis. Special attention was given to KPMG's transition plan, after their appointment at the general meeting of shareholders in May 2019 as the external auditor for the financial years 2020 to 2024.

a.s.r.'s solvency position was reviewed and discussed each quarter. Specific attention was paid to the UFR effect within the Solvency II framework, to the decreasing interest rates and to a.s.r.'s view on a more economic UFR scenario. The Audit & Risk Committee discussed the risk scenarios and the outcomes of the ORSA and discussed the balance sheet plan and the quarterly updates of this. In all risk scenarios of the ORSA, the solvency ratio remained – sometimes after specific management actions – within the boundaries set by a.s.r., demonstrating the robustness of a.s.r.'s solvency and the effectiveness of certain management actions. The future solvency ratio projections include the gradual decrease of the UFR as prescribed by EIOPA.

The a.s.r. risk appetite is based on a prudent approach to risk management and translates the risk appetite into qualitative business guidelines for non-financial risk matters and into requirements for solvency, liquidity and returns for the financial risks matters; solvency takes priority over profit and profit takes priority over premium income. Moreover, a.s.r.'s updated capital and dividend policy was discussed, after which the SB approved the updated policy.

The Audit & Risk Committee regularly monitored the status of the risk appetite during the year through a.s.r.'s Integrated Risk Dashboard and the status report on the management of risk priorities and at the end of the year, the Committee was informed of the outlines of the reinsurance programme for 2020.

Remuneration Committee

In 2019, the composition of the Remuneration Committee was as follows:

- Annet Aris (Chair until May 2019)
- Herman Hintzen (temporary Chairman in the period from May to November)
- Gisella van Vollenhoven (Chair as of November 2019)
- Kick van der Pol

The Remuneration Committee advises the SB on matters including the remuneration policy for the EB and SB and the terms and conditions of employment of the EB, and reviews the remuneration of senior management. The profiles of senior management have been adapted towards a more competence-based model, which improves the differentiation between the different roles.

The Remuneration Committee met six times in 2019. Its meetings were also attended by the CEO (except when issues relating to the EB were discussed) and the Director Human Resources, who also acts as Secretary in association with the Company Secretary. The committee solicits support and advice from departments such as Group Risk Management, Compliance, Audit and Human Resources. Where needed, the committee is consulted by the expertise of independent legal and pay & benefit experts.

In line with policy, the committee advised the SB on target-setting, performance appraisals and the ex-post assessments of variable payments awarded to identified staff.

From the 2018 AGM until the 2019 AGM the Remuneration Committee devoted considerable time and attention to the evaluation of the remuneration policy for the EB and SB. The committee carefully took into account the opinions of all stakeholders, since there was a risk of damaging the trust of a.s.r. and of jeopardising its market position as a socially responsible insurer. In May 2019, the remuneration policies for the EB and SB were approved by the AGM.

At the end of 2019, the ASR remuneration policy was updated in line with new regulations and the Remuneration Committee discussed the implementation of the remuneration policy for a.s.r.'s subsidiaries and participating interests. The Remuneration Disclosure 2018 was prepared and the results of the internal audit report on the application of a.s.r.'s remuneration policy were discussed.

Selection & Appointment Committee

In 2019, the composition of the Selection & Appointment Committee was as follows:

- Annet Aris (Chair until May 2019)
- Kick van der Pol (Chairman as of May 2019)
- Herman Hintzen (as of May 2019)
- Gisella van Vollenhoven (as of November 2019)

The Selection & Appointment Committee advises the SB on selection and appointment procedures and the composition of the Boards; it also prepares the (re)appointment of members. The Selection & Appointment Committee met eight times in 2019. Its meetings are also attended by the CEO and the Director of Human Resources, who also acts as Secretary of the committee in association with the Company Secretary.

At the EGM in 2019, Gisella van Vollenhoven and Gerard van Olphen were appointed as members of the SB. A selection process for the appointments of these new members began in 2019 with the help of an external agency and were prepared by the committee. Gisella van Vollenhoven was appointed with an enhanced right of recommendation from the Works Council.

The search for a new EB member as the result of the changed management structure announced in 2018 resulted in the appointment of Ingrid de Swart in December 2019. Following the announcement of the resignation of Chris Figee, the search for a new CFO started at the end of October 2019 and resulted in the announcement of the proposed candidate, Annemiek van Melick, and her appointment in February 2020.

Furthermore, the committee discussed the annual appraisals of senior management. The change to a more competence-based model for the profiles of senior managers was also a subject of discussion and was prepared by the committee. A nine-box grid was used to evaluate senior managers and to discuss their individual development and possible successors. The committee was also informed of the results of the Denison scan, a tool used to measure the success of the organisation.

Lastly, in 2019 the fourth re-appointment of Jos Baeten as CEO for a four-year term and the re-appointment of Herman Hintzen as a member of the SB were discussed and prepared by the committee. The proposals for the re-appointments will be included as agenda items at the AGM in 2020.

B.1.1.2 Corporate Governance

General

a.s.r. is a public limited company which is listed on Euronext Amsterdam and governed by Dutch corporate law. It has a two-tier board governance structure consisting of an EB and a SB. The EB is responsible for the realisation of corporate objectives, the strategy with its associated risks and the delivery of the results. The SB is responsible for advising the EB, supervising its policies and the general state of affairs relating to a.s.r. and its group entities. As of 1 February 2019 a.s.r. changed its management structure. This was effected through the appointment of a Business Executive Committee (BEC). The BEC works alongside the EB and shares responsibility for the implementation of the business strategy.

Structure
ASR Nederland N.V. is the Group's holding company. a.s.r. leven is one of the supervised entities (OTSOs) within the Group. On 1 May 2019, ASR Nederland N.V. completed the acquisition of Loyalis N.V. Loyalis N.V. was legally merged into ASR Nederland N.V. on 1 August 2019. The operating company Loyalis Leven N.V. legally merged with ASR Levensverzekering N.V. on 1 October 2019. On 19 July 2019, ASR Nederland N.V. announced the acquisition of VvAA Levensverzekeringen N.V. The completion of the acquisition was effected on 1 January 2020.

The EB members and SB members of ASR Levensverzekering N.V. are the same as those of ASR Nederland N.V.

B.1.1.3 Executive Board

The EB is collectively responsible for the day-to-day conduct of business at a.s.r. and for its strategy, structure and performance. In carrying out its duties, the EB is guided by a.s.r.'s interests, which include the interests of the businesses connected with it, which in turn include the interests of customers, shareholders, employees and society at large. The EB is accountable to the SB and the AGM with regard to the performance of its duties.

Certain resolutions of the EB require approval of the SB and/or the AGM. These resolutions are outlined in the articles of association of a.s.r. leven.

Composition
The articles of association specify that the EB must consist of a minimum of two members, including at least a CEO and CFO. Only candidates found to meet the 'fit and proper test' under the Dutch Financial Supervision Act are eligible for appointment. In accordance with Article 17.1 of the articles of association of ASR Nederland N.V., the SB appoints the members of the EB and may suspend or dismiss any EB member at any time. The SB also notifies the AGM of proposed (re)appointments. At the beginning of 2019, a.s.r. was in a period of transition following the previous announcement of a change in its management structure. Following the introduction of its new management structure, the EB now consists of three members: the CEO, CFO and a member. The existing Chief Operating Officer (COO) position has been withdrawn and Karin Bergstein and Michel Verwoest resigned as COOs of the EB with effect from 1 February 2019. The selection procedure for a new EB member began in November 2018. Between 1 February and 1 December 2019, the EB temporarily consisted of two members under the chairmanship of Jos Baeten. In anticipation of the appointment of the new member, the portfolio was temporarily divided between the CEO and CFO. On 29 May 2019, the SB announced the nomination of Ingrid de Swart as member of the EB. At the 2019 EGM, the SB discussed the proposed appointment of Ingrid de Swart as a member of the EB. The SB subsequently appointed Ingrid de Swart for a four-year term with effect from 1 December 2019. On 1 October 2019, a.s.r. confirmed the resignation of Chris Figee as CFO and EB member. As of 1 February 2020, Chris Figee stepped down. The selection procedure for a suitable successor for the CFO position has begun immediately after the announcement. On 20 December 2019, a.s.r. announced the nomination of Annemiek van Melick as candidate as CFO and EB member. Annemiek van Melick was appointed by the SB after the EGM on 12 February 2020.

In addition to the Executive Board, the three divisions of a.s.r. leven each have their own management team (MT).

Remuneration
Information on the remuneration policy for members of the Executive Board and their individual remunerations can be found in the Remuneration report in the Annual Report for ASR Nederland N.V.

Permanent education and evaluation
The 2019 self-evaluation session of the EB was conducted and discussed on the basis of a questionnaire. The general impression that emerged from this self-evaluation was positive. The main topic in this evaluation was the transition to a new composition of the EB and time will be invested in getting to know each other better in this new composition. In the context of the change of the CFO, attention is paid to knowledge transfer. Strategic themes that played a role in the past year will also play in the coming year: e.g. shrinkage of the life book and cost development. In addition other accents will also be laid, including a more customer-oriented organisation.

The performance of the members of the EB was also assessed by the SB as part of the scope of the annual assessment process. In this context, interviews are held twice a year with the individual members of the EB (by two SB members each time) in which the results of the aforementioned self-evaluation was included.

In 2019, specific sessions were also organised jointly with the SB and the senior management for the benefit of further education. The first session was a follow-up on the explanation of IFRS 17, the new accounting standard for insurance contracts, led by Finance, Risk & Performance Management. The new regulations will impact future external reporting on insurance contracts. The implementation of IFRS 17 within a.s.r. is a major project. The second session focused on

Investment Management. This knowledge session was led by a.s.r. Asset Management and took place at the end of the year. During this session, the SB, EB and senior management were given an update on strategic investment management, Artificial Intelligence (AI) and robotisation in investment management, economic development and the strategic vision for 2020.

The individual EB members attended (leadership) sessions on various topics in their capacity as board members and supervisory directorships in other organisations.

Business Executive Committee
On 1 February 2019, a Business Executive Committee (BEC) was established. Through the creation of the BEC, a.s.r. increased direct involvement of the senior managers of the product lines in further strengthening a.s.r.'s innovative power. It also enables a.s.r. to act decisively with respect to potential inorganic opportunities. The BEC consists of the members of the EB, the Chief Risk Officer (CRO) and senior managers representing specific business areas. The following business areas are represented in the BEC: Service Books (Individual life & Funeral), Pensions, Disability, Health, P&C, Asset Management, Mortgages and Innovation & Digitisation. Through the creation of the BEC, a.s.r. increased direct involvement of the senior managers of the product lines in further strengthening a.s.r.'s innovative power. It also enables a.s.r. to act decisively with respect to potential inorganic opportunities.

The BEC works in tandem with the EB, and is co-responsible for the implementation of the business strategy. Only the members of the EB have voting rights in the meeting of the BEC. The BEC will ensure the direct involvement, knowledge and skills of a.s.r.'s senior management responsible for specific business areas in the decision-making process at board level. With part of the industry in motion, it is vital that a.s.r. is able to respond quickly to opportunities that arise and efficiently anticipate constantly changing customer needs.

The SB will continue to maintain contact with the members of the EB as its primary role. As is already common practice, relevant senior managers will join SB meetings depending on what is on the agenda. The SB supervises the functioning of the BEC as a whole and the relationship between the EB and the BEC. The performance of the senior managers is also discussed between the EB and SB in the context of the review of senior management and succession planning.

B.1.1.4 Supervisory Board

The SB has three roles: the supervisory role, the advisory role and the employer's role for the EB. The SB supervises the policy pursued by the EB and the general course of affairs at a.s.r. and its group entities. Specific powers are vested in the SB, including approving certain EB decisions.

Composition of the Supervisory Board
In line with a.s.r.'s articles of association, the SB should consist of at least three members. There were a few changes to the changes to the composition of the SB in 2019. According to the rotation schedule, the third term of office of the Chairman of the SB expired at the close of the 2019 AGM. With a view to preserving continuity in the SB, Kick van der Pol was nominated by the SB for a special extension of his term for (a maximum of) two years. The AGM reappointed Kick van der Pol as member and Chairman of the SB. Annet Aris resigned as a member of the SB at the end of the 2019 AGM. Due to the resignation of Annet Aris and the forthcoming changes in the composition of the SB (resignation of Cor van den Bos) in accordance with the retirement schedule, the SB nominated two candidates as new members in order to ensure continuity within the SB and its committees. At the EGM on 30 October 2019, the proposed candidates, Gisella van Vollenhoven and Gerard van Olphen, were appointed as new members of the SB. The SB now consists of six members: Kick van der Pol (Chairman), Cor van den Bos, Herman Hintzen, Sonja Barendregt, Gisella van Vollenhoven and Gerard van Olphen. The composition of the SB of ASR Levensverzekering N.V. and ASR Schadeverzekering N.V. is the same as that of ASR Nederland N.V.

Permanent education and evaluation
The SB is responsible for assessing the quality of its own performance. It therefore performs an annual self-assessment and discussion of its own performance and that of its committees and members. A self-assessment with external supervision is carried out every three years. The self-assessment for 2019 was carried out with internal guidance. The assessment was based on written and oral input from the members of the SB, the EB and the Company Secretary. The following aspects were assessed:
- Composition and functioning of the SB (strengths and points for improvement);
- Effectiveness of processes (information-gathering and decision-making);
- Advisory role;
- Role as an employer.

The outcome of the assessment was discussed by the members of the SB and the Company Secretary. The SB has an open, constructive and professional relationship with the EB. Dilemmas, in general or in specific files, are openly discussed both during meetings and during informal (one-to-one) contact. The EB feels and knows that it is supported by the SB in its relationship with the supervisory authorities. In terms of composition, the SB is positive about the changes in the past year and the result thereof in the dynamics. With the entry of the two new members, Gisella van Vollenhoven and Gerard van Olphen, diversity has increased. The current composition is assessed as good and multiform. However, a high degree of knowledge/experience with innovation and digitization is relatively limited and therefore a point for attention. This will be guaranteed, among other things, through continuing education and a possible external working visit in this context. The search for a new chairman (with relevant board experience and knowledge of the insurance sector) is also a point for attention. In addition, the SB will devote specific attention in the coming year to the onboarding of the new members of the EB and the relationship with the BEC. In the coming year there will also be attention for further digitization in the interest of the customer and the development of costs.

In 2019, specific sessions were also organised jointly with the EB and the senior management for the benefit of further education. The first session was a follow-up on the explanation of IFRS 17, the new accounting standard for insurance contracts, led by Finance, Risk & Performance Management. The new regulations will impact future external reporting on insurance contracts. The implementation of IFRS 17 within a.s.r. is a major project. The second session focused on Investment Management. This knowledge session was led by a.s.r. Asset Management and took place at the end of the year. During this session, the SB, EB and senior management were given an update on strategic investment management, AI and robotisation in investment management, economic development and the strategic vision for 2020.

The individual members were given updates and presentations on various topics in view of their supervisory directorships at several Dutch and foreign enterprises and institutions.

B.1.1.5 Governance Codes

Professional oath

On 1 January 2013, the Dutch financial sector introduced a mandatory oath for EB and SB members of financial institutions licensed in the Netherlands. With regard to insurance companies, in addition to the EB and SB members, individuals holding a management position immediately below the EB who are responsible for staff who may have a significant influence on the risk profile of the insurance company, are also required to take the oath, as are certain other employees. This includes individuals who may (independently) significantly influence the risk profile of the undertaking as well as those who are or may be involved in the provision of financial services.

For banks based in the Netherlands, such as ASR Bank N.V., all individuals working under the responsibility of the bank are required to take a similar bankers' oath with effect from 2015. Those who have taken the bankers' oath are subject to disciplinary rules.

Notwithstanding the above, a.s.r. has decided that all employees and other individuals carrying out activities under its responsibility must take the oath. New employees must take the oath within three months of joining the company.

Decision on disclosure of non-financial information and Decision on disclosure of diversity policy
a.s.r. also wants to be transparent concerning the non-financial information in its Management Report. Since the 2017 reporting year, the relevant legal requirements have been tightened for large companies of public interest. Such organisations, which include a.s.r., are now expected to clarify how they deal with environmental, social and personnel issues, respect for human rights and the fight against corruption and bribery in their business operations and value chain. Large listed companies must also provide insight into their policy on diversity in relation to the Executive and SBs. Annex xx states where the information requirements specified by the new legislation can be found in the annual report.

B.1.2 Related-party transactions

A related party is a person or entity that has significant influence over another entity, or has the ability to affect the financial and operating policies of the other party. Parties related to a.s.r. leven include a.s.r. and its subsidiaries, associates, members of the Executive Board, members of the Supervisory Board, close family members of any person referred to above, entities controlled or significantly influenced by any person referred to above and any other affiliated entity.

a.s.r. leven regularly enters into transactions with related parties during the conduct of its business. These transactions mainly involve loans and receivables, allocated costs and premiums received, and are conducted on terms equivalent to those that prevail in arm's length transactions.

- The remuneration and the mortgages of the Executive Board and Supervisory Board of a.s.r. leven are described in chapter 6.3 of the annual report 2019 of ASR Nederland N.V.;

- The operating expenses, reported in chapter 2.5.6, are predominantly intercompany, consisting of allocated expenses from head office, support functions and expenses related to personnel;
- Transactions with a.s.r. concern the payment of taxes as a.s.r. heads the fiscal unity. Reference is made to chapter 2.6.7;
- The post-employment benefit plan of a.s.r. has been insured by a.s.r. leven. The premium income in the following table concerns the premiums related to this post-employment benefit plan.

Positions and transactions between a.s.r. leven, associates and other related parties
The table below shows the financial scope of the related party transactions of a.s.r. leven:
- Associates;
- Other related parties (including ASR Nederland N.V. and its subsidiaries).

Financial scope of a.s.r. leven related party transactions

	2019		
	Associates	Other ralated parties	Total
Balance sheet items with related parties as at 31 December			
Loans and receivables	11	397	408
Other assets	0	43	43
Other liabilities	123	24	147
Transactions in the income statement for the financial year			
Premium income	0	12	12
Interest income	0	1	1
Fair value gains and losses	0	11	11
Operating expenses	0	41	41

	2018		
	Associates	Other related parties	Total
Balance sheet items with related parties as at 31 December			
Loans and receivables	12	348	360
Other assets	0	124	124
Other liabilities	74	10	84
Transactions in the income statement for the financial year			
Premium income	0	14	14
Fair value gains and losses	0	-5	-5
Operating expenses	0	36	36

No provisions for impairments have been recognised on the loans and receivables for the years 2019 and 2018.

All transactions were conducted at arm's length.

During 2019, a.s.r. leven paid a dividend to a.s.r. in the amount of € 356 million (2018: € 386 million), and a.s.r. sold Loyalis Life to a.s.r. leven.

B.1.3 Remuneration of Supervisory Board and Executive Board

The members of the EB and SB of a.s.r. leven are the same members in the EB and SB of a.s.r. The amount of compensation paid for the services provided by the EB and the SB of a.s.r. was not charged to a.s.r. leven, and is subsequently not accounted for in the result of a.s.r. leven.

The remuneration policy of the EB and SB Board members is determined in accordance with the current Articles of Association of a.s.r. An overview of these remunerations is described in the consolidated financial statements of a.s.r. group.

B.2 Fit and proper requirements

a.s.r. has a policy that sets out principles and criteria to ensure that persons who effectively run the undertaking and other key functions are fit and proper. The fit and proper policy provides guidance on the assessment process and contributes to controlled and sound business operations and promotes the stability and integrity of a.s.r. as well as customer confidence. a.s.r. assesses all prospective employees (internal and external FTE's) for their reliability and integrity prior to their appointment.
The fit and proper requirements that are imposed on persons who effectively run the undertaking and other key functions are included in the job profile, which is used as a basis for recruitment. Each year, an assessment is made of the extent to which an employee may require additional training. In addition, a.s.r. has a program for the continuing education of persons who effectively run the undertaking and other key functions.

B.3 Risk management system including the Own Risk and Solvency Assessment Risk Management System

It is of great importance to a.s.r. that risks within all business lines are timely and adequately controlled. In order to do so, a.s.r. implemented a Risk Management framework based on internationally recognized and accepted standards (such as COSO ERM and ISO 31000:2018 risk management principles and guidelines). Using this framework, material risks that a.s.r. is, or can be, exposed to, are identified, measured, managed, monitored and evaluated. The framework is both applicable to a.s.r. group and the underlying (legal) business entities.

B.3.1 Risk Management Framework

The figure below is the risk management framework as applied by a.s.r.

Risk Management Framework

Risk Management framework

The Risk Management (RM) framework consists of risk strategy (including risk appetite), risk governance, systems and data, risk policies and procedures, risk culture, and risk management process. The RM framework contributes to achieving the strategic, tactical and operational objectives as set out by a.s.r.

Risk strategy (incl. risk appetite)

Risk strategy is defined to contain at least the following elements:
- Strategic objectives that are pursued;
- The risk appetite in pursuit of those strategic objectives.

a.s.r.'s risk strategy aims to ensure that decisions are made within the boundaries of the risk appetite, as stipulated annually by the Executive Board (EB) and the Supervisory Board (SB) (see chapter B.3.1.1 Risk strategy and risk appetite).

Risk governance
Risk governance can be seen as the way in which risks are managed, through a sound risk governance structure and clear tasks and responsibilities, including risk ownership. a.s.r. employs a risk governance framework that entails the tasks and responsibilities of the risk management organization and the structure of the Risk committees (see chapter B.3.1.2 Risk governance).

Systems and data
Systems and data support the risk management process and provide management information to the risk committees and other relevant bodies. a.s.r. finds it very important to have qualitatively adequate data, models and systems in place, in order to be able to report and steer correct figures and to apply risk-mitigating measures timely. To ensure this, a.s.r. has designed a policy for data quality and model validation in line with Solvency II. Tools, models and systems are implemented to support the risk management process by giving guidance to and insights into the key risk indicators, risk tolerance levels, boundaries and actions, and remediation plans to mitigate risks (see chapter B.3.1.3 Systems and data).

Risk policies and procedures:
Risk policies and procedures at least[1]:
- Define the risk categories and the methods to measure the risks;
- Outline how each relevant category, risk area and any potential aggregation of risk is managed;
- Describe the connection with the overall solvency needs assessment as identified in the Own Risk & Solvency Assessment (ORSA), the regulatory capital requirements and the risk tolerances;
- Provide specific risk tolerances and limits within all relevant risk categories in line with the risk appetite statements;
- Describe the frequency and content of regular stress tests and the circumstances that would warrant ad-hoc stress tests.

The classification of risks within a.s.r. is performed in line with, but is not limited to, the Solvency II risks. Each risk category consists of a policy that explicates how risks are identified, measured and controlled within a.s.r. (see chapter B.3.1.4 Risk policies and procedures).

Risk culture
An effective risk culture is one that enables and rewards individuals and groups for taking risks in an informed manner. It is a term describing the values, beliefs, knowledge, attitudes and understanding about risk. All the elements of the RM framework combined make an effective risk culture.

Within a.s.r. risk culture is an important element that emphasizes the human side of risk management. The EB has a distinguished role in expressing the appropriate norms and values (tone at the top). a.s.r employs several measures to increase the risk awareness and, in doing so, the risk culture (see chapter B.3.1.5 Risk culture).

Risk management process
The risk management process contains all activities within the RM processes to structurally 1) identify risks; 2) measure risks; 3) manage risks; 4) monitor and report on risks; and 5) evaluate the risk profile and risk management framework. At a.s.r., the risk management process is used to implement the risk strategy in the steps mentioned. These five steps are applicable to the risks within the company to be managed effectively (see chapter B.3.1.6 Risk Management process).

1 EIOPA-BoS-253-Guidelines_on_System_of_Governance_EN.pdf.

Risk appetite Statement ASR Nederland N.V. 2019

1	ASR Nederland N.V. places long-term value creation at the forefront of its (strategic) operations. ASR Nederland N.V. is a socially responsible organisation which ensures that all stakeholders' interests are met in a balanced and sustainable way.	NFR
2	ASR Nederland N.V. ensures that operational risks are controlled efficiently and effectively: a. ASR Nederland N.V. has efficient and effective business processes; b. ASR Nederland N.V. has reliable financial reports; c. ASR Nederland N.V. has controlled internal and external outsourcing; d. ASR Nederland N.V. has IT that processes information reliably; e. ASR Nederland N.V. has controlled (efficient and effective) projects	NFR
3	ASR Nederland N.V. complies with current laws, regulations and ethical (and inherent internal) norms. ASR Nederland N.V. meets the (reasonable) expectations of stakeholders and offers solid and reliable products which are cost-efficient, useful, safe and comprehensible to customers, intermediaries and ASR's internal organisation. Conducting honest business ensures that ASR's reputation is protected.	NFR
4	ASR Nederland N.V. has a minimum SCR ratio of 120%.	FR
5	ASR Nederland N.V. remains within the bandwidth of periodically reassessed market risk budgets.	
6	ASR Groep (including ASR Nederland N.V., ASR Levensverzekering N.V. and ASR Schadeverzekering N.V.) has at least a single A rating and therefore holds an AA rating in accordance with the S&P Capital Model. ASR Nederland N.V. assesses the amount of dividend payments against the current and expected future solvency ratio and economic outlook. Dividend payments are in line with the conditions laid down in the capital and dividend policy of ASR Nederland N.V.	FR
7	SR Nederland N.V. has a maximum financial leverage ratio of 40% Financial leverage ratio = Debt / (Debt + Equity)	FR
8	ASR Nederland N.V. has a maximum double leverage ratio of 135%. Double leverage ratio = Total value of associates / (equity attributable to shareholders + hybrids and subordinated liabilities)	FR
9	ASR Nederland N.V. has a minimum interest coverage ratio of between 4 and 8. Interest coverage ratio = EBIT operational / interest expense	FR
10	ASR Nederland N.V. is capable of releasing liquidities worth up to € 1 billion over a 1-month period following stress and remains capable of meeting its collateral requirements in the event of a 3% interest increase.	FR
11	ASR Nederland N.V. generates a robust and high-quality operational ROE, i.e. pursues an overall ROE > 12% and seeks an ROE > 10% for individual investment decisions, where in exceptional cases an ROE > 8% is accepted.	FR
12	ASR Nederland N.V. has a maximum combined ratio of 99%.	FR
13	ASR Nederland N.V., has total market risk which will be a maximum of 50% of the total risk	FR

Risk strategy aims to ensure that management decisions lead to a risk profile that remains within the risk limits. The risk strategy entails all processes to identifying, assessing and managing risks and opportunities. Through a combined top-down and bottom-up Strategic Risk Analysis (SRA) approach, the most important strategic risks are identified. For each of the strategic risks an estimation of the likelihood and impact is made to prioritize the risks. The main strategic risks are translated into 'risk priorities' (including emerging risks) at group level and are monitored throughout the year in the BEC – Risk meeting. Output from the SRA, combined with the risk appetite statements, provides insight into the strategic risk profile of a.s.r. and underlying legal entities. The entire risk profile is monitored in the relevant risk committees.

B.3.1.2 Risk governance

a.s.r.'s risk governance can be described by:

- Risk ownership;
- the implemented three lines of defence model and associated (clear delimitation of) tasks and responsibilities of key function holders; and
- the risk committee structure to ensure adequate decision making.

Risk ownership

The EB has the final responsibility for risk exposures and management within the organization. Part of the responsibilities have been delegated to persons that manage the divisions where the actual risk-taking takes place. Risk owners are accountable for one or more risk exposures that are inextricably linked to the department or product line they are responsible for. Through the risk committee structure, risk owners provide accountability for the risk exposures.

Three lines of defence

The risk governance structure is based on the 'three lines of defence' model. The 'three lines of defence' model consists of three defence lines with different responsibilities with respect to the ownership of controlling risks. The model below provides insight in the organization of the three lines of defence within a.s.r.

Three lines of defence model

Three lines of defence		
First line of defence	**Second line of defence**	**Third line of defence**

• Executive Board
• Management teams of the business lines and their employees
• Finance & risk decentral
	• Group Risk Management department
	  - Risk management function
	  - Actuarial function
	• Integrity department
	  - Compliance function
		• Audit department
		  - Internal audit function

Ownership and implementation	Policies and monitoring implementation by 1st line	Independent assessment of 1st and 2nd lines
• Responsible for the identification and the risks in the daily business • Has the day-to-day responsibility for operations (sales, pricing, underwriting, claims handling, etc.) and is responsible for implementing risk frameworks and policies.	• Challenges the 1st line and supports the 1st line to achieve their business objectives in accordance with the risk appetite • Has sufficient countervailing power to prevent risk concentrations and other forms of excessive risk taking • Responsible for developing risk policies and monitoring the compliance with these policies	• Responsible for providing dedicated assurance services and oversees and assesses the functioning and the effectiveness of the first two lines of defence

Positioning of key functions

Within the risk governance, the key functions (compliance, risk, actuarial and audit) are organized in accordance with Solvency II regulation. They play an important role as countervailing power of management in the decision-making process. The four key functions are independently positioned within a.s.r. In all the risk committees one or more key functions participate. None of the functions has voting rights in the committees, in order to remain fully independent as countervailing power. All functions have direct communication lines with the EB and can escalate to the chairman of the Audit & Risk Committee of the SB. Furthermore, the key functions have regular meetings with the supervisors of the Dutch Central Bank (DNB) and/or The Dutch Authority for the Financial Markets (AFM).

Group Risk Management
Group Risk Management (GRM) is responsible for the execution of the risk management function (RMF) and the actuarial function (AF). The department is led by the CRO. GRM consists of the following sub-departments:
- Enterprise Risk Management;
- Financial Risk Management (including AF).

Enterprise Risk Management
Enterprise Risk Management (ERM) is responsible for second-line operational (including IT) risk management and the enhancement of the risk awareness for a.s.r. and its subsidiaries. The responsibilities of ERM include the development of risk policies, the annual review and update of the risk strategy (risk appetite), the coordination of the SRA process leading to the risk priorities and ORSA scenarios and the monitoring of the non-financial risk profile. For the management of operational risks, a.s.r has a solid Risk-Control framework in place that contributes to its long-term solidity. The RMF monitors and reviews the non-financial strategic and operational risk profile. The quality of the framework is continuously enhanced by the analysis of operational incidents, periodic risk assessments and monitoring by the RMF. ERM actively promotes risk awareness at all levels to contribute to the vision of staying a socially relevant insurer.

Financial Risk Management
Financial Risk Management (FRM) is responsible for the second line financial risk management and supports both the AF and RMF. An important task of FRM is to be the countervailing power to the EB and management in managing financial risks for a.s.r. and its subsidiaries. FRM assesses the accuracy and reliability of the market risk, counterparty risk, insurance risk and liquidity risk, risk margin and best estimate liability. Other responsibilities are model validation and policies on valuation and risk. FRM is also responsible for the actuarial function. As part of the AF, FRM reviews the technical provisions, monitors methodologies, assumptions and models used in these calculations, and assesses the adequacy and quality of data used in the calculations. Furthermore, the AF expresses an opinion on the underwriting policy and determines if risks related to the profitability of new products are sufficiently addressed in the product development process. The AF also expresses an opinion on the adequacy of reinsurance arrangements.

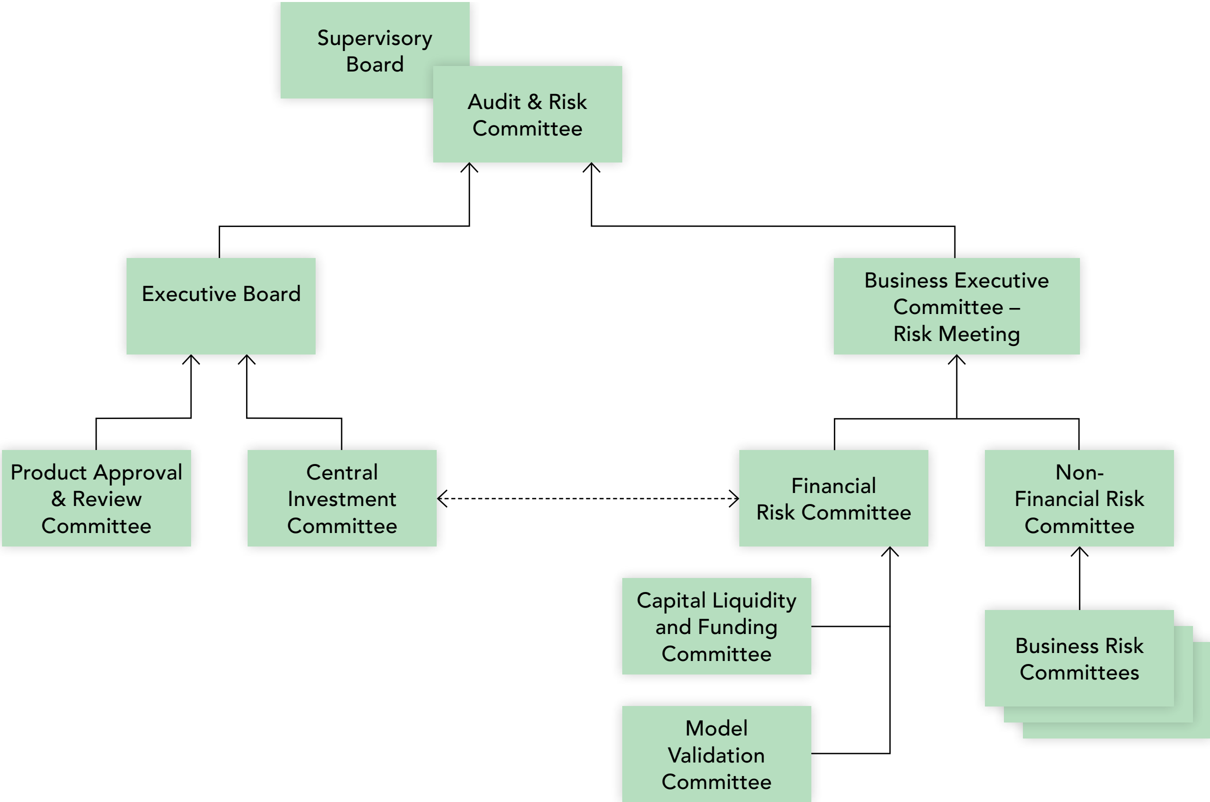
Compliance
Compliance is responsible for the execution of the compliance function. An important task of Compliance is to be the countervailing power to the EB and other management in managing compliance risks for a.s.r. and its subsidiaries. The mission of the compliance function is to enhance and ensure controlled and sound business operations where impeccable, professional conduct is self-evident.

As second line of defence, Compliance encourages the organization to comply with relevant rules and regulations, ethical standards and the internal standards derived from them ('rules') by providing advice and devising policies. Compliance supports the first line in the identification of compliance risks and assesses the effectiveness of risk management on which Compliance reports to the relevant risk committees. In doing so, Compliance uses a compliance risk and monitoring framework. In line with risk management, Compliance also creates further awareness in order to promote a culture of integrity. Compliance coordinates contacts with regulators in order to maintain an effective relationship and keeps oversight of the current topics.

Audit
The Audit department, the third line of defence, provides an independent opinion on governance, risk and management processes, with the goal of supporting the EB and other management of a.s.r. in achieving the corporate objectives. To that end, Audit evaluates the effectiveness of governance, risk and management processes, and provides pragmatic advice that can be implemented to further optimize these processes. In addition, senior management can engage Audit for specific advisory projects.

Risk committee structure
a.s.r. has established a structure of risk committees with the objective to monitor the risk profile for a.s.r. group, its legal entities and its business lines in order to ensure that it remains within the risk appetite and the underlying risk tolerances and risk limits. When triggers are hit or likely to be hit, risk committees make decisions regarding measures to be taken, being risk-mitigating measures or measures regarding governance, such as the frequency of their meetings. For each of the risk committees a statute is drawn up in which the tasks, composition and responsibilities of the committee are defined.

Risk committee structure



Audit & Risk Committee

The Audit & Risk Committee was established by the Supervisory Board to gain support, among other things, in the following matters:

- Assessment of the risk appetite proposal and quarterly monitoring of the risk profile
- Assessment of the annual report, including the financial statements of ASR Nederland N.V.;
- The relationship with the independent external auditor, including the assessment of the quality and independence of the independent external auditor and the proposal by the SB to the AGM to appoint the independent external auditor;
- The performance of the audit function, compliance function, the actuarial function and the risk management function;
- Compliance with rules and regulations; and
- The financial position.

The Audit & Risk Committee has three members of the SB, one of whom acts as the chairman.

Business Executive Committee – Risk meeting

The Business Executive Committee – Risk meeting (BEC – Risk meeting) monitors a.s.r.'s overall risk profile on a quarterly basis. At least annually, the BEC – Risk meeting determines the risk appetite statements, limits and targets for a.s.r. This relates to the overall a.s.r. risk appetite and the subdivision of risk appetite by financial and non-financial risks. The risk appetite is then submitted to the a.s.r. Audit & Risk Committee, which advises the SB on the approval of the risk appetite. The BEC – Risk meeting also monitors the progress made in managing risks included in the Risk Priorities of the EB.

All members of the EB participate in the BEC – Risk meeting, which is chaired by the CEO. The involvement of the EB ensures that risk decisions are being addressed at the appropriate level within the organization. In addition to the EB, the Key Functions (Risk management, Compliance, Internal audit, Actuarial function) are members of the Committee. In addition, it consists of a number of senior managers who present a number of focus areas.

Non-Financial Risk Committee

The Non-Financial Risk Committee (NFRC) discusses, advises and decides upon non-financial risk policies. The most relevant risk policies are approved by the BEC – Risk meeting. The NFRC monitors that non-financial risks are managed adequately and monitors that the risk profile stays within the agreed risk limits. If the risk profile exceeds the limits, the NFRC takes mitigating actions. The NFRC reports to the BEC – Risk meeting. The NFRC is chaired by a member of the EB.

Financial Risk Committee
The Financial Risk Committee (FRC) discusses and decides upon financial risk policies. The most relevant financial risk policies are approved by the BEC – Risk meeting. The FRC monitors and controls financial risks (market, insurance (life and non-life) and counterparty default risk). The FRC also monitors whether the risk profile stays within the risk limits. If the risk profile exceeds these limits, the FRC takes mitigating actions. The FRC reports to the BEC – Risk meeting. The Chairman of the FRC is the CFO.

Capital, Liquidity and Funding Committee
The Capital, Liquidity and Funding Committee (CLFC) is a subcommittee of the FRC. As such, the CLFC prepares and assesses the technical analysis of capital, liquidity and funding positions, rating policy, rating model reporting, and treasury activities. The Chairman of the CLFC is the Director of Group Asset Management.

Model Validation Committee
The model validation committee (MVC) is a subcommittee of the FRC and is responsible for the execution and update of the model validation policy and the approval of validation of existing or newly developed models. The MVC receives all required information for the validation of models (e.g. model documentation and validation reports) prepared by the validation board (MVB) that assures the quality of the validation process. The chairman of the MVC is the CRO.

Business Risk Committees
The business lines manage and control their risk profile through the Business Risk Committees (BRC). The BRC's monitor that the risk profile of the business lines stays within the risk appetite, limits and targets, as formulated by the EB. The BRC reports to the FRC and the NFRC. The Chairman of the BRC is the Managing Director of the business line.

Central Investment Committee
In addition to the risk committee structure, the Central Investment Committee (CIC) monitors tactical decisions and the execution of the investment policy. It takes investment decisions within the boundaries of the strategic asset allocation as agreed upon in the FRC. The CIC bears particular responsibility for investment decisions exceeding the mandate of the investment department. The CIC is chaired by the Director of Group Balance Sheet Management (GBSM).

Product Approval and Review Process Board
The Product Approval & Review Process Board (PARP Board) is responsible for the final decision-making process around the introduction of new products and adjustments in existing products. The committee evaluates if potential risks in newly developed products are sufficiently addressed. New products need to be developed in such a way that they are cost efficient, reliable, useful and secure. New products also need to have a strategic fit with a.s.r.'s mission to be a solid and trustful insurer. In addition, the risks of existing products are evaluated, as requested by the product approval and review process as a result of product reviews. The PARP Board is chaired by the managing Director of the business line Health.

B.3.1.3 Systems and data
GRC tooling is implemented to support the risk management process by giving guidance and insight into the key risk indicators, risk tolerance levels, boundaries and actions and remediation plans to mitigate risks. The availability, adequacy and quality of data and IT systems is important in order to ensure that correct figures are reported and risk mitigating measures can be taken in time. It is important to establish under which conditions the management information that is submitted to the risk committees has been prepared and which quality safeguards were applied in the process of creating this information. This allows the risk committees to ascertain whether the information is sufficient to base further decisions upon.

a.s.r. has a Data Governance and Quality policy in place to support the availability of correct management information. This policy is evaluated on an annual basis and revised at least every three years to keep the standards in line with the latest developments on information management. The quality of the information is reviewed based on the following aspects, based on Solvency II:
- completeness (including documentation of accuracy of results);
- adequacy;
- reliability;
- timeliness.

The preparatory body or department checks the assumptions made and the plausibility of the results, and ensures coordination with relevant parties. When a preparatory body has established that the information is reliable and complete, it approves and formally submits the document(s) to a risk committee.

The information involved tends to be sensitive. To prevent unauthorized persons from accessing it, it is disseminated using a secure channel or protected files. a.s.r.'s information security policy contains guidelines in this respect.

a.s.r.'s information security policy is based on ISO 27002 'Code of practice for information security management'. This Code describes best practices for the implementation of information security.

The aim of the information security policy is to take measures to ensure that the requirements regarding availability, reliability and integer and confidential use of systems and data are met.

- Information availability refers to the degree to which the information is at hand as soon as the organization needs it, meaning, for instance, that the information should be retrievable on demand and that it can be consulted and used at the right time;
- The integrity, i.e. reliability, of information is the degree to which it is up-to-date, complete and error-free;
- 'Confidential use' refers to the degree to which the information is available to authorized persons only and the extent to which it is not available to unauthorized persons.

There are technical solutions for accomplishing this, by enforcing a layered approach (defence-in-depth) of technical measures to avoid unauthorized persons (i.e. hackers) to compromise a.s.r. corporate data and systems. In this perspective, one may think of methods of logical access management, intrusion detection techniques, in combination with firewalls are aimed at preventing hackers and other unauthorized persons from accessing information stored on a.s.r. systems. Nevertheless, confidential information can also have been committed to paper. In addition to technical measures there are physical measures and measures that helps the right awareness of personnel as part of the information security environment.

When user defined models (e.g. spreadsheets) are used for supporting the RM Framework, the 'a.s.r. Standard for End user computing'- in addition to the general security policy - defines and describes best practices in order to guard the reliability and confidentiality of these tools and models. a.s.r. recognizes the importance of sound data quality and information management systems.
The management of IT and data risks of the implemented tools, models and systems (including data) is part of the Operational IT risk management.

B.3.1.4 Risk policies and procedures
a.s.r. has established guidelines, including policies that cover all main risk categories (market, counterparty default, liquidity, underwriting, strategic and operational). These policies address the accountabilities and responsibilities regarding management of the different risk types. Furthermore, the methodology for risk measurement is included in the policies. The content of the policies is aligned to create a consistent and complete set. The risk policy landscape is maintained by Group Risk Management and Compliance. These departments also monitor the proper implementation of the policies in the business. New risk policies or updates of existing risk policies are approved by the risk committees as mentioned previously.

B.3.1.5 Risk culture
Risk awareness is a vital component of building a sound risk culture within a.s.r. that emphasizes the human aspect in the management of risks. In addition to gaining sufficient knowledge, skills, capabilities and experience in risk management, it is essential that an organization enables objective and transparent risk reporting in order to manage them more effectively.

The EB clearly recognizes the importance of risk management and is therefore represented in all of the major group level risk committees. Risk Management is involved in the strategic decision-making process, where the company's risk appetite is always considered. The awareness of risks during decision-making is continually addressed when making business decisions, for example by discussing and reviewing risk scenarios and the positive and/or negative impact of risks before finalizing decisions.

It is very important that this risk awareness trickles down to all parts of the organization, and therefore management actively encourages personnel to be aware of risks during their tasks and projects, in order to avoid risks or mitigate them when required. The execution of risk analyses is embedded in daily business in, for example, projects, product design and outsourcing.

In doing so, a.s.r. aims to create a solid risk culture in which ethical values, desired behaviours and understanding of risk in the entity are fully embedded. Integrity is of the utmost importance at a.s.r.: this is translated into a code of conduct and strict application policies for new and existing personnel, such as taking an oath or promise when entering the company, and the 'fit and proper' aspect of the Solvency II regulation, ensuring that a.s.r. is overseen and managed in a professional manner.

Furthermore, a.s.r. believes it is important that a culture is created in which risks can be discussed openly and where risks are not merely perceived to be negative and highlight that risks can also present a.s.r. with opportunities. Risk Management (both centralized and decentralized) is positioned as such, that it can communicate and report on risks independently and transparently, which also contributes to creating a proper risk culture.

B.3.1.6 Risk management process

The risk management process typically comprises of five important steps: 1) identifying; 2) measuring; 3) managing; 4) monitoring and reporting; and 5) evaluating[1]. a.s.r. has defined a procedure for performing risk analyses and standards for specific assessments. The five different steps are explained in this chapter.

Identifying

Management should endeavour to identify all possible risks that may impact the strategic objectives of a.s.r., ranging from the larger and/or more significant risks posed on the overall business, down to the smaller risks associated with individual projects or smaller business lines. Risk identification comprises of the process of identifying and describing risk sources, events, and the causes and effects of those events.

Measuring

After risks have been identified, quantitative or qualitative assessments of these risks take place to estimate the likelihood and impact associated with them. Methods applicable to the assessment of risks are:

- Sensitivity analysis;
- Stress testing;
- Scenario analysis;
- Expert judgments (regarding likelihood and impact); and
- Portfolio analysis.

Managing

Typically, there are five strategies to managing risk:

- *Accept:* risk acceptance means accepting that a risk might have consequences, without taking any further mitigating measures;
- *Avoid:* risk avoidance is the elimination of activities that cause the risk;
- Transfer: risk transference is transferring the impact of the risk to a third party;
- *Mitigate:* risk mitigation involves the mitigation of the risk likelihood and/or impact;
- *Exploit:* risk exploitation revolves around the maximization of the risk likelihood and/or increasing the impact if the risk does happen.

Risk management strategies are chosen in a way that ensures that a.s.r. remains within the risk appetite tolerance levels and limits.

Monitoring and reporting

The risk identification process is not a continuous exercise. Therefore, risk monitoring and reporting are required to capture changes in environments and conditions. This also means that risk management strategies could, or perhaps should, be adapted in accordance with risk appetite tolerance levels and limits.

Evaluating

The evaluation step is twofold. On the one hand, evaluation means risk exposures are evaluated against risk appetite tolerance levels and limits, taking (the effectiveness of) existing mitigation measures into account. The outcome of the evaluation could lead to a decision regarding further mitigating measures or changes in risk management strategies.
On the other hand, the risk management framework (including the risk management processes) is evaluated by the risk management function, in order to continuously improve the effectiveness of the risk management framework as a whole.

B.3.2 a.s.r.'s risk categories

a.s.r. is exposed to a variety of risks. There are six main risk categories that a.s.r. recognises, as described below. These descriptions are based on a.s.r. level, not all risks are applicable for a.s.r. leven.

1 Based on COSO ERM and ISO 31000.

Insurance risk

Insurance risk is the risk that premium and/or investment income or outstanding reserves will not be sufficient to cover current or future payment obligations, due to the application of inaccurate technical or other assumptions and principles when developing and pricing products. a.s.r. recognises the following insurance risk:

- Life insurance risk
- Health insurance risk
- Non-life insurance risk

Market risk

The risk of changes in values caused by market prices or volatility of market prices differing from their expected values. The following types of market risk are distinguished:

- Interest rate risk
- Equity risk
- Property risk
- Spread risk
- Currency risk
- Concentration risk/market concentration risk

Counterparty default risk

Counterparty default risk is the risk of losses due to the unexpected failure to pay or credit rating downgrade of counterparties and debtors. Counterparty default risk exists in respect of the following counterparties:

- Reinsurers
- Consumers
- Intermediaries
- Counterparties that offer cash facilities
- Counterparties with which derivatives contracts have been concluded
- Healthcare providers
- Zorginstituut Nederland

Liquidity risk

Liquidity risk is the risk that a.s.r. is not able to meet its financial obligations to policyholders and other creditors when they become due and payable, at a reasonable cost and in a timely manner.

Operational risk

Operational risk is the risk of losses caused by weak or failing internal procedures, weaknesses in the action taken by personnel, weaknesses in systems or because of external events. The following subcategories of operational risk are used:

- Compliance
- Business process
- Financial reporting
- Outsourcing
- Information technology
- Project risks

Strategic risk

Strategic risk is the risk of a.s.r. or its business lines failing to achieve the objectives due to incorrect decision-making, incorrect implementation and/or an inadequate response to changes in the environment. Such changes may arise in the following areas:

- Climate
- Demographics
- Competitive conditions
- Technology
- Macroeconomic conditions
- Laws and regulations and ethical standards
- Stakeholders
- Group structure (for product lines only)

Strategic risk may arise due to a mismatch between two or more of the following components: the objectives (resulting from the strategy), the resources used to achieve the objectives, the quality of implementation, the economic climate and/or the market in which a.s.r. and/or its business lines operate.

B.4 Internal control system

Within a.s.r., internal control is defined as the processes, affected by the board of directors, senior management, and other personnel within the organisation, implemented to obtain a reasonable level of certainty with regard to achieving the following objectives:
- High-level goals, aligned with and supporting the organisation's mission
- Effective and efficient use of resources
- Reliability of operational and financial reporting
- Compliance with applicable laws regulations and ethical standards
- Safeguarding of company assets

B.4.1 Strategic and operational risk management
The system of internal control includes the management of risks at different levels in the organisation, both operational and strategic.

B.4.1.1 Strategic Risk Management
Strategic risk management aims to identify and manage the most significant risks that may impact a.s.r.'s strategic objectives. Subsequently, the aim is to identify and analyse the risk profile as a whole, including risk interdependencies. The ORSA process is designed to identify, measure, manage and evaluate those risks that are of strategic importance to a.s.r.:

Identifying
Through the ORSA process, identification of risks is structurally organized through the combined top-down and bottom-up SRA approach. The SRA outcomes are jointly translated into risk scenarios and 'risk priorities', in which the most significant risks for a.s.r. are represented.

Measuring
Through the ORSA process, the likelihood and impact of the identified risks are assessed, taking into account (the effectiveness of) risk mitigating measures and planned improvement actions. Information from other processes is used to gain additional insights into the likelihood and impact. One single risk scenario takes multiple risks into account. In this manner, the risk scenarios provide (further) insights into risk interdependencies.

Managing
As part of the SRA processes, the effectiveness of risk mitigating measures and planned measures of improvement is assessed. This means risk management strategies are discussed, resulting in refined risk management strategies.

Monitoring and reporting
The output of the ORSA process is translated into day-to-day risk management and monitoring and reporting, both at group level and product line levels. At group level, the risk priorities are discussed on a quarterly basis in the BEC – Risk meeting. At the level of the product lines, risks are discussed in the Business Risk Committees.

Evaluating
Insights regarding likelihood and impact are evaluated against solvency targets. Based on this evaluation, conclusions are formulated regarding the adequacy of solvency objectives at group and individual legal entity level.

B.4.1.2 Operational Risk Management
Operational Risk Management (ORM) involves the management of all possible risks that may influence the achievement of the business goals and that can cause financial or reputational damage. ORM includes the identification, analysis, prioritization and management of these risks in line with the risk appetite. The policy on ORM is drafted and periodically evaluated under the coordination of Enterprise Risk Management. The policy is implemented in the decentralized business entities under the responsibility of the management boards. A variety of risks is covered by ORM policy: IT risk, outsourcing, data quality, project, underwriting etc.

Identifying
With the operational targets as a starting point, each business entity performs risk assessments to identify events that could influence these targets. In each business entity the business risk manager facilitates the periodic identification of the key operational risks. All business processes are taken into account to identify the risks. All identified risks are prioritized and recorded in a risk-control framework.

The risk policies prescribe specific risk analyses to be performed to identify and analyse the risks. For important IT systems, Information Security Analyses (IVA – Informatie Veiligheids Analyse) have to be performed and for large outsourcing projects a specific risk analysis is required.

Measuring
All risks in the risk-control frameworks are assessed on likelihood of defaults and impact. Where applicable, the variables are quantified, but often judgments of subject matter experts are required. Based on the estimation of the variables, each risk is labelled with a specific level of concern (1 to 4). Gross risks with a level of concern 3 or 4 are considered 'key'.

Managing
For each risk, identified controls are implemented into the processes to keep the level of risk within the agreed risk appetite (level of concern 1 or 2). In general, risks can be accepted, mitigated, avoided or transferred. A large range of options is available to mitigate operational risks, depending on the type. An estimation is made of the net risk, after implementing the control(s).

Monitoring and reporting
The effectiveness of operational risk management is periodically monitored by the business risk manager at each business line or legal entity. For each key control in the risk-control framework a testing calendar is established, based on accounting standards. Each control is tested regularly and the outcomes of the effectiveness of the management of key risks are reported to the management board. Outcomes are also reported to the NFRC and BEC – Risk meeting.

Evaluating
Periodically, yet at least annually, the risk-control frameworks and ORM policies are evaluated to see if revisions are necessary. The risk management function also challenges the business lines and legal entities regarding their risk-control frameworks.

Operational incidents
Operational incidents are reported to Group Risk Management, in accordance with the operational risk policy. The causes of losses are evaluated in order to learn from these experiences. An overview of the largest operational incidents and the level of operational losses is reported to the NFRC. Actions are defined and implemented to avoid repetition of operational losses.

ICT
Through IT risk management, a.s.r. devotes attention to the efficiency, effectiveness and integrity of ICT, including End User Computing applications. The logical access control for key applications used in the financial reporting process remains a high priority in order to enhance the integrity of applications of data. The logical access control procedures also prevent fraud by improving segregation of duties and by conducting regular checks of actual access levels within the applications. Proper understanding of information, security and cyber risks is essential, reason for which continuous actions are carried out to create awareness among employees and management.

Business Continuity Management
Operational management can be disrupted significantly by unforeseen circumstances or calamities which could ultimately disrupt the execution of critical and operational processes. Business Continuity Management enables a.s.r. to continue its daily business uninterruptedly and to react quickly and effectively during such situations.

Critical processes and activities and the tools necessary to use for these processes are identified during the Business Impact Analysis. This includes the resources required to establish similar activities at a remote location. The factors that can threaten the availability of those tools necessary for the critical processes are identified in the Threat Analysis.

a.s.r. considers something a crisis when one or more business lines are (in danger of being) disrupted in the operational management, due to a calamity, or when there is a reputational threat. In order to reduce the impact of the crisis, to stabilize the crisis, and to be able to react timely, efficiently and effectively, a.s.r. has assigned a crisis organization.

There is a central crisis team led by member of the board. Each business line has their own crisis team led by the director of the management team. The continuity of activities and the recovery systems supporting critical activities are regularly tested and crisis teams are trained annually. The objective of the training is to give the teams insights into how they function during emergencies and to help them perform their duties more effectively during such situations. The training also sets out to clarify the roles, duties and responsibilities of the crisis teams. One important training scenario used is a scenario that includes cyber threats.

Preparatory Crisis Plan
On 1 January 2019 new legislation entered into force that addresses the recovery and settlement of insurance companies ('Wet herstel en afwikkeling van verzekeraars' in Dutch). The objective is that insurance companies and supervisors are better prepared against a crisis and that insurance companies can recover from a crisis without government aid. a.s.r is obliged to have a Preparatory Crisis Plan ('Voorbereidend Crisisplan' in Dutch) in place that has been approved by De Nederlandsche Bank (DNB). a.s.r.'s Preparatory Crisis Plan helps to be prepared and have the capacity to act in various forms of extreme financial stress. The Preparatory Crisis Plan describes and quantifies the measures that can be applied to live through a crisis situation. These measures are tested in the scenario analysis, in which the effects of each recovery measure on a.s.r.'s financial position (solvency and liquidity) are quantified. The required preparations for implementing the measures, their implementation time and effectiveness, potential obstacles, impact on policy holders and operational effects are also assessed. The main purpose of the Preparatory Crisis Plan is to increase the chances of successful early intervention in the event of a financial crisis situation and to further guarantee that the interest of policyholders and other stakeholders are protected.

Reasonable assurance and model validation
a.s.r aims to obtain reasonable assurance regarding the adequacy and accuracy of the outcomes of models that are used to provide best estimate values and solvency capital requirements. To this end, multiple instruments are applied, including model validation. Materiality is determined by means of an assessment of impact and complexity. Impact and complexity is expressed in terms of High (H), Medium (M), or Low (L).

In the pursuit of reasonable assurance, model risk is mitigated and unacceptable deviations are avoided, against acceptable costs.

B.4.2 Compliance function

The mission of the Compliance function is to enhance and ensure a controlled and sound business operation where impeccable professional conduct is self-evident.

Positioning and structure of the compliance function
The Compliance function is a centralised function which is headed by the a.s.r. Compliance Manager for both a.s.r. and the supervised entities. The compliance function, the second line of defence, is considered a key function in line with the Solvency II regulation. The CEO bears ultimate responsibility for the compliance function and the a.s.r. compliance manager has a direct reporting line and access to him. The a.s.r. compliance manager also has an escalation line to the Chairman of the a.s.r. Audit & Risk Committee and/or the Chairman of the SB in order to safeguard the independent position of the compliance function and enable it to operate autonomously. The a.s.r. compliance manager is entitled to scale up critical compliance matters to the highest organisational level or to the SB.

Responsibilities and duties
The Compliance function, as part of the second line of defence, is responsible for:
- Encouraging compliance with relevant rules and regulations, ethical standards and the internal standards derived from them ('rules') by providing advice and formulating policies;
- Monitoring compliance with rules;
- Monitoring the management of compliance risks by further developing adequate compliance risk management, including monitoring and, where necessary, making arrangements relating to measures and actions;
- Creating awareness of the need to comply with rules and of social and ethical issues, in which ethical behavior within a.s.r. is self-evident;
- Coordinating contacts with regulators in order to maintain effective and transparent relationships with them.

Annual compliance plan
Developments in rules and the management of high compliance risks and action plans provide the basis for the annual compliance plans and the compliance monitoring activities. a.s.r. continuously monitors changing legislation and regulations and assesses their impact and corresponding actions to be taken. In 2019, Compliance largely realised its annual compliance plan as planned. Various monitoring activities were performed on group and division level. Compliance monitored compliance with the CDD regulation, the IDD regulation, the outsourcing policy (in cooperation with the group risk management department) and the quality of information provided to customers. The Compliance department played a central role in a.s.r.'s CDD optimization project. In order to guarantee sound and controlled business operations, a.s.r. has taken a number of control measures to prevent, identify and combat unethical behaviour, including corruption.

Reporting
The a.s.r. Compliance Manager issues quarterly reports on compliance matters and the progress made in the relevant actions at Group level, supervised entity level and division level. The quarterly report at division level is discussed with the

responsible management and scheduled for discussion by the Business Risk Committee.
The quarterly report at Group level and supervised entity level is presented to and discussed with the individual members of the EB and a.s.r. Business Executive Committee and submitted to the Audit & Risk Committee of the SB. The report is shared and discussed with the DNB, the AFM and the (internal and) external auditor.

B.5 Internal audit function

The Audit Department evaluates the effectiveness of governance, risk management and internal control processes, and gives practical advice on process optimization. This statement of duties has been set down in the Audit Charter for ASR Nederland N.V. and its subsidiaries. The Audit Department reports its findings to the EB of ASR Nederland N.V., to the managing boards of the legal entities and, by means of the quarterly audit management report, to the a.s.r. BEC and to the Audit and Risk Committee.

The Audit Department has an independent position within a.s.r., as set down in the Audit Charter. The SB guarantees Audit and its employees an independent, impartial and autonomous position in order to execute the mission of Audit. The head of the Audit Department reports to the chairman of the EB and has a direct reporting line to the chairman of the Audit and Risk Committee. The Chief Audit Executive is appointed by the SB. In order to maintain the independence and impartiality of the internal audit function, the audit function is not influenced by the EB and managing boards of the legal entities in the execution of an audit and the evaluation of and reporting on audit outcomes. The audit function is not subjected to any inappropriate influence from any other function, including the key functions.

The persons carrying out the internal audit function do not assume any responsibility for any other (key) function. The Audit Department has periodic consultations with DNB to discuss the risk assessment, findings and audit plan. The Audit Department's risk assessment is performed in close consultation with the independent external auditor. The department also takes the initiative to organize a 'tripartite consultation' with DNB and the independent external auditor at least once a year. In 2019, two tripartite consultations were held.

The Audit Department sets up a multi-year audit plan based upon an extensive risk assessment. The audit plan is approved by the Audit and Risk Committee. At least once a year, the audit plan is evaluated and any changes to the plan must be approved by the Audit and Risk Committee.

All auditors took the oath for the financial sector and are subject to disciplinary proceedings. All auditors have committed themselves to the applicable code of conduct of a.s.r., follow the Code of Ethics of the Institute of Internal Auditors (IIA) and comply with the specific professional rules of the Netherlands Institute of Chartered Accountants (NBA) and the professional association for IT-auditors in the Netherlands (NOREA).

Audit applies the standards of the IIA, NBA and NOREA for the profession of internal auditing. Each year, Audit performs a self-assessment and an internal quality review and reports the results to the chairman of the board and to the members of the Audit and Risk Committee. In accordance with the standards of the IIA, an external quality review is performed every five years. During the last review in 2016, Audit was approved by the IIA and received the Institute's quality certificate.

B.6 Actuarial function

The Actuarial Function (AF) is one of four key functions in a.s.r.'s system of governance.
The main tasks and responsibilities of the AF are to:
- coordinate the calculation of technical provisions;
- ensure the appropriateness of the methodologies, underlying models and the assumptions made in the calculation of technical provisions;
- assess the sufficiency and quality of the data used in the calculation of technical provisions;
- compare best estimates against experience;
- inform the administrative, management or supervisory body of the reliability and adequacy of the calculation of technical provisions;
- express an opinion on the overall underwriting policy;express an opinion on the adequacy of reinsurance arrangements; and
- contribute to the effective implementation of the risk management system.

The AF is part of the second line of defense and operates independently of both the first line (responsible for determining the technical provisions, reinsurance and underwriting), as well as the other three key functions (internal audit, risk management and compliance).

The AF for both ASR Nederland N.V. and the insurance legal entities is operationally part of a.s.r. Group Risk Management. The AF is performed by persons who have profound knowledge of actuarial and financial mathematics, proportionate to the nature, scale and complexity of the risks present in a.s.r.'s businesses.

There are two function holders. One is responsible for the legal entities in the Life segment (Individual Life, Funeral and Pensions business lines) as well as for the overall Life segment of ASR Nederland N.V.. The other for the entities in the Non-life segment (Property & Casualty, Disability and Health business lines) as well as for the overall Non-life segment of ASR Nederland N.V.

The AF function is represented in several risk committees. Each year, the AF drafts a formal report, which it discusses with the BEC – Risk meeting (or EB) and the a.s.r. Audit & Risk Committee.

Independence of the AF is secured through several measures:
- The AF holders are appointed and dismissed by the Board both the appointment and the dismissal of the holders is, together with an advice from the Audit and Risk Committee, submitted to the SB for approval.;
- The AF holders have unrestricted access to all relevant information necessary for the exercise of their function;
- The AF holders have a direct reporting line to the BEC – Risk meeting or EB and the Audit and Risk Committee of a.s.r. The AF is free to report to one of the management or risk committees when considered necessary;
- The AF is free to report all relevant issues;
- In case of a conflict of interest with the CRO, the function holders may escalate directly to the CEO and to the Chairperson of the Audit & Risk Committee of a.s.r.;
- If the AF is asked to perform tasks that are outside the formal scope described in a charter, the function holder(s) assess if there is a conflict of interest. If so, the AF will not execute the task unless there are sufficient additional measures to mitigate conflicts of interest;
- The Internal Audit Department conducts an annual assessment of the functioning of the governance of a.s.r. including the (independent) operation of the Actuarial function;
- Target Setting and assessment of the function holders is done by the CEO taking into account the opinion of the Audit & Risk Committee.

B.7 Outsourcing

a.s.r. has outsourced some of its (operational) activities and/or processes to external service providers. When activities are outsourced, a.s.r. is fully accountable for these activities and data used and a.s.r. retains full control over the outsourced activities. To manage the risks related to outsourcing, a.s.r. has implemented a policy to safeguard controlled and sound business operations which ensures compliance with laws and regulatory requirements. Solid risk management, governance, monitoring and a complete overview are essential to manage outsourced activities. The outsourcing policy outlines the relevant procedures and is applicable to a.s.r. and its subsidiaries. The policy is also applicable to intragroup outsourcing.

To define the respective rights and obligations, a.s.r. drafts a written outsourcing contract with the service provider. The contract includes amongst others the obligations for all parties involved, commitment to comply with applicable laws and regulatory requirements, right to audit and information security requirements. Confidentiality, quality of service, and continuity are key for a.s.r. in carrying out its activities. To safeguard the quality of outsourced activities, service providers are carefully examined prior to selection and during the period of service provision. a.s.r. monitors compliancy with the terms of the contract. The findings of the monitoring activities serve as input for the regular consultation on operational, tactical and strategic level with the service provider.

a.s.r. has outsourced certain critical and/or important activities that are part of material (operational) processes. Outsourced activities are related to front-, mid- or back office activities related to the supervised entities. In addition, the management and service of some supporting systems is outsourced.

B.8 Any other information

Other material information about the system of governance does not apply.

C Risk profile

Risk management is an integral part of a.s.r.'s day-to-day business operations. a.s.r. applies an integrated approach to managing risks, ensuring that strategic objectives are met. Value is created by striking the right balance between risk, return and capital whilst ensuring that obligations to stakeholders are met.

a.s.r. leven is exposed to a number of risks, including strategic risks, market risks, counterparty default risks, liquidity risks, underwriting risks and operational risks.

Risk appetite is defined as the level and type of risk a.s.r. leven is willing to bear in order to meet its objectives while maintaining the right balance between risk, return and capital. Risk appetite is formulated to give direction to the management of (strategic) risks. Risk appetite contains a number of qualitative and quantitative risk appetite statements and is defined for both financial risks (FR) and non-financial risks (NFR). The statements highlight the organisation's risk preferences and limits and are viewed as key elements for the realisation of a.s.r. leven's strategy.

Management of financial risks

a.s.r. leven strives for an optimum trade-off between capital, risk and return. Steering on capital, risk and return is done by decision-making throughout the entire product cycle from PARP (Product Approval & Review Process) to the payment of benefits and claims. At a more strategic level, decision-making takes place through balance sheet management. A robust solvency position takes precedence over profit, premium income and direct investment income. Risk tolerance levels and limits are disclosed in the financial risk appetite statements (financial RAS) and are monitored by the FRC. The FRC evaluates financial risk positions against the RAS on a monthly basis. Where appropriate, a.s.r. takes additional mitigating measures.

In 2019 the Actuarial Function (AF) performed its regulatory tasks by assessing the adequacy of the Solvency II technical provisions, giving an opinion on reinsurance and underwriting, and contributing to the Risk Management RMF. The AF report on these topics was discussed by the EB, Risk Committee and Audit & Risk Committee.

Coronavirus

In December 2019, a pneumonia outbreak was reported in China which in 2020 rapidly developed into what is now commonly referred to as the coronavirus. The virus has resulted in a significant number of confirmed cases of infection in large portions of the world, including the Netherlands. Globally, governments are taking various measures to contain the outbreak and to mitigate its impact on the economy. In the Netherlands, the Dutch government issued a series of far reaching measures to stop the spread of the coronavirus. Both the virus and the countermeasures have a significant impact on Dutch society and economics in the short term. The government has also presented a significant economic relief program to support both companies and individuals that are financially impacted by the corona outbreak. As the number of infections caused by the virus is still increasing, and the result of both the countermeasures to the virus outbreak as well as the economic relief program still has yet to take effect, the impact of the coronavirus is unsure, specifically in the longer term.

At this point in time it is too early to make a realistic and credible assessment of the impact of the coronavirus on a.s.r.'s and its subsidiaries business and financial performance. The effect on our financial results will depend on a number of factors, including the further development of the outbreak, extent and duration of the period of disruption and the impact on the global economy and financial markets. The a.s.r.'s consolidated financial position at year end 2019 is strong and its Solvency II ratio of 194% based on standard model has proved resilient to absorb the extra ordinary market circumstances related to the corona outbreak so far. a.s.r. and its subsidiaries' liquidity position of €1.6 billion at year end 2019 has also proven resilient. a.s.r. leven is well capitalised and has sufficient liquidity to counter liquidity and solvency risk facing the company We continue to closely monitor the impact of the corona outbreak on the operating performance of our various business lines. We furthermore continue to monitor the potential IFRS impact relating to the valuation of financial instruments and valuation of technical provisions which are sensitive to developments in the (long-term) interest rates.

a.s.r.'s prime concern is the personal well-being of its customers and its employees, their partners and their families. As a leading Dutch insurer, a.s.r. is committed to help its customers through this challenging period and to do everything in its power to help overcome the corona crisis in the Netherlands. To protect its employees all a.s.r. employees are working from home which most employees are already very familiar with, given the 'independent time and place working' policy at a.s.r.

Management of non-financial risks
Non-financial risk appetite statements are in place to manage the risk profile within the limits determined by the EB and approved by the SB. The Non-Financial Risk Committee (NFRC) monitors and discusses on a quarterly basis whether non-financial risks are adequately managed. Should the risk profile exceed the risk appetite, the NFRC will decide on the steps to be taken. The risk profile and internal control performance of each business is discussed with senior management in the business risk committees and the NFRC each quarter.

The most important operational risks in 2019 for a.s.r. leven are described below.

Outsourcing risk (internal and external) remains relevant for a.s.r. leven, especially in view of the increasing focus from regulators, i.e. EIOPA .a.s.r. is fully aware of the potential risks and regulatory developments. An outsourcing policy is in place defining responsibilities, processes, risk assessment and mandatory controls. Outsourcing risk is managed and reported as part of the overall operational risk. An update for the outsourcing policy is scheduled for the forthcoming year.

Information security risk is highly relevant for a.s.r. leven. See risk priority 4. Information (cyber) security risks for further information.

Data quality and end-user computing are also relevant for a.s.r. leven. When user-defined models (e.g. spreadsheets) are used to support the RM Framework, the 'a.s.r. Standard for end-user computing'- as well as the general security policy - defines and describes best practices in order to guard the reliability and confidentiality of these tools and models. a.s.r. recognises the importance of sound data quality and information management systems.

During 2019, a.s.r. leven took various actions to further enhance the measurement and reporting of data quality for financial reporting purposes and to mitigate end-user computing risks. Adherence to the 'a.s.r. Standard for End-User Computing" is accommodated by the explicit integration of relevant controls into the Risk and control frameworks of the business lines.

a.s.r. leven will continue to look for opportunities to improve the management of its non-financial risks in 2020, for example by focusing on the use of application controls and data analytics. New developments such as Artificial Intelligence (AI) and robotics and their effects on risk management will also be further explored.

In 2019, all business units applied the Governance and Risk Compliance (GRC) tool ('Cerrix'). The functionality and performance of this tool were improved in 2019.

In order to enhance controlled (efficient and effective) projects, a.s.r. rolled out the 'project risk management' policy. Implementation of the policy is completed in 2019 for all projects. In 2019, the most important projects at a.s.r. leven, including IFRS17, Servicebooks implementation of acquisitions and changed legislation, fell within the risk appetite.

Risk priorities
a.s.r.'s risk priorities and emerging risks are defined annually by the EB, based on strategic (top-down and bottom-up) risk analyses. Risk priorities are regarded as the most important strategic risks which could materially affect the strategic and financial objectives of a.s.r. To determine the degrees of risk, a.s.r. uses a risk scale based on likelihood and impact (Level of Concern). For each risk priority, the degree of risk is determined for the gross risk and net risk. Gross risk is the degree of risk when no (control) measures are in place. Net risk is the degree of risk taking into account mitigating (control) measures. Each of a.s.r.'s risk priorities has a very high degree of gross risk (Level of Concern 4, outside risk appetite boundaries) and a high degree of net risk (Level of Concern 3, outside risk appetite boundaries).

a.s.r.'s leven risk priorities for 2019 were:
1. Pressure on the cash-generating business model;
2. Low interest rate environment and pressure on investment returns, exacerbated by geopolitical tensions;
3. Juridification of society;
4. Information (cyber) security risks.
5. Impact of supervision, laws and regulations;

The coronavirus will be a priority for 2020, given the rapid development in the coronavirus in the first quarter of 2020.

In addition to risk priorities, a.s.r. leven also identified emerging risks. Emerging risks are defined by a.s.r. as new or existing risks with a potentially significant impact, the level of which is hard to define.

Emerging risks a.s.r. leven 2019 are:
- Further longevity risk due to technological developments in healthcare
- Loss of knowledge and experience of key persons

To determine the degrees of risk, a.s.r. leven uses a risk scale based on likelihood and impact (Level of Concern). For each risk priority, the degree of risk is determined for the gross risk and net risk. Gross risk is the degree of risk when no (control) measures are in place. Net risk is the degree of risk taking into account mitigating (control) measures. Each of a.s.r. leven's risk priorities has a very high degree of gross risk (exceeds risk appetite boundaries) and a high degree of net risk (exceeds risk appetite boundaries). a.s.r. leven takes measures to mitigate the net risks so that they will fall within the risk boundaries. The measures for each risk priority are described in below.

Pressure on result and renewal of cash-generating business model

This risk priority concerns the risk of the cash-generating business model coming under pressure due to developments in the insurance market, since a highly competitive insurance market may lead to margin and volume decreases.

The insurance market continues to change, e.g. with new entrants to on the insurance market, evolving customer demand and technological developments. Customers buy (insurance) products more frequently through direct, digital distribution channels. It is important to meet customers' needs, taking into account changing customer demand.

The risk of contraction in the portfolio relates to this risk priority. Since the portfolio is contracting faster than expected, the process of lowering costs may not be fast enough. a.s.r. leven continually monitors and assesses its product portfolio and distribution channels for relevant alterations in order to meet changing customer needs and to achieve planned cost reductions as premiums fall. For example, it actively monitors the market to examine potential acquisitions or mergers.

Low interest rate environment and pressure on investment returns, exacerbated by geopolitical tensions
Since interest rates are historically low, it remains a challenge to generate sufficient returns on investments and reinvest on attractive terms. The pressure to generate investment returns (search for yield) creates a considerable tension between risk and return.

Unforeseen political developments and/or macroeconomic trends could weaken a.s.r.'s solvency position. a.s.r. leven will remain permanently alert to the risk of a scenario developing in Europe with a major impact on capital and solvability. It therefore continuously monitors its interest rate position and reports the findings to the FRC. The consequences of potentially low investment returns and interest rate fluctuations are examined more fully in the annual Strategic Asset Allocation (SAA) study and in the annual Own Risk and Solvency Assessment (ORSA).

Juridification of society

Risk description
Political, regulatory and public attention has focused on unit-linked life insurance policies for some time now. Elements of a.s.r leven's unit-linked life insurance policies are challenged on multiple legal grounds in current legal proceedings, and may continue to be challenged in future. There is a risk that one or more of the current and/or future claims and/or allegations will be upheld. To date, a number of rulings relating to unit-linked life insurance products have been issued by the Financial Services Complaints Board (FSCB) and (appeal) courts in the Netherlands against a.s.r. and other insurers in specific cases. In these proceedings, different (legal) approaches have been taken to arrive at a ruling. The outcomes of these rulings are diverse. As the record of (a.s.r. leven's) policies dates back many years, it contains a wide variety of products with different features and conditions and, since rulings are so diverse, no reliable estimate can be made of the timings and outcomes of these current and future legal proceedings.

Although the financial consequences of these developments could be substantial, a.s.r. leven's exposure cannot be reliably estimated or quantified at this point. If one or more of these legal proceedings succeed, there is a risk that a ruling, though only legally binding for the parties involved in the proceedings, could be applied to, or be relevant for, other unit-linked life insurance policies sold by a.s.r. Consequently, the financial consequences of any current and/or future legal proceedings brought upon a.s.r. could be substantial for a.s.r.'s Life insurance business and may have a materially adverse effect on a.s.r.'s financial position, business, reputation, revenues, operating results, solvency, financial condition and/or prospects.

Compensation scheme for unit-linked products
In 2008, a.s.r. leven concluded an outline agreement with two leading consumer protection organisations to offer compensation to unit-linked policyholders if the cost and/ or risk premium exceeded a specified maximum.
A full agreement on the implementation of the compensation scheme was reached in 2012. The total recognised

cumulative financial costs relating to the compensation scheme for Individual life in a.s.r.'s income statement up to 2019 was € 1,031 million. This includes, amongst other things, compensation paid, amortisation of surrender penalties and costs relating to improved product offerings. The remaining provision in the balance sheet as at 31 December 2019 amounted to € 50.5 million and is available only to cover potential additional compensation (for distressing cases and costs relating to the compensation scheme). Individual cases have a limited impact on the risk profile.

Legal proceedings
a.s.r. leven is the subject of a number of legal proceedings initiated by individual unit-linked policyholders, represented in most cases by claims organisations. Future legal proceedings regarding unit-linked life insurance policies could be brought against a.s.r. by consumers individually, by consumer organisations acting on their behalf or in the form of a class action. There is also ongoing lobbying by consumer protection organisations to gain sustained media attention for unit-linked life insurance policies. These organisations argue, amongst other things, that consumers were not paid sufficient compensation under the compensation scheme.

a.s.r. leven is currently subject to three collective actions. The claims are all based on similar grounds and have been rejected by a.s.r. and a.s.r. defends itself in these legal proceedings.

In June 2016, Woekerpolis.nl initiated a collective action, requesting the Midden-Nederland District Court to declare that a.s.r. leven has sold products in the market which were defective in various respects (e.g. lack of transparency regarding cost charges and other product characteristics, and risks against which the insurer had failed to warn, such as substantial stock depreciations, inability to realise the projected final policy value, unrealistic capital projections due to the difference between geometric and arithmetic returns, and general terms and conditions governing costs which Woekerpolis.nl considered unfair). In a decision of 6 February 2019, the district court rejected all Woekerpolis.nl's claims and concluded that the products sold by a.s.r. could not be considered defective. The only claim upheld by the court was that pertaining to administrative costs calculated under specific circumstances in a specific product ('Spaarplan'), because no defence was put forward. Woekerpolis.nl issued a notice of appeal on 16 April 2019.

In March 2017, the Consumentenbond also initiated a collective action against a.s.r. leven based on similar grounds to that initiated by Woekerpolis.nl. The collective procedure of Consumentenbond is currently pending at the Midden-Nederland district court.

In December 2019, claim organisation Wakkerpolis initiated a collective action against a.s.r. leven. Although the claim from 'Wakkerpolis' is largely based on similar grounds as the other two collective actions, it primarily concentrates on the lack of transparency of cost charges.

Information (cyber) security risk
Information (cyber) security risks are continuously evolving and imminent. Nation state actors and cyber criminals are (covertly) probing and intruding, pushing the development of more sophisticated attacks and implicitly the progression of new detection measures to improve 'older' detection techniques. The trend of cyber-attacks continues where it left off in 2018; i.e. the same type of attacks are visible around the world and at a.s.r. The growth in digital communication is also increasing the risks of cyber-attacks, as is the introduction of technological initiatives.

Increased focus on, and attention for, emerging cyber security risks is a daily requirement for a.s.r. and its supply chain. Investing in detection and prevention skills and techniques and learning from incidents in the financial industry strengthens cyber resilience. Since the battle against malicious intentions is ongoing, cyber security efforts continued to dominate risk reports in 2019.

a.s.r. leven is aware of the trust invested in it by its customers, and makes conscious choices in the risk exposure it is willing to tolerate. A dedicated cybersecurity team, regular testing, continuous awareness programmes and scrutinised vulnerability programmes ensure that a.s.r. Life is fully aware of its risks and takes measures where appropriate. All measures are continuously monitored and updated where necessary. a.s.r. leven's suppliers are periodically reviewed and assessed for their cyber resilience. Partnerships with financial institutions and public agents, such as the Dutch National Cyber Security Centre (NCSC) and i-CERT (a cybersecurity partnership between insurance companies), are crucial in mounting an effective defence against cybercrime. a.s.r. is actively involved in these partnerships

Impact of supervision, laws and regulations
Due to growing political and regulatory pressure, there is a risk that:
- a.s.r.'s reputation will suffer if new requirements are not complied with in time;
- available resources will largely be utilised to align the organisation with new legislation, leaving fewer resources to spend on core customer processes;

- processes will become less efficient and pressure on the workforce will increase;
- a.s.r. will have administrative fines or sanctions imposed on it for failure to comply with requirements (on time).

a.s.r. leven constantly monitors changing laws and regulations and assesses their impact and the corresponding actions required (in conjunction with Compliance and Legal). The availability of capacity is also continuously monitored to ensure that there are sufficient resources to process all regulations in a timely manner. a.s.r. has a multidisciplinary legislation and regulation committee to help the various businesses signal and adopt legislative amendments in good time. The committee reports to the NFRC.

In November 2018, a.s.r. set up an internal centralised Customer Due Diligence (CDD) project (CDD optimisation) in order to optimise compliance with the CDD-rules. A fit-gap analysis was conducted and policy guidelines were formulated. These actions are implemented in 2019.

In May 2017, the International Accounting Standards Board (IASB) published IFRS 17, the new IFRS standard for insurance contracts which will replace the existing IFRS 4 standard. IFRS 17 is expected to be effective from 1 January 2022, subject to endorsement by the EU, based on the Exposure Draft IFRS 17 published in June 2019. The revised IFRS 17 is expected to be published in mid-2020. EFRAG (European Financial Reporting Advisory Group) is currently preparing the endorsement of IFRS 17 for use in the EU (European Union) following the IASB publication. a.s.r. is now in the process of preparation and implementation, while acknowledging that the amendments are still pending (including the implementation date).

IFRS 17 is designed to facilitate comparability between insurers and to increase transparency in relation to risks, contingencies, losses and embedded options in insurance contracts. IFRS 9 Financial Instruments was published in July 2014 and has had a major impact on the processing of financial instruments (investments). In order to maintain cohesion between the two standards a.s.r. applies the option in IFRS 4 which allows for the deferral of the implementation of IFRS 9 until the implementation of IFRS 17. Since 2017, a.s.r. has an internal programme in place to prepare for the implementation of IFRS 17 and IFRS 9 throughout the Group. The IFRS 17 and IFRS 9 programme will have a major impact on the Group's primary financial processing and reporting and could have a significant effect on its capital, financial statements and related KPIs. Finance, Risk, Audit and the business lines have all been given attention in the programmes due to the need to develop an integrated vision.

Emerging risks
In addition to the risk priorities, a.s.r. Life also identified emerging risks. Emerging risks are defined by a.s.r. as new or existing risks with a potentially major impact, where the level of risk is hard to define.

Further longevity risk due to technological developments in healthcare
The life expectancy of the insured is increasing. The government encourages the society to strive for a healthier lifestyle. The (technological) developments in healthcare is improving the life quality and further increases the life expectancy. These developments increases the risk exposure of higher-than-expected payout ratios for especially defined-benefit pension plans. a.s.r. leven remains permanently alert to further optimize the mortality risk and longevity risk. . Unexpected break-throughs could ultimately lead to a lower solvency position. Mitigating measures such as longevity reinsurance are currently investigated from a risk management perspective.

Loss of knowledge and experience of key persons
As a result of the migrations of portfolios to one system, the shrinking organisation in combination with an attractive market for employees with specific knowledge and experience there is an increasing continuity risk. Due to this increasing continuity risk problems may rise in the realisation of projects, conversions and/or the execution of customer service. a.s.r. has an operating HR policy to preserve and develop talent of key personnel, furthermore is knowledge transfer important part of departure procedures

Solvency II sensitivities
The sensitivities of the solvency ratio as at 31 December 2019, expressed as the impact on the a.s.r. leven Solvency II ratio (in percentage points) are as presented in the table below. The total impact is split between the impact on the Solvency II ratio related to movement in the available capital and the required capital.

Solvency II sensitivities - market risks

Effect on:	Available capital		Required capital		Ratio	
Scenario (%-point)	31 December 2019	31 December 2018	31 December 2019	31 December 2018	31 December 2019	31 December 2018
UFR 3.2%	-23	-25	-4	-5	-27	-29
Interest rate +1% (2018 incl. UFR 4.05% / 2019 incl. UFR 3.90%)	-10	-9	+14	+14	+3	+4
Interest rate -1% (2018 incl. UFR 4.05% / 2019 incl. UFR 3.90%)	+17	+17	-8	-9	+8	+7
Volatility Adjustment -10bp	-13	-12	-2	-3	-15	-15
Equity prices -20%	-10	-10	+11	+8	+1	-3
Property values -10%	-9	-9	+4	+3	-6	-6
Spread +75bps/(2018: VA +20bps/2019: VA +18bps)	+13	+13	+12	+10	+25	+24

Solvency II sensitivities - explanation

Risk	Scenario
Interest rate risk – UFR	Measured as the impact of a lower UFR. For the valuation of liabilities, the extrapolation to the UFR of 3.2% after the last liquid point of 20 years remained unchanged.
Interest rate risk (incl. UFR 4.05%/3.9%)	Measured as the impact of a parallel 1% upward and downward movement of the interest rates. For the liabilities, the extrapolation to the UFR (3.9% for 2019 and 4.05% for 2018) after the last liquid point of 20 years remained unchanged.
Volatility Adjustment	Measured as the impact of a 10 bps decrease in the Volatility Adjustment.
Equity risk	Measured as the impact of a 20% downward movement in equity prices.
Property risk	Measured as the impact of a 10% downward movement in the market value of real estate.
Spread risk (including impact of spread movement on VA)	Measured as the impact of an increase of spread on loans and corporate bonds of 75 bps. At the same time, it is assumed that the Volatility Adjustment will increase by 18bps (2018 was 20 bps) based on reference portfolio.

All Solvency II sensitivities at 31 December 2019 are in line with last year. However, the sensitivity for equity -20% decreased slightly from -3%-points to +1%-points. This was due to the fact that the impact of the equity dampener at 31 December 2019 increased compared to the equity dampener at 31 December 2018.

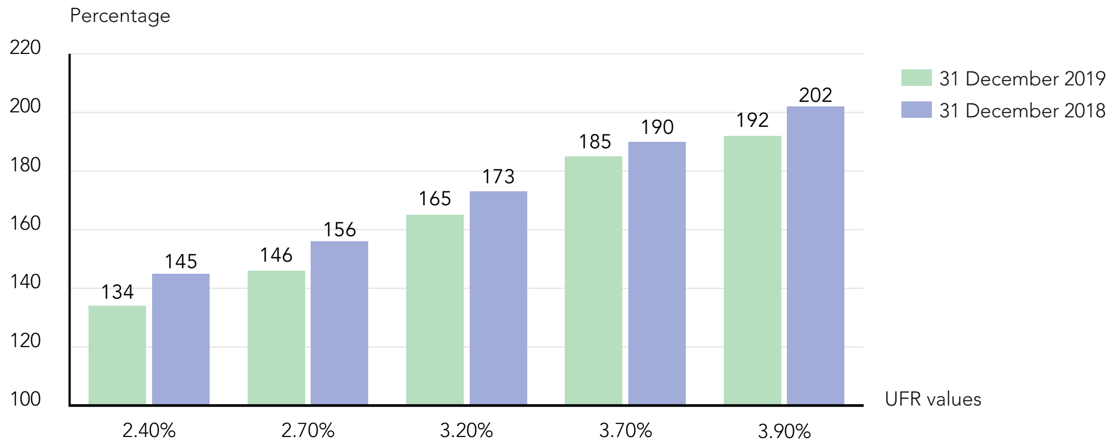
Expected development UFR

European Insurance and Occupational Pensions Authority (EIOPA) may reduce the ultimate forward rate used to extrapolate insurers' discount curves to better reflect expected inflation and real interest rates. There are various scenarios regarding lowering the Ultimate Forward Rate (UFR).

The UFR has decreased, starting in 2018, from 4.2% in 2017 to 3.55% with steps of maximum 15 basis points per year. In 2019 the UFR was 3.9% (2018: 4.05%). After the decline of the UFR by 15 basis points the solvency ratio is still above internal solvency objectives.

Changes in the UFR have an almost linear effect on the solvency ratio. The impact on the solvency ratio of various UFR levels is stated below.

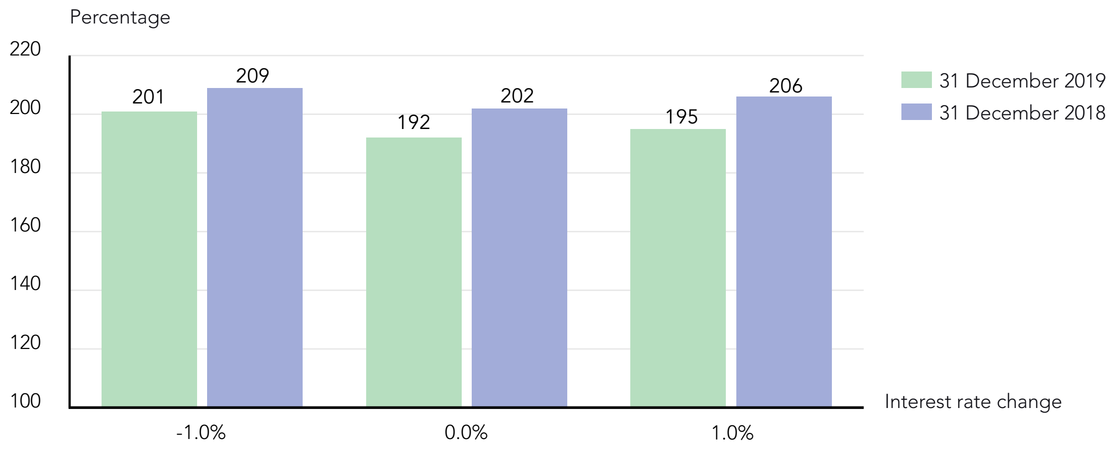
UFR values



Interest rate sensitivity of Solvency II ratio

The impact of the interest rate on the Solvency II ratio, including the UFR effect, is stated below. The UFR methodology has been applied to the shocked interest rate curve.

Sensitivity Solvency II ratio to UFR



Equity risk

In 2019 the equity risk increased mainly due to a bigger equity portfolio as a result of the rise of share prices. Besides the bigger equity portfolio also the average risk charge on balance increased as a result of (i) the upward effect of the equity dampener and (ii) the upward effect of the run-off of the transitional measure of equity risk.

Spread risk

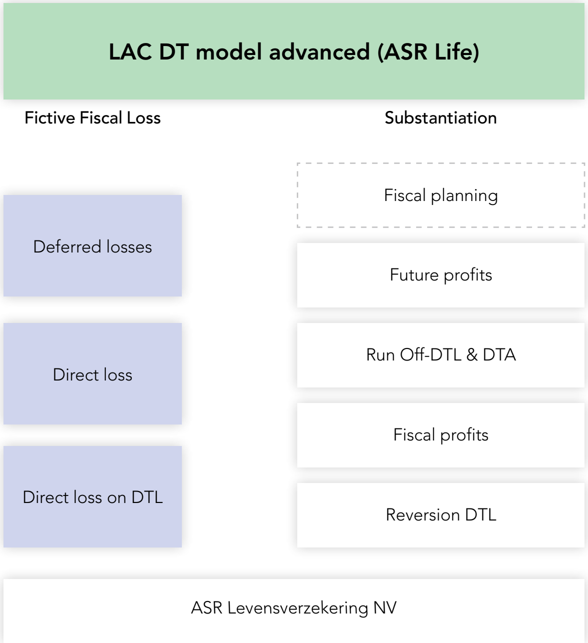
The SCR spread risk on balance increased in 2019. On the one hand SCR spread risk increased due to a larger fixed income portfolio, mainly due to the acquisition of Loyalis and re-risking. On the other hand SCR spread risk decreased due to the shortening duration of the credit portfolio.

The sensitivity to spread risk is measured as the impact of an increase of spread on loans and corporate bonds of 75 bps. The volatility adjustment is based on a reference portfolio. An increase of 75 bps of the spreads on loans and corporate bonds within the reference portfolio leads to an increase of the VA with 18 bps in 2019 (2018: 20 bps).

Loss absorbing capacity of deferred tax

a.s.r. uses the following methodology for the calculation of the Loss Absorbing Capacity Deferred Tax (LAC DT) benefit in euros of a.s.r. leven. Relevant regulation and current guidance (Delegated Regulation, Level 3 guidelines, Dutch Central Bank Q&A's and IAS12) are taken into account in the development of the LAC DT methodology.

LAC DT Components



The outcome is an unrounded LAC DT factor.

1. For the basic model (the entities other than a.s.r. leven) the unrounded LAC DT factor is determined based on component 1 – 4a only. For the advanced model (a.s.r. leven), also future profits (component 4b) are projected.
2. Moreover, an outlook is made for the substantiation of the LAC DT factor in the upcoming quarters, divided over the separate components. This outlook will take into account potential risks not yet included in the model, also called a code of conduct. This code of conduct ensures financial stability in the LAC DT benefit for a.s.r. leven in euros, resulting in financial stability of the solvency position of a.s.r. leven.
3. The LAC DT factors and outlook are reviewed by the 2nd line.
4. A proposal with the advised LAC DT factors will be presented to the Financial Risk Committee (FRC). The LAC DT factors agreed with the FRC are to be applied.

A source of stability can be found in the way the LAC DT factor is adjusted if a change is desired. In case the substantiation of the LAC DT is too low the factor is lowered immediately, taking into account the code of conduct. However, in case an increase is possible, it is only realised in case it is sustainable and significant.

Loss absorbing capacity of technical provisions (LACTP)
Starting from 2018Q4 a.s.r. takes into account this discretionary element in de SCR.

Loss-absorbing capacity of technical provisions ('LAC TP') is the part of the technical provisions that can be used to absorb some of the SCR shock losses, as the expected future profit sharing to policyholders will be reduced if actual losses would arise. LAC TP is applicable to insurance policies with discretionary profit sharing.

C.1 Insurance risk

Insurance risk is the risk that future insurance claims and benefits cannot be covered by premium and/or investment income, or that insurance liabilities are not sufficient, because future expenses, claims and benefits differ from the assumptions used in determining the best estimate liability.

Risk-mitigating measures are used to reduce and contain the volatility of results or to decrease the possible negative impact on value as an alternative for the capital requirement. Proper pricing, underwriting, reinsurance, claims management, and diversification are the main risk mitigating actions for insurance risks.

The solvency buffer is held by a.s.r. leven to cover the risk that claims may exceed the available insurance provisions and to ensure its solidity. The solvency position of a.s.r. leven is determined and continuously monitored in order to assess if a.s.r. leven meets the regulatory requirements.

As of 1 January 2016, the Solvency II regime is in place. a.s.r. leven measures its risks based on the standard model as prescribed by the Solvency II regime. The Solvency Capital Requirement (SCR) for each insurance risk is determined as the change in own funds caused by a predetermined shock which is calibrated to a 1-in-200-year event. The basis for these calculations are the Solvency II technical provisions which are calculated as the sum of a best estimate and a risk margin.

The insurance risk arising from the insurance portfolios of a.s.r. leven is as follows.

Life insurance risk - required capital

	31 December 2019	31 December 2018
Life insurance risk	1,682	1,457

Solvency II sensitivities
a.s.r. leven has assessed the impact of various sensitivities on the Solvency II ratio. The sensitivities as at 31 December 2018 expressed as impact on the a.s.r. leven solvency ratio (in percentage points) are as follows:

Solvency II sensitivities - insurance risks

Effect on:	Available capital		Required capital		Ratio	
Type of risk (%-points)	31 December 2019	31 December 2018	31 December 2019	31 December 2018	31 December 2019	31 December 2018
Expenses -10%	+6	+7	+2	+2	+8	+9
Mortality rates, all products -5%	-5	-4	-1	-1	-6	-4
Lapse rates -10%	-	-	-	-	-	0

Solvency II sensitivities - explanation

Risk	Scenario
Expense risk	Measured as the impact of a 10% decrease in expense levels.
Mortality risk	Measured as the impact of a 5% decrease in all mortality rates.
Lapse risk	Measured as the risk of a 10% decrease in lapse rates.

The impact on the ratio is the opposite if a reversed scenario is taken into account. These scenarios would have no impact on the 2019 and 2018 total IFRS-equity, or on the profit for these years, because a.s.r. leven still passed the IFRS Liability Adequacy Test (LAT). Where the sensitivities result in a decrease of the surplus in the Liability Adequacy Test, the outcome is still positive.

C.1.1 Life insurance risk

The life portfolio can be divided into funeral, individual life and group pension. The insurance contracts are sold primarily to retail and wholesale clients through intermediaries.

The products are sold as insurance products in cash or unit-linked contracts. With respect to products in cash, the investment risk is fully borne by the insurer whereas, in the case of unit-linked products, the majority of the investment risk is for the policyholder's account.

The following life insurance risks are involved:

Mortality risk

Mortality risk is associated with (re)insurance obligations, such as endowment or term assurance policies, where a payment or payments are made in case of the policyholder's death during the contract term. The increase in mortality rates is applied to (re)insurance obligations which are contingent on mortality risk. The required capital for this risk is calculated as the change in own funds of a permanent increase of mortality rates by 15% for all ages and each policy.

Longevity risk

Longevity risk is associated with (re)insurance obligations where payments are made until the death of the policyholder and where a decrease in mortality rates results in higher technical provisions. The required capital is calculated as the change in own funds of a permanent decrease of mortality rates by 20%. The decrease in mortality rates is applied to portfolio's where payments are contingent on longevity risk.

Disability-morbidity risk

Morbidity or disability risk is associated with all types of insurance compensating or reimbursing losses (e.g. loss of income, adverse changes in the best estimate of the liabilities) caused by changes in the morbidity or disability rates. The scenario analysis consists of a 35% increase in disability rates for the first year, 25% for subsequent years, combined with a decrease in revalidation rates of 20%.

Expense risk

A calculation is made of the effect on own funds of a permanent increase in costs used for determining the best estimate. The scenario analysis contains an increase in the costs of 10% and an increase in the cost inflation of 1 percentage point per year. This scenario also includes a similar shock in the investment costs. Both the internally and externally managed investment costs are involved in this scenario.

Lapse risk

Lapse risk is the risk of losses (or adverse changes in the best estimate of the liabilities) due to an unanticipated (higher or lower) rate of policy lapses, terminations, changes to paid-up status (cessation of premium payment) and surrenders. The effect of the lapse risk is equal to the highest result of a permanent increase in lapse rates of 50%, a permanent decrease in lapse rates of 50% or a mass lapse event (70% of insurance policies in collective pension funds or 40% of the remaining insurance policies). The lapse shocks are only applied to portfolios where this leads to a higher best estimate.

At year end 2018, the required capital for a mass lapse event was reduced by the proceeds that were to be expected from a reinsurance arrangement (Mass Lapse Cover). Two events during 2019 are worth mentioning. Firstly, the application of the Mass Lapse Cover has been reduced as of June 30, resulting in an increase of the mass lapse risk of 34 million (valuation date: June 30). This increase occurs since the mass lapse event, after deduction of the proceeds from the Mass Lapse Cover, is dominant in determining the lapse risk. Secondly, the reinsurance arrangement has been terminated altogether per yearend 2019, resulting in a further increase of the mass lapse risk of € 102 million.

Life catastrophe risk

Catastrophe risk arises from extreme events which are not captured in the other life insurance risks, such as pandemics. The capital requirement for this risk is calculated as a 1.5 per mille increase in mortality rates in the first projected year for (re)insurance obligations where the increase in mortality rates leads to an increase in technical provisions.

Mortgage Loans

Within the individual life portfolio there is a group of policies directly linked to a mortgage loan ('Spaarhypotheken'). In case the mortgage loan is not provided by a.s.r. leven, but by another party, which is the case for most of these policies, the interest that a.s.r. leven reimburses to the policyholder is claimed from the party that has provided the mortgage loan. The cashflow of interests from the provider of the mortgage loan to a.s.r. leven represents an asset. The cashflow and value of this asset depends on the cashflow of the linked savings policy. Therefore, the change in this asset value due to mortality or lapse is taken into account when determining the SCR for life insurance risks.

Employee benefits

ASR Nederland N.V. has insured the post-employment benefit plans for a.s.r.'s employees with a.s.r. leven. Though the liability of this plan is classified as employee benefits on the balance sheet of ASR Nederland N.V. and determined according to IFRS principles, for a.s.r. leven the post-employment benefit plan for a.s.r.'s employees is a group pension contract and is treated that way both in IFRS-accounts and in Solvency II.

Other information

Within a.s.r. leven, the longevity risk is dominant and arises from group pension business and individual annuities. The longevity risk is partly offset by mortality risk that arises from the funeral portfolio and individual policies with mortality risk. In addition to longevity, expense risk and lapse risk are other large risks to which a.s.r. leven is exposed to.

The table below summarises the required capital for abovementioned life insurance risks based on the standard model after application of LAC TP.

Life insurance risk - required capital

	31 December 2019	31 December 2018
Mortality risk	281	297
Longevity risk	1,169	928
Disability-morbidity risk	6	6
Lapse risk	346	313
Expense risk	666	641
Revision risk	-	-
Catastrophe risk (subtotal)	89	83
Diversification (negative)	-875	-811
Life insurance risk	**1,682**	**1,457**

For the life portfolio, the provision at year-end (provided figures are without reductions resulting from reinsurance contracts) can be broken down as follows under Solvency II:

Life portfolio - technical provision per segment

Segment	31 December 2019	31 December 2018
Insurance with profit participation		
Best estimate	22,069	21,964
Risk margin	1,133	1,097
Technical provision	**23,202**	**23,060**
Other life insurance		
Best estimate	14,669	9,757
Risk margin	774	514
Technical provision	**15,443**	**10,271**
Index-linked and unit-linked insurance		
Best estimate	9,790	7,908
Risk margin	84	108
Technical provision	**9,874**	**8,016**
Total		
Best estimate	**46,528**	**39,629**
Risk margin	**1,991**	**1,718**
Technical provision	**48,520**	**41,347**

The technical provisions and risk margin have increased due to the acquisition of Loyalis (resp. € 1,888 million and € 57 million at valuation date June 30). This increase was mitigated by the outflow of the individual life portfolio and (to a lesser extend) the traditional pensions portfolio. A dominant factor in the increase of the technical provisions in 2019 was the decrease of the interest rate, VA and UFR for nominal coverages and the increase of stock markets for unit-linked coverages. Furthermore there has been a considerable transfer of technical provision from the category 'Insurance with profit participation' to the category 'Other life insurance', due to improved data concerning profit sharing end dates, which has improved the classification.

C.1.1.1 Managing life insurance risk

Life insurance risk is mitigated by pricing, underwriting policies and reinsurance.

Pricing is based on profit capacity calculations. A calculation is made of the price required to cover the risks. A calculation is made of the price required to cover the insurance liabilities, expenses and risks.

Underwriting policies describe the types of risks and the extent of risk a.s.r. leven is willing to accept. Policyholders may be subjected to medical screening for individual life insurance.

Reinsurance

Reinsurance and other risk-mitigating measures are used to reduce the volatility of results or to decrease the possible negative impact on value as an alternative to the capital requirement. Reinsurance arrangements have been set up to mitigate the effects of catastrophes on earnings.
The level of retention in different reinsurance contracts is aligned with the size and the risk profile of the underlying portfolios. This includes taking account of the cost of reinsurance on the one hand, and the risk that is retained on the other.

In order to optimise its balance sheet risks, a.s.r. leven entered into a reinsurance agreement with Legal and General Re in 2015. The share of Legal and General Re is on behalf of a specific buy-out portfolio. Also, for the Generali portfolio, a relatively small reinsurance contract is in force. The total share of the reinsurances for a.s.r. leven amounts to € 190 million per 31 December 2019.

C.2 Market risk

Market risk is the risk of potential losses due to adverse movements in financial market variables. Exposure to market risk is measured by the impact of movements in financial variables such as equity prices, interest rates and property prices. The various types of market risk which are discussed in this section, are:

- interest rate risk
- equity risk
- property risk
- currency risk
- spread risk
- concentration risk

Market risk reports are submitted to the FRC at least once a month. Key reports on market risk include the Solvency II and economic capital report, the interest rate risk report and the report on risk budgets related to the strategic asset mix.

A summary of sensitivities to market risks for the regulatory solvency, total equity and profit for the year is presented in the tables below. The first table summarizes the required capital for market risks based on the standard model:

Market risk - required capital

	31 December 2019	31 December 2018
Interest rate	322	213
Equity	625	503
Property	859	743
Currency	195	187
Spread	986	928
Concentration	-	147
Diversification (negative)	-561	-622
Total	**2,427**	**2,099**

The main market risks of a.s.r. leven are spread, property and equity risk. This is in line with the risk budgets based on the strategic asset allocation study.

The value of investment funds at year-end 2018 was € 2,951 million (2018: € 2,677 million). a.s.r. leven applies the Look through approach for investment funds to assess the market risk.

The interest rate risk is the maximum loss of (i) an upward shock or (ii) a downward shock of the yield curve. For a.s.r. leven the downward shock (€ 322 million) is dominant.

a.s.r. leven applies the transitional measure for equity risk for shares in portfolio at 31 December 2015. The SCR equity shock was 22% at 31 December 2015 and linear, increasing to (i) 39% + equity dampener for type I shares and (ii) 49% + equity dampener for type II shares. The equity dampener has a value between -10% and 10%. In the event of increasing equity prices, the equity dampener will have a smaller dampening effect.

The diversification effect shows the effect of having a well-diversified investment portfolio.

C.2.1 Interest rate risk

Interest rate risk is the risk that the value of assets, liabilities or financial instruments will change due to fluctuations in interest rates. Many insurance products are exposed to interest rate risk; the value of the products is closely related to the applicable interest rate curve. The interest rate risk of insurance products depends on the term to maturity, interest rate guarantees and profit-sharing features. Life insurance contracts are particularly sensitive to interest rate risk. The required capital for interest rate risk is determined by calculating the impact on the available capital due to changes in the yield curve. Both assets and liabilities are taken into account. The interest rate risk is the maximum loss of (i) an upward shock or (ii) a downward shock of the yield curve according to the prescribed methodology. a.s.r. applies a look through approach for investment funds to assess the interest rate risk.

'The interest rate risk is calculated by a relative shock up- and downward shock of the risk-free (basis) yield curve. All adjustments (credit spread, volatility adjustment) on this yield curve are considered constant. The yield curve is extrapolated to the UFR. The yield curve after shock is not extrapolated again to the UFR.

The used shocks vary by maturity and the absolute shocks are higher for shorter maturities (descending: 75% to 20% and ascending: -70% to -20%):

- the yield curve up shock contains a minimum shock of 100bps;
- the yield curve after the downward shock is limited to zero (no negative interest rates);
- the yield curves of all currencies are shocked simultaneously.

Solvency II sensitivities - market risks

	31 December 2019	31 December 2018
SCR interest rate risk up	-93	-116
SCR interest rate risk down	-322	-213
SCR interest rate risk	**322**	**213**

a.s.r. leven has assessed various scenarios to determine the sensitivity to interest rate risk. The impact on the solvency ratio is calculated by determining the difference in the change in available and required capital.

Solvency II sensitivities - interest rate

Effect on:	Available capital		Required capital		Ratio	
Scenario (%-point)	31 December 2019	31 December 2018	31 December 2019	31 December 2018	31 December 2019	31 December 2018
UFR 3.2%	-23	-25	-4	-5	-27	-29
Interest rate +1% (2018 incl. UFR 4.05% / 2019 incl. UFR 3.90%)	-10	-9	+14	+14	+3	+4
Interest rate -1% (2018 incl. UFR 4.05% / 2019 incl. UFR 3.90%)	+17	+17	-8	-9	+8	+7
Volatility Adjustment -10bp	-13	-12	-2	-3	-15	-15

In both interest rate sensitivity scenarios the solvency ratio will increase. At 31 December 2019 and 31 December 2018 the interest rate up becomes dominant in this scenario. This led to a bigger diversification in the market risk module and therefore to a higher impact of the SCR on the ratio.

Interest rate risk is managed by aligning fixed-income investments to the profile of the liabilities. Among other instruments, swaptions and interest rate swaps are used for hedging the specific interest rate risk arising from interest rate guarantees and profit sharing features in life insurance products.

An interest rate risk policy is in place for the Group as well as for the registered insurance companies. All interest rate-sensitive balance sheet items are in scope, including the employee benefit obligations of the Group. In principle, the sensitivity of the solvency ratio to interest rates is minimized. In addition, the exposure to interest rate risk or various term buckets is subject to maximum amounts.

C.2.2 Equity risk

The equity risk depends on the total exposure to equities. In order to maintain a good understanding of the actual equity risk, a.s.r. applies the look-through approach for investment funds to assess the equity risk.

The required capital for equity risk is determined by calculating the impact on the available capital due to an immediate drop in share prices. Both assets and liabilities are taken into account. Stocks listed in regulated markets in countries in the EEA or OECD are shocked by 39% together with the symmetric adjustment of the equity capital charge (type I). Stocks in countries that are not members of the EEA or OECD, unlisted equities, alternative investments, or investment funds in which the look-through principle is not possible, are shocked by 49% together with the symmetric adjustment of the equity capital charge (type II).

a.s.r. applies the transitional measure for equity risk for shares in portfolio at 31 December 2015. The SCR equity shock was 22% at 31 December 2015 and linear increasing in 7 years to (i) 39% + equity dampener for type I shares and (ii) 49% + equity dampener for type II shares. This resulted in a reduction of the average risk charge of equity risk of about 3,9% per 31 December 2019.

Equity risk - required capital

	31 December 2019	31 December 2018
SCR equity risk - required capital	625	503

In 2019 the equity portfolio of a.s.r. leven increased as an effect of (i) positive market returns, (ii) de-risking by selling part of the equity portfolio and (iii) the adjusted methodology for participations. In 2018 a.s.r. leven acquired the participation ASR Utrecht Real Estate Investments NV (AUREIN), which includes real estate investments. Since 2019Q3 EIOPA allows to apply the look through approach for participations. Therefore this participation is currently in scope of SCR Real Estate instead of SCR Equity.

Despite this decrease of the equity portfolio the SCR Equity risk increased. On the one hand this is a result of a higher SCR charge due to both (i) the equity dampener and (ii) the run-off of the transitional measure of equity risk. On the other hand the SCR Equity risk also increased due to a decrease of the risk mitigating effect of the option portfolio.

In case the transitional measure would not be used, SCR equity risk would increase to € 684 million.

Solvency II sensitivities - equity prices

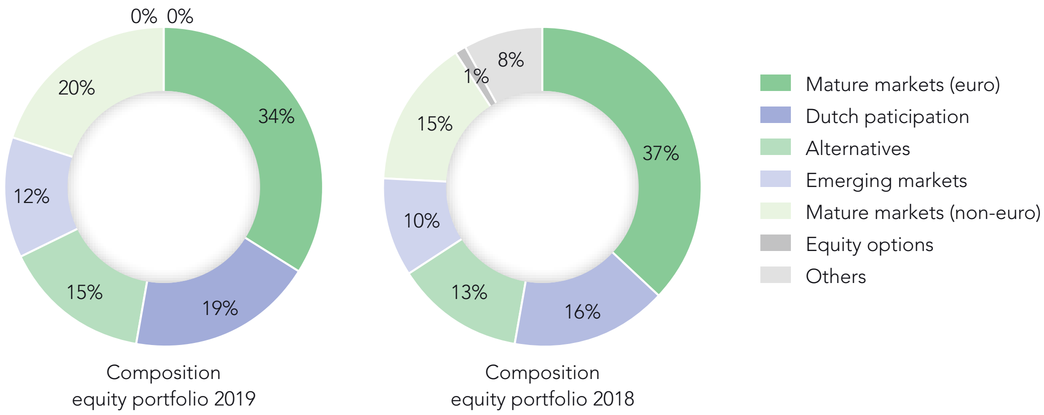
Effect on:	Available capital		Required capital		Ratio	
Scenario (%-point)	31 December 2019	31 December 2018	31 December 2019	31 December 2018	31 December 2019	31 December 2018
Equity prices -20%	-10	-10	+11	+8	+1	-3

Composition of equity portfolio

The fair value of equities and similar investments at year-end 2019 was € 1,720 million (2018: € 1,864 million). The decrease in 2019 is an effect of (i) positive market returns, (ii) de-risking by selling part of the equity portfolio and (iii) the adjusted methodology for participations. In 2018 ASR Levensverzekeringen acquired the participation ASR Utrecht Real Estate Investments NV (AUREIN), which includes real estate investments. Since 2019Q3 EIOPA allows to apply the look through approach for participations. Therefore this participation is currently in scope of SCR Real Estate instead of SCR Equity.

The equities are diversified across the Netherlands (including participating interests), other European countries and the United States. A limited part of the portfolio consists of investments in emerging markets and alternatives. A portfolio of put options with an value of € 2 million is in place to mitigate the equity risk. The table below shows the exposure of the equity portfolio to categories. The total value is including the equities in externally managed funds.

Composition of equity portfolio



C.2.3 Property risk

The property risk depends on the total exposure to real estate. In order to maintain a good understanding of the actual property risk, a.s.r. leven applies the look through approach for investment funds to assess the property risk.

The required capital for property risk is determined by calculating the impact on the available capital due to an immediate drop in property prices by 25%. Both assets and liabilities are taken into account.

Property risk - required capital

	31 December 2019	31 December 2018
SCR property risk - required capital	859	743

Since 2019Q3 EIOPA allows to apply the look through approach for participations, a.s.r. leven applies look through approach for participation which activities are primarily real estate investments. This led to an increase in real estate risk. Besides this methodology change, the real estate exposure also increased due to both transactions and increases in property prices. As a result the required capital for property risk increased.

The sensitivity of the solvency ratio to changes in property value is monitored on a monthly basis. Sensitivity of regulatory solvency (Solvency II) to changes in property prices is shown in the following table.

Solvency II sensitivities - property values

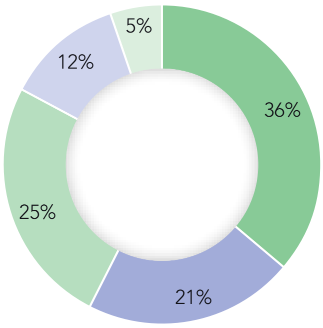
Effect on:	Available capital		Required capital		Ratio	
Scenario (%-point)	31 December 2019	31 December 2018	31 December 2019	31 December 2018	31 December 2019	31 December 2018
Property values -10%	-9	-9	+4	+3	-6	-6

Composition of property portfolio

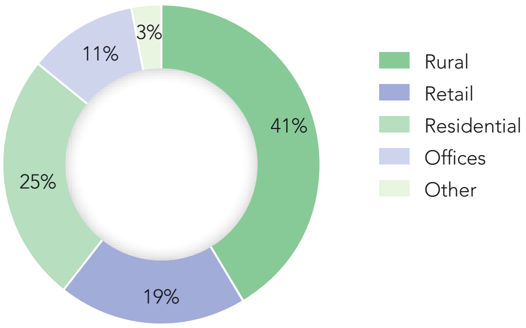
The property risk depends on the total exposure to property, which includes both property investments and property held for own use. The fair value of property was € 3,609 million at year-end 2019 (2018: € 3,052 million).

The increase in 2019 was a result of both transactions and increases in property prices. Besides this, the real estate exposure also increased due to a change in EIOPA regulation, which made it possible to allow look through for participations which activities are primarily real estate investments. The property investments are diversified across the Netherlands.

Composition of property portfolio



Composition
property portfolio 2019



Composition
property portfolio 2018

C.2.4 Currency risk

Currency risk measures the impact of losses related to changes in currency exchange rates. The table below provides an overview of the currencies with the largest exposures. a.s.r. leven has currency risk to insurance products in American dollars (USD), Australian dollars (AUD) and South African Rands (ZAR). The policy of a.s.r. is in principle to hedge the currency risk excluding investments in equities and investments that are externally managed. However, certain currency exposures are permitted from a tactical perspective within a specific risk budget.

The required capital for currency risk is determined by calculating the impact on the available capital due to a change in exchange rates. Both assets and liabilities are taken into account and a look-through approach is applied for investment funds. For each currency the maximum loss due to an upward and a downward shock of 25% is determined except for a small number of currencies where lower shocks are applied (Danish crown; Bulgarian lev).

Currency risk - required capital

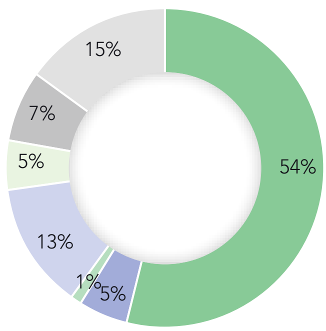
	31 December 2019	31 December 2018
SCR currency risk - required capital	195	187

Currency risk has increased € 8 million. This is mainly caused by an increase in foreign stocks and a decrease in the liabilities.

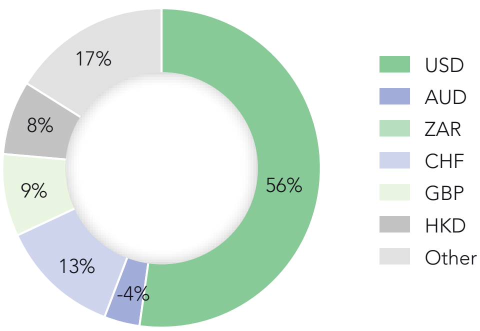
Specification currencies with largest exposure

Foreign stocks have substantially increased in the following currencies: USD, AUD, CHF. The liabilities have substantially decreased in USD and AUD.

Composition of currency portfolio



Composition
currency portfolio 2019



Composition
currency portfolio 2018

C.2.5 Spread risk

Spread risk arises from the sensitivity of the value of assets and liabilities to changes in the level of credit spreads on the relevant risk-free interest rates. a.s.r. has a policy of maintaining a well-diversified high-quality investment grade portfolio while avoiding large risk concentrations. Going forward, the volatility in spreads will continue to have possible short-term effects on the market value of the fixed income portfolio. In the long run, the credit spreads are expected to be realized and to contribute to the growth of the own funds. The required capital for spread risk is determined by calculating the impact on the available capital due to the volatility of credit spreads over the term structure of the risk-free rate.

The required capital for spread risk is equal to the sum of the capital requirements for bonds, structured products and credit derivatives. The capital requirement depends on (i) the market value, (ii) the modified duration and (iii) the credit quality category.

Spread risk - required capital

	31 December 2019	31 December 2018
SCR spread risk - required capital	986	928

The SCR spread risk increased in 2019 due to a larger fixed income portfolio, mainly due to the acquisition of Loyalis. The decrease in interest rates also contributed to increase of the SCR spread. On the other hand SCR spread risk decreased due to the shortening duration of the credit portfolio.

The sensitivity to spread risk is measured as the impact of an increase of spread on loans and corporate bonds of 75 bps. The volatility adjustment is based on a reference portfolio. An increase of 75 bps of the spreads on loans and corporate bonds within the reference portfolio leads to an increase of the VA with 18 bps in 2019 (2018: 20 bps).

Solvency II sensitivities - spread risk

Effect on:	Available capital		Required capital		Ratio	
Scenario (%-point)	31 December 2019	31 December 2018	31 December 2019	31 December 2018	31 December 2019	31 December 2018
Spread +75bps/(2018: VA +20bps/2019: VA + 18bps)	+13	+13	+12	+10	+25	+24

Within this scenario another scenario becomes dominant causing another correlation matrix to be applicable. As a result the impact of the diversification in the market risk module is bigger resulting in a lower market risk.

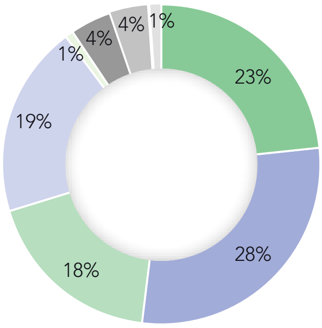
Composition of fixed income portfolio

Spread risk is managed on a portfolio basis within limits and risk budgets established by the relevant risk committees. Where relevant, credit ratings provided by the external rating agencies are used to determine risk budgets and monitor limits. A limited number of fixed-income investments do not have an external rating. These investments are generally assigned an internal rating. Internal ratings are based on methodologies and rating classifications similar to those used by external agencies. The following tables provide a detailed breakdown of the fixed-income exposure by (i) rating class and (ii) sector. Assets in scope of spread risk are, by definition, not in scope of counterparty default risk.

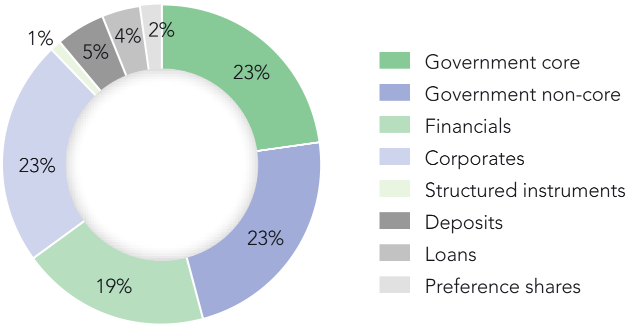
The total exposure of assets in scope of spread risk is € 26,387 million (2018: € 20,576 million). The increase of the portfolio is mainly due to the acquisition of Loyalis and transactions. The portfolio decomposition is similar to 2018, except:

- the relatively amount of non core government bonds increased and the relatively amount of Corporates decreased;
- the relatively amount of A decreased and the relatively amount of AA and BBB increased.

Fixed income portfolio by sector

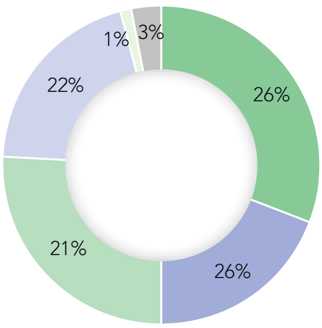


Composition fixed income portfolio by sector 2019

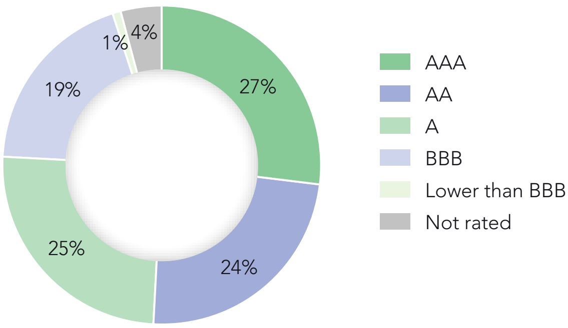


Composition fixed income portfolio by sector 2018

Fixed income portfolio by rating



Composition fixed income portfolio by rating 2019



Composition fixed income portfolio by rating 2018

C.2.6 Market risk concentrations

Concentrations of market risk constitute an additional risk to an insurer. Concentration risk is the concentration of exposures to the same counterparty. Other possible concentrations (region, country, etc.) are not in scope. The capital requirement for concentration risk is determined in three steps:

1. determine the exposure above threshold. The threshold depends on the credit quality of the counterparty;
2. calculation of the capital requirement for each counterparty, based on a specified factor depending on the credit quality;
3. aggregation of individual capital requirements for the various counterparties.

According the spread risk module, bonds and loans guaranteed by a certain government or international organization are not in scope of concentration risk. Bank deposits can be excluded from concentration risk if they fulfill certain conditions.

Concentration risk - required capital

	31 December 2019	31 December 2018
SCR concentration risk - required capital	-	147

In order to avoid concentrations in a single obligor, a.s.r. applies a limit on maximum exposure for (i) issuers with a single A rating and higher and (ii) for issuers with a BBB rating on group level. The limits apply to the total investment portfolio, where government bonds are not included, which is consistent with Solvency II. Beside the limits on single obligors, a.s.r. applies also limits on the total level of the required capital for market risk concentrations for a.s.r. leven.

C.3 Counterparty default risk

Counterparty default risk reflects possible losses due to unexpected default or deterioration in the credit standing of counterparties and debtors. Counterparty default risk affects several types of assets:

- mortgages
- savings-linked mortgage loans
- derivatives
- reinsurance
- receivables
- cash and deposits

Assets that are in scope of spread risk are, by definition, not in scope of counterparty default risk and vice versa. The Solvency II regime makes a distinction between two types of exposures:

- Type 1: These counterparties generally have a rating (reinsurance, derivatives, current account balances, deposits with ceding companies and issued guarantee (letter of credit). The exposures are not diversified.
- Type 2: These counterparties are normally unrated (receivables from intermediaries and policyholders, mortgages with private individuals or SMEs). The exposures are generally diversified.

The total capital requirement for counterparty risk is an aggregation of the capital requirement for type 1 exposure and the capital requirement for type 2 exposure by taking 75% correlation.

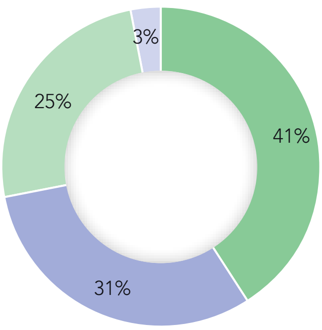
Counterparty default risk - required capital

	31 December 2019	31 December 2018
Type 1	86	165
Type 2	249	292
Diversification (negative)	-16	-27
Total	**319**	**430**

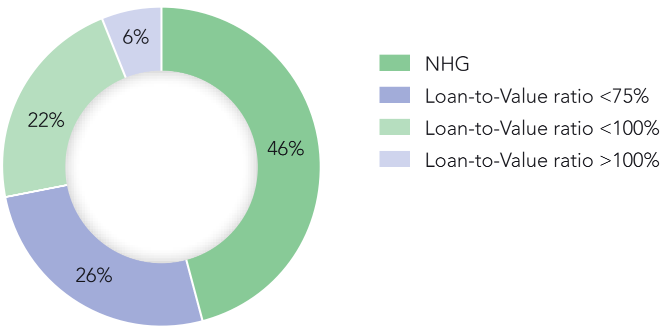
C.3.1 Mortgages

Mortgages are granted for the account and risk of third parties and for a.s.r.'s own account. The a.s.r. portfolio consists only of Dutch mortgages with a limited counterparty default risk. The fair value of a.s.r.'s mortgage portfolio was € 7,700 million at year-end 2019 (2018: € 7,286 million).

Composition mortgage portfolio



Composition
mortgage portfolio 2019



Composition
mortgage portfolio 2018

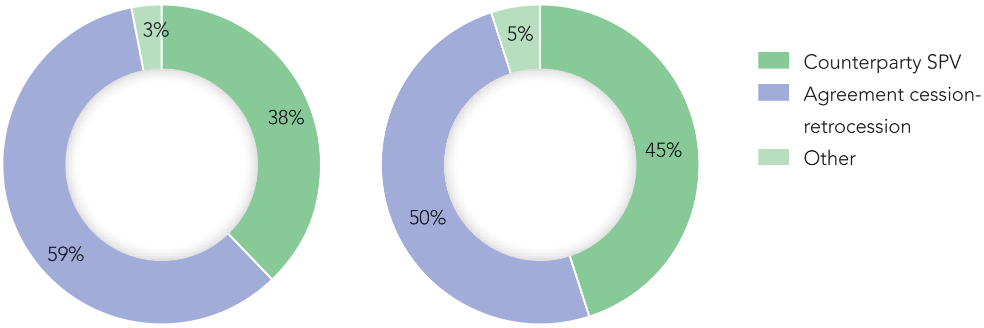
The Loan-to-Value ratio is based on the value of the mortgage according SII principals with respect to the a.s.r. calculated collateral.

The default percentage (i.e. the percentage of mortgages which is in arrears for over three months) has decreased from 0.10% in December 2018 to 0.05% in December 2019. This drop is a consequence of the improved economic circumstances and of the organization of preventive management, whereby the flow of short-term arrears to longer delays could be reduced.

C.3.2 Savings-linked mortgage loans

The counterparty default risk of the savings-linked mortgage loans ('Spaarlossen') depends on the counterparty. For 38% of the portfolio, the counterparties are Special Purpose Vehicles. The risk is limited due to the robust quality of the mortgages in the Special Purpose Vehicles in combination with the tranching. a.s.r. has a cession-retrocession agreement with the counterparty for 59% of the portfolio, for which the risk is limited. Effectively, a.s.r. receives the underlying mortgage loans as collateral, mitigating the counterparty default risk of the savings-linked mortgage loans.

Composition savings-linked mortgage loans portfolio



Composition savings-linked mortgage loans portfolio 2019

Composition savings-linked mortgage loans portfolio 2018

C.3.3 Derivatives

OTC derivatives are primarily used by a.s.r. leven to manage the interest-rate risks incorporated into the insurance liabilities. Interest-rate derivatives are traded with a well-diversified and qualitative dealer panel with whom there is an established International Swaps and Derivatives Association (ISDA) contract and a Credit Support Annex (CSA) in place. These CSAs include specific agreements on the exchange of collateral limiting market and counterparty risk. The outstanding value of the interest rate derivative positions is matched by collateral received from eligible counterparties, minimizing the net counterparty default risk.

C.3.4 Reinsurance

When entering into reinsurance contracts for fire and catastrophe, a.s.r. requires the counterparty to be rated at least single A. With respect to long-tail business and other sectors, the minimum permitted rating is single A.

Composition reinsurance counterparties by rating

	31 December 2019	31 December 2018
AAA	0%	0%
AA	98%	100%
A	0%	0%
NR	2%	0%

The table above shows the exposure to reinsurers per rating. The total exposure to reinsurers at year-end 2019 was € 168 million (2018: € 170 million).

C.3.5 Receivables

Composition receivables

	31 December 2019	31 December 2018
Policyholders	89	109
Intermediaries	3	10
Reinsurance operations	21	11
Health insurance fund	-	-
Other	209	250
Total	**322**	**381**

C.3.6 Cash and cash equivalents

The current accounts amounted € 1,007 million in 2019 (2018: € 1,653 million).

Composition cash accounts by rating

	31 December 2019	31 December 2018
AAA	-	-
AA	-	-
A	988	1,651
Lower than A	19	2
Total	**1,007**	**1,653**

Total deposits amounted to € 420 million in 2019 (2018: € 320 million).

Composition deposits by rating

	31 December 2019	31 December 2018
Secured deposits	420	320
AAA	-	-
AA	-	-
A	-	-
Total	**420**	**320**

C.4 Liquidity risk

Liquidity risk is the risk that a.s.r. leven is not able to meet its financial obligations to policyholders and other creditors when they become due and payable, at a reasonable cost and in a timely manner. Liquidity risk is not quantified in the Solvency Capital Requirement of a.s.r leven, and is therefore separately discussed here.

a.s.r. leven recognises different levels of liquidity management. Short-term liquidity, or daily cash management, covers the day-to-day cash requirements and targets funding liquidity risk. Long-term liquidity management considers business conditions in which market liquidity risk materialises. Stress liquidity management is related to the ability to respond to a potential crisis situation as a result of a market event and an a.s.r. leven-specific event. Unexpected cash outflows could for example occur as result of lapses in the insurance portfolio, catastrophe risk or cash variation margin payments related to the ISDA/CSA agreements of derivatives. a.s.r. leven monitors its liquidity risk via different risk reporting and monitoring processes including daily cash management reports, cash flow forecasts and stress scenario liquidity reports.

a.s.r. leven's liquidity management principle consists of three components. First, a well-diversified funding base which is necessary in order to provide liquidity for cash management purposes. A portion of assets must be invested in unencumbered marketable securities that can be used for collateralised borrowing or asset sales. Second, the strategic asset allocation should reflect the expected and contingent liquidity needs of liabilities. Finally, an adequate and up-to-date liquidity policy and contingency liquidity plan are in place to enable management to act effectively and efficiently in times of crisis.

In managing the liquidity risk from financial liabilities, a.s.r. leven holds liquid assets comprising cash and cash equivalents and investment grade securities for which there is an active and liquid market. These assets can be readily sold to meet liquidity requirements. As at 31 December 2019, a.s.r. leven had cash (€ 814 million), short-term deposits (€ 1,565 million) and liquid government bonds (€ 13,643 million). Furthermore a.s.r. leven has access to committed cash facilities and an unsecured revolving credit facility in order to meet its liquidity needs in times of stress.

The following table shows the contractual undiscounted cash flows of the insurance and financial liabilities. The insurance liabilities are excluding insurance contracts on behalf of policyholders and include the impact of expected lapses and mortality risk. Profit-sharing cash flows of insurance liabilities are not taken into account, nor are equities, property and swaptions.

Contractual cashflows

	Payable on demand	< 1 years	1-5 years	5-10 years	> 10 years	Undiscounted cash flows	Carrying value
31 December 2019							
Insurance liabilities	-	2,780	5,697	6,065	23,205	37,747	47,431
Derivatives	-	125	272	118	178	694	636
Financial liabilities	5,898	293	239	218	-	6,648	6,648
Future interest payments	-	-	-	-	-	-	-
Total	**5,898**	**3,199**	**6,208**	**6,401**	**23,383**	**45,089**	**54,715**
31 December 2018							
Insurance liabilities	-	1,481	4,576	5,697	24,736	36,490	41,036
Derivatives	-	212	215	-40	108	495	429
Financial liabilities	3,027	283	222	206	-	3,738	3,738
Future interest payments	-	-	-	-	-	-	-
Total	**3,027**	**1,975**	**5,013**	**5,863**	**24,844**	**40,722**	**45,202**

When the amount payable is not fixed the amount reported is determined by reference to the conditions existing at the reporting date.

Financial liabilities payable on demand include the liability recognised for cash collateral received under ISDAs, concluded with counterparties. The related cash collateral received is recognised as cash and cash equivalents, and not part of the liquidity risk exposure table.

EPIFP

The expected profit included in future premiums (EPIFP) means the expected present value of future cash flows which result from the inclusion in technical provisions of premiums relating to existing insurance and reinsurance contracts that are expected to be received in the future, but that may not be received for any reason, other than because the insured event has occurred, regardless of the legal or contractual rights of the policyholder to discontinue the policy.

EPIFP

	31 December 2019	31 December 2018
EPIFP	854	1,063

C.5 Operational risk

Operational risk is the risk of losses resulting from inadequate or failing internal processes, persons and systems, or from external events (including legal risk).The main areas where operational risks are incurred are operations, IT, outsourcing, integrity and legal issues.

Operational risk - required capital

	31 December 2019	31 December 2018
SCR operational risk - required capital	185	162

C.6 Other material risks

As part of the regular ORSA process, the overall risk profile and associated solvency capital needs are assessed against a.s.r.'s actual solvency capital position. The most important risks to which a.s.r. is exposed, including risks that are not incorporated into the standard formula, are identified through a combined top-down (strategic risk assessment) and bottom-up (control risk self-assessments) approach. After assessment of the effectiveness of the mitigating measures, the risks with the highest 'Level of Concern' or 'LoC' are translated to the a.s.r. risk priorities and relevant risk scenarios for the ORSA. The following risks, outside the scope of the standard formula, are recognised by a.s.r. as being potentially material:
- Inflation risk;
- Reputation risk;
- Liquidity risk;
- Contagion risk;
- Legal environment risk;
- Model risk;
- Risks arising from non-insurance activities (non-OTSOs);
- Strategic risk;
- Emerging risk.

As part of the appropriateness assessment of the standard formula mitigating measures regarding these risks are identified and evaluated.

C.7 Any other information

C.7.1 Description of off-balance sheet positions

Not applicable for a.s.r. leven.

C.7.2 Reinsurance policy and risk budgeting

C.7.2.1 Reinsurance policy
When deemed effective in terms of capital relief versus costs incurred, a.s.r. enters into reinsurance agreements to mitigate non-life insurance risks. Reinsurance can be taken out for each separate claim (per risk), for the accumulation of claims due to natural disasters or to human actions (per event), or for both these risks.

The level of retention in the various reinsurance contracts is aligned with the size and the risk profile of the underlying portfolios, taking account of the cost of reinsurance on the one hand, and of the risk that is retained on the other. By determining the retention, the impact on the statement of financial position is taken into account as well.

To limit risk concentration, reinsurance contracts are placed with various reinsurance companies. a.s.r. requires the counterparties to be rated at least single A-. The reinsurance programme has remained largely the same as in previous years in terms of cover and limits. The most significant change in reinsured risk is the phasing out of the mass lapse cover in 2019.

C.7.2.2 Risk budgeting
The FRC assesses the solvency position and the financial risk profile on a monthly basis. Action is taken where appropriate to ensure the predefined levels in the risk appetite statement will not be violated.

C.7.3 Monitoring of new and existing products
This paragraph contains a description of group policy, which is applicable for the solo entity. Group Risk Management, Compliance, and Legal Affairs participate in the Product Approval & Review Process Board (PARP Board). All these departments evaluate whether risks in newly developed products are sufficiently addressed. New products need to be developed in a way that they are cost efficient, reliable, useful and secure. New products must also be strategically aligned with a.s.r. leven's mission to be a solid and trustworthy insurer. In addition, the risks of existing products are evaluated, as requested by the PARP, as a result of product reviews.

C.7.4 Prudent person principle

a.s.r. leven complies with the prudent person principles as set out in Directive 2009/138/EC/article 132: Prudent person principle. The prudent person principle ensures that assets are managed on behalf of its subsidiaries, policyholders or other stakeholders in a prudent manner, and covers aspects that relate to market, credit, liquidity and operational risk. a.s.r. has mandated ASR Vermogensbeheer NV as their asset manager.

a.s.r. leven ensures that assets of policyholders or other stakeholders are managed in a prudent manner. a.s.r. complies with the 'Prudent Person Principle' by investing only in assets and instruments which a.s.r. can adequately assess, measure, monitor, control, maintain and report the risks. All assets will be assessed against solvency criteria according to article 45 (1a).

Derivatives are only used when these contribute to a lower risk or when it can be used to manage/hedge the portfolio more efficient. Mortgages, real estate and illiquid assets, which are not traded on regulated financial markets, are limited to a prudent level.

Governance of Investments
Within the Three Lines-of-Defence model, investments are managed in the first line by ASR Vermogensbeheer NV, reporting to the CFO of a.s.r.

ASR Vermogensbeheer NV manages its investments within the boundaries of a.s.r.'s Risk Appetite Framework, Strategic Asset Allocation and its Market-Risk Budget. The Market-Risk Budget is calculated on a monthly basis by Group Balance Sheet Management (GBSM), taking into account the Risk Appetite Framework. Group Risk Management, acting as the second line of defence, is responsible for the review. Internal Audit acts as the third-line of defence.

a.s.r. has established a structure of risk committees with the objective to monitor the risk profile for a.s.r. group, its legal entities and its business lines in order to ensure that it remains within the risk appetite and the underlying risk tolerances and risk limits. When triggers are hit or likely to be hit, risk committees make decisions regarding measures to be taken, being risk-mitigating measures or measures regarding governance, such as the frequency of their meetings.

All investment related activities are performed according to mandates as set by a.s.r., clients or policyholders. Mandates for investments for own account, clients and for account of policyholders are set out in internal guidelines, in order to ensure that prudent person principles are satisfied. This should always be in line with internal policies and internal constraints (such as a.s.r.'s ESG policy) and external constraints (such as regulatory limits).

D Valuation for Solvency purposes

This chapter contains information regarding the valuation of the balance sheet items. For each material asset class, the bases, methods and main assumptions used for valuation for solvency purposes are described. Separately for each material class of assets a quantitative and qualitative explanation of any material difference between the valuation for solvency purposes and valuation in the financial statements. When accounting principles are equal or when line items are not material, some line items are clustered together.

Valuation of assets is based on fair value measurement as described below. Each material asset class is described in paragraph D.1. Valuation of technical provisions is calculated as the sum of the best estimate and the risk margin. This is described in paragraph D.2. Other liabilities are described in paragraph D.3.

Information for each material line item is based on the balance sheet below. For each line item is described:
- Methods and assumptions for valuation
- Difference between solvency valuation and valuation in the financial statements

The numbering of the line items refers to the comments below.

Based on the differences in this template a reconciliation is made between IFRS equity and Solvency equity.

Reconciliation IFRS balance sheet and Solvency II balance sheet

Balance sheet	31 December 2019 IFRS	Revaluation	31 December 2019 Solvency II
1. Deferred acquisition costs	-	-	-
2. Intangible assets	26	-26	-
3. Deferred tax assets	225	-183	42
4. Property, plant, and equipment held for own use	149	-	149
5. Investments - Property (other than for own use)	1,524	-	1,524
6. Investments - Equity	4,438	6	4,444
7. Investments - Bonds	24,381	-	24,381
8. Investments - Derivatives	6,027	-	6,027
9. Unit-linked investments	9,565	-	9,565
10. Loans and mortgages	10,694	1,916	12,610
11. Reinsurance	187	24	211
12. Cash and cash equivalents	2,333	-	2,333
13. Any other assets, not elsewhere shown	412	-9	403
Total assets	**59,962**	**1,728**	**61,690**
14. Technical provisions (best estimates)	34,954	1,784	36,738
15. Technical provisions (risk margin)	-	1,907	1,907
16. Unit-linked best estimate	12,477	-2,687	9,790
17. Unit-linked risk margin	-	84	84
18. Pension benefit obligations	-	-	-
19. Deferred tax liabilities	-	-	-
20. Subordinated liabilities	-	-	-
21. Other liabilities	7,368	-	7,368
Total liabilities	**54,799**	**1,089**	**55,887**
Excess of assets over liabilities	**5,163**	**639**	**5,802**

This chapter contains also the reconciliation between the excess of assets over liabilities to EOF.

Reconciliation excess of assets over liabilities to Eligible Own Funds

	Gross of tax	31 December 2019
IFRS equity		**5,163**
Revaluation assets		
i. Intangible assets	-	
ii. Loans and mortgages	1,917	
iii. Reinsurance recoverables	24	
iv. Cash and cash equivalents	-	
v. Any other assets, not elsewhere shown	-9	
		1,932
Revaluation liabilities		
i. Technical provisions (best estimates)	-1,784	
ii. Technical provisions (risk margin)	-1,907	
iii. Unit-linked best estimate	2,687	
iv. Unit-linked risk margin	-84	
v. Subordinated liabilities	-	
vi. Other liabilities	-	
		-1,089
Total gross revaluations		843
tax percentage		21.7%
Total net revaluations		**660**
Revaluation tax exemptions		
i. Goodwill	-26	
ii. Participations	6	
		-21
Solvency II equity		**5,802**
Own fund items		
i. Subordinated liabilities		-
ii. Foreseeable dividends		-
Eligible Own Funds Solvency II		**5,802**

D.1 Assets

Valuation of most financial assets is based on fair value. In the paragraph below, this valuation methodology is described. For different line items will be referred to this method. In this paragraph line items 1 – 13 from the simplified balance sheet above are described.

D.1.1 Fair value measurement

In accordance with the Delegated Regulation, Solvency II figures are based on fair value. In line with the valuation methodology described in article 75 and further of the Solvency II directive and articles 9 and 10, the following three hierarchical levels are used to determine the fair value of financial instruments and non-financial instruments when accounting for assets and liabilities at fair value:

Level 1: Fair value based on quoted prices in an active market

Level 1 includes assets and liabilities whose value is determined by quoted (unadjusted) prices in the primary active market for identical assets or liabilities.

A financial instrument is quoted in an active market if:
- Quoted prices are readily and regularly available (from an exchange, dealer, broker, sector organisation, third party pricing service, or a regulatory body);
- These prices represent actual and regularly occurring transactions on an arm's length basis.

Level 2: Fair value based on observable market data
Determining fair value on the basis of Level 2 involves the use of valuation techniques that use inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (that is, as prices) or indirectly (that is derived from prices of identical or similar assets and liabilities). These observable inputs are obtained from a broker or third party pricing service and include:
- Quoted prices in active markets for similar (not identical) assets or liabilities;
- Quoted prices for identical or similar assets or liabilities in inactive markets;
- Input variables other than quoted prices observable for the asset or liability. These include interest rates and yield curves observable at commonly quoted intervals, volatility, loss ratio, credit risks and default percentages.

Level 3: Fair value not based on observable market data
The fair value of the level 3 assets and liabilities are determined in whole or in part using a valuation technique based on assumptions that are not supported by prices from observable current market transactions in the same instrument and for which any significant inputs are not based on available observable market data. The financial assets and liabilities in this category are assessed individually.

Valuation techniques are used to the extent that observable inputs are not available. The basic principle of fair value measurement is still to determine a fair, arm's length price. Unobservable inputs therefore reflect management's own assumptions about the assumptions that market participants would use in pricing the asset or liability (including assumptions about risk). These inputs are generally based on the available observable data (adjusted for factors that contribute towards the value of the asset) and own source information.

D.1.2 Assets per asset category
The balance sheet reports specify different asset categories. In this section, we describe the valuation of each material asset category. The figures correspond to the extended balance sheet which has been reported as QRT S 2.01.

1. Deferred acquisition costs
a.s.r.'s accounting policy is that all costs incurred to acquire insurance contracts (acquisition costs) are charged directly to the income statement, generally within one year.

2. Intangible assets
The intangible assets related to goodwill and other intangible assets are not recognized in the Solvency II framework and are set to nil.

3. Deferred tax assets
The basis for the DTA / DTL position in the IFRS balance sheet is temporary differences between fiscal and commercial valuation. This DTA / DTL position is the base for this line item on the Solvency II balance sheet, adjusted for Solvency II revaluations:
- The largest DTL mutation is mainly caused by the higher (valuation) mortgages and savings linked mortgages.

In accordance with the Delegated Regulation the DTA / DTL position is netted in the balance sheet. The balance sheet of a.s.r. leven contains a DTA.

The deferred tax effects involve a correction related to the fact that (most of) the revaluations as described in this chapter are gross of tax. The tax effect is calculated as 21.7%.

4. Property plant, and equipment held for own use
a.s.r. leven recognises property at market value, equal to Solvency II measurement.

5. Investments - Property (other than for own use)
a.s.r. leven owns the following categories of investment property; the method for calculating their fair value has been added:
- Residential –based on reference transaction and discounted cash flow method (DCF method);
- Retail – based on reference transaction and income capitalisation method;
- Rural – based on reference transaction and DCF method;
- Offices – based on reference transaction and DCF method;
- Other – based on reference transaction and DCF method;
- Under construction - based on both DCF and income capitalisation method.

6. Investments – Equity
Valuation of listed equities is based on the level 1 method of the fair value hierarchy. Unlisted fixed-interest preference shares are valued based on the level 2 method of the fair value hierarchy. The valuation techniques for financial instruments start from present value calculations; derivatives are valued based on forward-pricing and swap models. The observable market data contains yield curves based on company ratings and characteristics of unlisted fixed-interest preference shares. The main non-observable market input for private equity investments is the net asset value of the investment as published by the private equity company (or partner).

Valuation of private equity investments is based on the level 3 method of the fair value hierarchy. The main non- observable market input for private equity investments is the net asset value of the investment as published by the private equity company (or partner).

7. Investments – Bonds
The valuation of these assets is consistent with the IFRS fair value hierarchy as described in paragraph D.1.1.

8. Investments – Derivatives
The valuation of these assets is consistent with the fair value hierarchy as described in paragraph D.1.1 The valuation of listed derivatives is based on the level 1 method of the fair value hierarchy. The valuation of unlisted interest rate contracts is based on the level 2 method of the fair value hierarchy. The valuation techniques for financial instruments start from present value calculations; derivatives are valued based on forward-pricing and swap models. The observable market data contains yield curves based on company ratings and characteristics of unlisted fixed-interest preference shares.

9. Unit-Linked investments
The valuation of these assets is consistent with the IFRS fair value hierarchy described in paragraph D.1.1

10. Loans and mortgages
The valuation of loans is based on the level 2 and level 3 (mortgages) method of the fair value hierarchy. The fair value of the loans is based on the discounted cash flow method. It is obtained by calculating the present value based on expected future cash flows and assuming an interest rate curve used in the market that includes an additional spread based on the risk profile of the counterparty. This asset category includes savings linked mortgages.

Many of the savings-linked mortgages that a.s.r. leven has sold in the past were combined with a mortgage loan from an external bank. This bank has undertaken to pay mortgage interest on the savings accrued in the insurance policy. To this end, the insurer transfers the premiums to a special deposit account with the bank. According to IFRS, both the insurance policy and the loan are measured at amortized cost. For the purpose of Solvency II, they are both measured at fair value, allowing for any securities the insurer receives on the funds deposited with the bank. The liability is measured separately (in accordance with the Delegated Regulation and the guidance provided by Dutch Central Bank).

The valuation method used to determine the fair value of a.s.r. leven's mortgage portfolio bases the spread on the interest rate curve for discounting the mortgage portfolio cash flows on consumer rates. The valuation according to IFRS is based on amortized cost.

11. Reinsurance recoverables
Contracts that transfer a significant insurance risk from a.s.r. leven to third parties are accounted for as reinsurance contracts, and are classified as outgoing reinsurance.

The amounts that can be collected from reinsurers are estimated using a method that is in line with the reinsurance contract and the fair-value method for determining liabilities arising from reinsurance contracts described in Section D2.

Assets arising from reinsurance contracts are recognized under reinsurance contracts, including current receivables from reinsurers. At each reporting date, a.s.r. leven assesses whether objective evidence of impairment exists. If a reinsurance asset is impaired, its carrying amount is reduced to its recoverable amount. Therefore, current receivables from reinsurers are valued comparable with IFRS.

12. Cash and cash equivalents
The valuation of cash and cash equivalents is based on the level 1 method of the fair value hierarchy. Cash and cash equivalents include cash in hand, deposits held at call with banks, cash collateral and other short-term highly liquid investments with original maturities of three months or less.

13. Any other assets, not elsewhere shown
The valuation of these assets is based on the IFRS fair value hierarchy as described in paragraph Section D.1.1.
Other assets include different investments and interest income, property developments, tax assets and accrued assets.

D.2 Technical provisions

D.2.1 Introduction
In this section, the policies regarding methodology and assumptions for the technical provisions are described. These liabilities arise from insurance contracts issued by a.s.r. leven that transfer significant insurance risks from the policyholder to a.s.r. leven.

In this paragraph line items 14-18 from the simplified balance-sheet above are described

D.2.2 Technical provisions methods
In this paragraph the methodology for calculating the technical provisions is described.

14 and 16. Technical Provisions and Unit – linked (best estimates)
Intrinsic Value
The intrinsic value is the net present value of projected cash flows from insurance contracts, i.e. benefits and claims, profit-sharing liabilities and costs less premiums. These cash flows are estimated using best estimate assumptions with respect to mortality, claims experience, lapse, expense and inflation. Where applicable, the participating features of the insurance contracts, such as profit sharing, are taken into account in the future cash flows.

The cash flows are discounted using the term structure of risk-free interest rates (including volatility adjustment) as prescribed under Solvency II for the valuation of underwriting liabilities. The best estimate assumptions regarding mortality and longevity include recent trend assumptions for life expectancy in the Netherlands, as provided by the Dutch Actuarial Association.

In unit-linked contracts, the best estimate equals the fund value of the contract less the net present value of future margins on mortality and expense. For unit-linked contracts with a guaranteed minimum benefit on maturity the best estimate is increased with the loss on maturity date because of this guarantee if a loss occurs in the best estimate scenario.

Time value of options and guarantees
The TVOG is calculated using stochastic techniques with respect to interest scenario's. The time value of options and guarantees (TVOG) – payment guarantees connected to profit-sharing liabilities in particular – is added to the expected value.

The valuation of a guarantee on maturity value in some index-linked and unit-linked policies is calculated policy by policy, with a closed form methodology that is based on the stochastic Black Scholes formula. The TVOG is equal to this value less the intrinsic value that has already been recognized in the expected value.

The value of other options and guarantees (for policies with profit sharing) is based on 1.000 interest scenarios. This value is explicitly determined using stochastic methods and concerns the costs associated with the granted financial options and guarantees, such as profit-sharing, to the extent that they have not been recognized in the expected value. In other words, this concerns the time value of these options; their intrinsic value has already been recognized in the expected value.

15. and 17. Technical Provisions and Unit – linked (risk margin)
The risk margin is determined using the Cost of Capital (CoC) method, using a Cost-of-Capital rate of 6%, in line with the Delegated Regulation. The risk margin is based on the Solvency Capital Requirement (SCR) of all insurance risks,

operational risk, unavoidable market risk (excluding interest rate risk) and counterparty default risk for reinsurance arrangements, SPVs and other material exposures which are closely related to insurance liabilities.

The SCR's involved are determined at the valuation date under the assumption that no VA is applicable. They are projected separately into the future using suitable risk drivers per risk group. These SCRs are aggregated in each future year, making allowance for the correlations between risks using correlation factors as define in the standard model.

In determining the risk margin, allowance is also made for diversification benefits between risk groups within a legal entity.

The risks that are factored into the risk margin are mortality risk, longevity risk, disability-morbidity risk, lapse risk, catastrophe risk, expense risk and operational risk.

Best estimate assumptions
The valuation date is the end date of the reporting period and the starting point for projecting. Assumptions are calculated on the presumption that a.s.r. will pursue its business as a going concern reflecting the organization's or industry's most realistic view.

Assumptions are considered to be best estimates when they represent the mean or probability-weighted average of possible outcomes of an uncertain event. The assumptions distinguish between economic assumptions and operating assumptions:

Economic assumption
Volatilities and correlations:
- The volatilities are set for each asset category: equities, property and fixed income.
- The correlations are set between each of the asset categories.

Expense inflation
Inflation is used as long-term expense inflation. Inflation is expressed as a curve and based on available and liquid market instruments for price inflation plus a weighted spread for the main types of expenditures. The reference for the inflation curve is based on the European inflation swap sourced from Bloomberg with ticker EUSWI- CMPL Curncy.

Spreads for most categories are based on their relative size in the Dutch Harmonized Index for Consumer Prices (HICP). The spread for the category salaries is based on the historical wage inflation in the Dutch insurance industry over the last ten years. The inflation curve is set every quarter. At year end, the inflation curve is based on a reference date. The spreads are set at least once a year. At the valuation date, 31 December 2019, the expense inflation was set 1.53% (inflation curve: 1.41%; spread: 0.12%).

Operating assumptions
Operating or non-economic assumptions generally capture risks directly related to movements and uncertainty as a result of underwriting. Operating assumptions are generally based on analyses of recent experience. The goal is to make a best estimate of future experience, but staying cautious if there is broad scope for judgment. Operating assumptions are specific to the entity and rely on a combination of analysis of past experience and assessments of future trends. The operating assumptions are updated once a year. Operating assumptions are set by the product lines.

Mortality, longevity
The principles underlying mortality are two-fold: assumptions for developments in the mortality of the average population and assumptions for developments in the difference between the mortality rate of insured persons and the general population (mortality experience).

a.s.r. leven bases its assumptions for developments in the mortality rate of the general population on recent external life expectancy tables. As of the third quarter of 2018 this is based on 'Prognosetafel AG 2018'.

a.s.r. leven considers Prognosetafel AG 2018 the best table for forecasting the mortality rate of the Dutch population. It is the most recent life expectancy table and it is based on the latest academically validated techniques.

Depending on the portfolio, the experience factors for the mortality rate among insured persons are derived from market data or own portfolio observations. These factors, which are broken down by age and gender, concern the mortality rate measured in insured amounts.

Surrenders, lapses, paid-up

A policy is assumed to become paid-up when the policyholder decides to terminate the contractual payments before the end of the policy term. A policy is assumed to be surrendered/lapsed when the policyholder decides to terminate the contract before the end of the policy term and agrees to receive the applicable contractually agreed surrender benefits.

In the product lines Life Individual and Funeral, the principles for lapses and early surrenders were determined based on:
- the elapsed duration of the policy.
- a series of historical observations for each system of records and by type of product.

On this basis, frequencies were extrapolated for the surrender of regular premium policies, conversion of regular premium policies into paid-up policies, surrender of paid-up policies and surrender of single premium policies.
The surrender pattern for individual unit-linked portfolios has been subject to a different pattern since the miss-selling of such policies came to light in 2010. The determination of best estimate lapse rates for unit linked policies is based on the usual statistical methods, including back testing, taking into account the increased lapse after 2010 but with special attention to the most extreme years in the historical data.

Pension policies do not usually lend themselves to lapses and early surrender. The pension contracts and/or master agreements that a.s.r. leven signs with employers can be terminated only at the expiry date of the contract. Only then can a policy be renewed, converted into a paid-up policy or transferred.

Expenses

The total of expenses allocated to modelled insurance activities in scope represents the actual expenses for the reporting period. They include direct operating expenses, local overhead expenses as well as investment expenses and group head office expenses. Expenses allocated to modelled business covers all expenses incurred to manage the total business, including investments in current systems required to support that business.

To determine the investment cost assumption, we start with the total actual investment costs, as known for a.s.r. group. The total investment costs of a.s.r. group are broken down into various activities and assigned to a.s.r. leven. The total costs of a.s.r. leven are then divided among the various product groups, whereby the starting point is that the distribution takes place on the basis of the extent to which the investments in characteristics match the obligations (BEL and RM). The investment cost parameter is then used to project the investment costs to the future.
Investment expenses related to managing assets that have already been deducted from related service fees are not included in the expenses. Investment expense that is already included in the valuation of the asset, which is the case for mortgages, are not included in the valuation of the best estimate.

The maintenance expense assumption is set before information about the actual expenses is available. The assumption is based on available data from the first two quarters of recent year and an estimate of the expenses incurred in the remaining period of most recent year. The expenses related to the insurance portfolio are divided between acquisition and maintenance expenses according to their nature. Projected maintenance expenses include expense inflation.

The maintenance costs are divided into fixed costs, partially variable costs, variable costs and highly variable costs. Highly variable costs are considered to be scalable. On the other hand, the fixed costs are considered not to be scalable with a maximum. It is not realistic to assume that the remaining policies have to carry exponential costs. It is not possible to use a fixed component combined with a maximum in the used projection system. Therefore, the choice has been made to include the fixed component using a fixed spread which has been added to the inflation rate. These fixed spreads are determined for every product line separately. The ratio of the fixed to variable costs, the maximum of the fixed costs and the run-offs of the portfolio are used to determine these fixed spreads.

Expected or anticipated expense reductions, e.g. because of productivity gains, are excluded from the calculations beyond what has been achieved in the current reporting period. Recurring expenses include development costs when they are recurrent and arise to safeguard the ability of the total business to continue as a going concern. These development cost are typically run off over a shorter term than other recurring expenses. These current costs are included for the estimated duration.

Expense allocation

Costs are allocated in line with IFRS financial statements. Costs are carefully allocated using cost drivers. This also applies to the cost allocations to the various products. Cost allocation is documented and reported.

Profit sharing/bonus rate
Some of the portfolio is subject to profit-sharing. The portfolio has been divided into groups with similar profit-sharing systems and rules. The time value and intrinsic value of any profit-sharing option is calculated for each group (model point).

Renewal assumptions
The renewal assumption for the collection commission has been determined for each portfolio based on the most recent available accounting records. The recognized collection commission is divided by gross premiums.

Morbidity and Disability
The assumption for disability-morbidity has been determined for each portfolio based on the most recent available accounting records and prior years. The provision, premiums, benefits and results relating to disability-morbidity have been used to define the assumption.

Risk-free yield curve
The basis for the reference rate of the best estimate is the swap rate at the date of valuation (31 December 2018). The following adjustments have been made to the swap curve:
- Reduction by ten basis points to account for counterparty default risk (31 December 2019: 10 bps);
- Extrapolation from year 20 to the ultimate forward rate of 3.90% in year 60 using the Smith-Wilson extrapolation method;
- Inclusion of a volatility adjustment of 7 basis points, as provided by EIOPA, to the zero rates for the first 20 years (31 December 2018: volatility adjustment 24 bps).

Impact volatility adjustment
a.s.r. leven applies the volatility adjustment for discounting cash flows to determine the best estimate and in determining the Required Capitals for the SCR. In the next table the impact is shown of this volatility adjustment on the financial position and own funds of a.s.r. leven.

Impact of applying VA = 0 bps

	VA = 24 bps	VA = 4 bps	VA = 0 bps		Impact	
	31 December 2019	31 December 2018	31 December 2019	31 December 2018	31 December 2019	31 December 2018
TP	48,520	41,347	48,878	42,365	359	1,018
SCR	3,018	2,694	3,042	2,769	24	74
MCR	1,235	1,109	1,246	1,141	11	32
Basic own funds (total)	5,802	5,448	5,522	4,639	-281	-809
Eligible own funds	5,802	5,448	5,522	4,639	-281	-809

Table: impact of applying VA = 0 bps

D.2.3 Level of uncertainty
a.s.r. leven distinguishes between two sources of uncertainty with regard to the level of the technical provisions. These sources are model risk and process risk. The uncertainty associated with these risks has been mitigated as described below.

Process risk
The process risk is mitigated using the Management in Control framework (MIC), which creates a reasonable degree of assurance as to the reliability of financial reports. Key controls have been identified and implemented for the calculation process. In addition, the effectiveness of the MIC framework is verified by an independent party and supplementary checks are performed where needed. As part of MIC or the additional checks, the four-eye principle has demonstrably been applied to the calculation of the technical provision.

Model risk
The second risk that a.s.r. has identified in relation to the technical provisions is model risk. Regular procedures have provided adequate certainty with regard to this risk. To illustrate, a model validation process mitigates the risk of material misstatements or that key facts have been omitted. In addition, FRM, in its role as the second line of defence, performs an independent internal review of the technical provisions as described in the previous phase.

D.2.4 Reinsurance and special purpose vehicles (SPVs)

Contracts that transfer a significant insurance risk from a.s.r. leven to third parties are accounted for as reinsurance contracts, and are classified as outgoing reinsurance.

a.s.r. leven has reinsured a substantial part of all underwriting risk of a certain group pension contract on a proportional basis. At year end 2018, the required capital for a mass lapse event was reduced by the proceeds that were to be expected from a reinsurance arrangement (Mass Lapse Cover). Two events during 2019 are worth mentioning. First, the application of the Mass Lapse Cover has been reduced as of June 30, resulting in an increase of the mass lapse risk of 34 million (valuation date: June 30). This increase occurs since the mass lapse event, after deduction of the proceeds from the Mass Lapse Cover, is dominant in determining the lapse risk. Second, the reinsurance arrangement has been terminated altogether per yearend 2019, resulting in a further increase of the mass lapse risk of 102 million.

a.s.r. leven does not make use of special purpose vehicles (SPVs).

D.2.5 Technical provisions

In this table a reconciliation is made between the Solvency II and the IFRS valuation of provisions. Solvency figures are part of the Balance Sheet S.02.01. The next paragraph describes a brief explanation of these differences.

Technical provisions: IFRS versus Solvency II

31 December 2019	IFRS	Revaluation	Solvency II
Life			
Best estimate	-		36,738
Risk margin	-		1,907
Technical provision	**34,954**	**3,691**	**38,645**
Index-linked and unit-linked			
Best estimate	-		9,790
Risk margin	-		84
Technical provision	**12,477**	**-2,603**	**9,874**

D.2.6 Reconciliation between IFRS and Solvency II

Under Solvency II, the technical provisions are calculated using a different method compared to IFRS. In this section the reconciliation between IFRS and Solvency II is described per business line.

Life

The IFRS technical provisions are determined with assumptions that are equal to the assumptions underlying the premium. For longevity risk additional provisions are set up. Also under IFRS provisions are set up for realized capital gains, interest rate swaptions and shadow accounting (unrealized gains on bonds). In case that the policy-duration exceeds the length of the premium-paying period, a provision for administrative expenses is set up for the period where no premiums are due.'

The Solvency II provision consists of a best estimate and a risk margin. The best estimate includes a time value of option and guarantees with respect to profit sharing. The best estimate is determined on best estimate assumptions and covers future benefits and future expenses to the extent that they are not covered by future premiums.

Index-linked and unit-linked

The technical provision for unit-linked policies under IFRS equals the fund value of the underlying assets of the units. Extra provisions are set up in case of minimum guarantees on the maturity-value provided by a.s.r. leven and for the transparency issue.

The Solvency II technical provision consist of the fund value less the net present value of the best estimate value of the future profits. For policies where a guarantee with respect to the maturity-value is given, the value of the guarantee is determined on a market consistent basis. Also for the transparency issue some provision is set up.

Technical provisions Pension scheme a.s.r.

For a.s.r. leven the pension scheme of a.s.r.-employees is involved on the balance sheet under technical provision life. On a.s.r. group level this scheme is mentioned as an employee benefit obligation.

D.3 Other liabilities

D.3.1 Valuation of other liabilities

In line with the valuation of assets, the accounting principles for other liabilities used in the Pillar III reports are generally also based on the IFRS as adopted by the EU. Any differences between the valuation methods for IFRS and Solvency II purposes are addressed in detail per liability category. In this paragraph line items 18 – 21 from the simplified balance-sheet above are described

18. Pension benefit obligations
Not applicable for a.s.r. leven.

On group level a.s.r. has a number of defined benefit plans for own staff in place. Current service costs for the OTSO's are included in operating expenses.

19. Deferred tax liabilities
See 3. Deferred tax assets.

20. Subordinated liabilities
Not applicable for a.s.r. leven.

21. Other liabilities
Other Liabilities contains different small line items:

Debts owed to credit institutions
The valuation of these liabilities follows the Solvency II fair value hierarchy as described in paragraph D.1.1

Financial liabilities other than debts owed to credit institutions
The valuation of these liabilities follows the IFRS fair value hierarchy as described in paragraph D.1.1

Subsequent valuation has to be consistent with the requirements of Article 75 of the Solvency II directive. Therefore, no subsequent adjustments to take account of the change in own credit standing shall take place. However, adjustments for changes in the risk-free rate must be accounted for subsequently. This means that the subordinated loans are discounted using the risk-free rate plus a credit spread at inception of the liability.

Insurance and Intermediaries payables
The valuation of these liabilities follows the Solvency II fair value hierarchy as described in paragraph D.1.1 This category is subject to the same valuation as the asset category Cash and Cash equivalents.

Trade payables (non-insurance)
The valuation of these liabilities follows the Solvency II fair value hierarchy as described in paragraph D.1.1 This category is subject to the same valuation as the asset category receivables.

Any other liabilities not disclosed elsewhere
The valuation of these liabilities follows the Solvency II fair value hierarchy as described in paragraph D.1.1. This item consists primarily of tax payables.

Contingent liabilities
Contingent liabilities are defined as:
- a possible obligation depending on whether some uncertain future event occurs, or
- a present obligation but payment is not probable or the amount cannot be measured reliably.

Contingent liabilities are recognized on the IFRS balance sheet if there is a probability of >50% that the contingent liability leads to an 'outflow of resources'. These liabilities are also recognized on the Solvency II balance sheet.

Solvency II prescribes that all contingent liabilities be recognized on the Solvency II balance sheet. This covers cases where the amount cannot be measured reliably or when the probability is <50%. For these cases, a regular process is in place to determine whether contingent liabilities should be recognized on the Solvency II balance sheet.

The a.s.r. leven Solvency II capital ratio does not include contingent liabilities.

D.3.2 Reconciliation from Solvency II equity to EOF

The differences described in the above sections are the basis for the reconciliation of IFRS equity to Solvency II equity. To reconciliate from Solvency II equity to EOF, the following movements are taken into consideration:

Subordinated liabilities

Not applicable for a.s.r. leven.

Foreseeable dividends and distributions

Not applicable for a.s.r. leven.

Deductions for participations in financial and credit institutions

Participations in financial and credit institutions exceeding 10% are not supervised by the Solvency II framework and are therefore excluded from the eligible own fund items.

Tier 3 Limitations

In accordance with the Delegated Regulation EOF is divided in tiering components. There are boundary conditions related to the size of these components. Excess of this limits results in capping of EOF. For a.s.r. leven capping does not apply per Q4 2019.

D.4 Alternative methods for valuation

a.s.r. leven does not apply alternative methods for valuation.

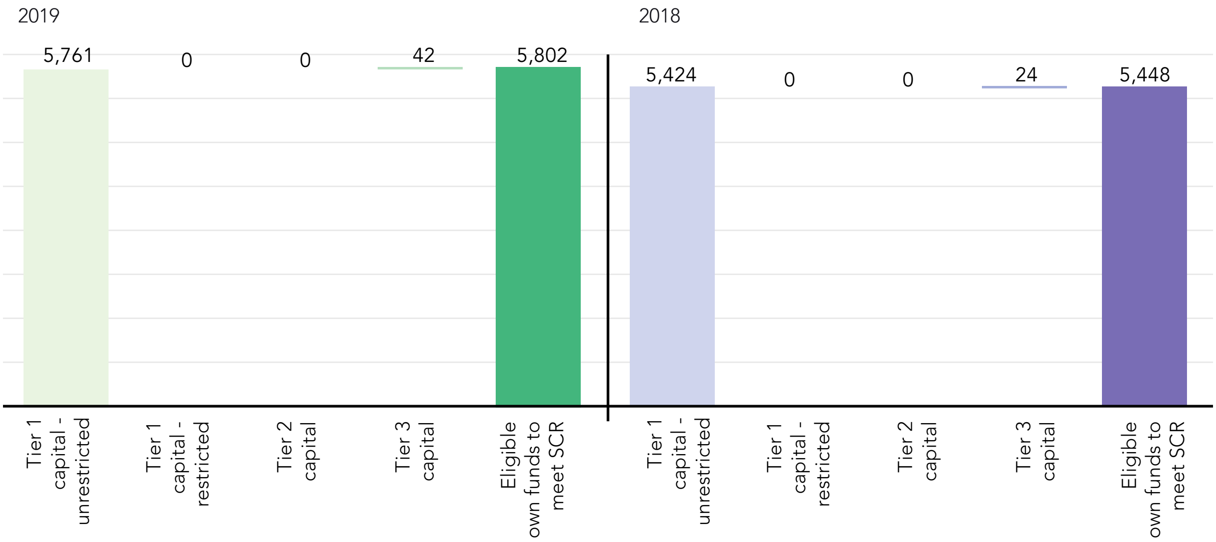
D.5 Any other information

Not applicable for a.s.r. leven.

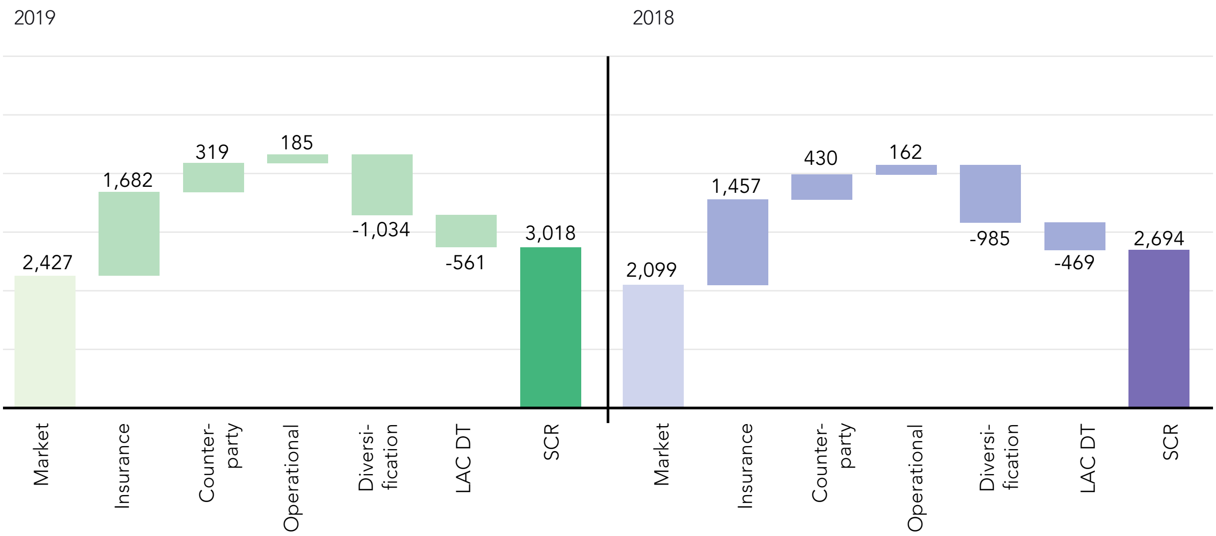
E Capital management

Key figures

Eligible own fund 2019

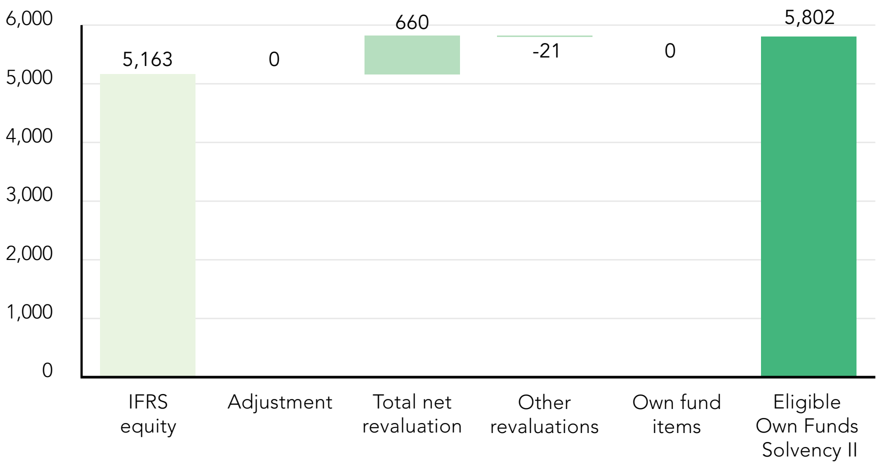


SCR 2019



The solvency ratio stood at 192% as at 31 December 2019 based on the standard formula as a result of € 5,802 million EOF and € 3,018 million SCR.

Reconciliation total equity IFRS vs EOF Solvency II



An extensive explanation of the reconciliation from IFRS equity to Solvency II eligible own funds was presented in section D.3.2.

E.1 Own funds

E.1.1 Capital management objectives

Management

Overall capital management is administered at group level. a.s.r. currently plans to consider investing capital above the Solvency II ratio (calculated based on the standard formula) of 160% (management threshold level) with the objective of creating value for its shareholders. If and when a.s.r. operates at a level considerably above the management threshold level and it believes that it cannot invest this capital in value-creating opportunities for a prolonged period of time, it may decide to return (part of this) capital to shareholders. If a.s.r. chooses to return capital, it plans to do so in a form that is efficient for shareholders at that time. a.s.r. actively manages its in-force business, which is expected to result in free capital generation over time. Additionally, business improvement and balance sheet restructuring should improve the capital generation capacity while advancing the risk profile of the company. The legal entities are individually capitalised and excess capital over management's targets for the legal entities is intended to be up-streamed to the holding company as far as is needed for amongst others covering external dividend, coupon payments on hybrids/senior financing instruments and holding costs and in so far the local regulations and the internal risk appetite statement allow.

Objectives

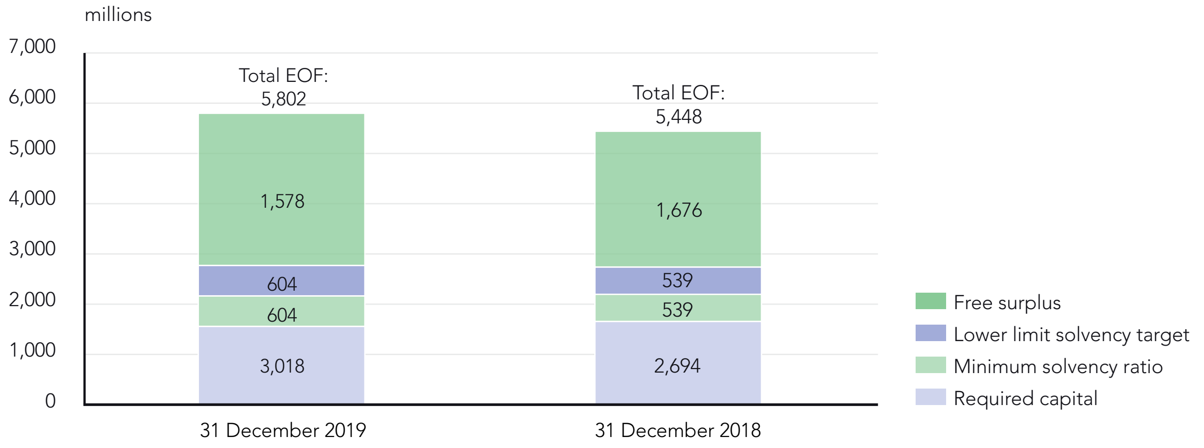
The group is committed to maintain a strong capital position in order to be a robust and sustainable insurer for its policyholders and other stakeholders. The objective is to maintain a solvency ratio well above the minimum levels as defined in the risk appetite statements and above the relevant management threshold levels. Sensitivities are periodically performed for principal risks and annual stress tests are performed to test a.s.r.'s robustness to withstand moderate to severe scenarios. An additional objective is to achieve a combination of a capital position and a risk profile that is at least in line with a 'single A' rating by Standard & Poor's.

The SCR is reported on a quarterly basis and proxies are made on both a monthly and weekly basis. The internal minimum solvency ratio for a.s.r. leven as formulated in the risk appetite statement is 120%. The lower limit solvency target is 140%. The management threshold level for the solvency ratio is above 160%. The solvency ratio stood at 192% at 31 December 2019, which was comfortably above the internal requirement of 120% and the management threshold level of 160%.

In accordance with a.s.r.'s dividend policy, the liquidity of the underlying entities is not taken into account for the liquidity position of the group. However, the capital is recognised in the capital position of the group, since a.s.r. has the ability to realise the capital of this OTSO, for example by selling the entity.
If a.s.r. leven elects to return capital, it intends to do so in the form that is efficient for shareholders at that time. In 2019, € 356 million dividend upstream took place.

The table below shows how the eligible own funds of a.s.r. leven relate to the different capital targets.

Market value own funds under SCR



E.1.2 Tiering own funds

The table below details the capital position of a.s.r. leven as at the dates indicated. With respect to the capital position, Solvency II requires the insurers to categorise own funds into the following three tiers with differing qualifications as eligible available regulatory capital:

- Tier 1 capital consists of Ordinary Share Capital and Reconciliation reserve.
- Tier 2 capital consists of ancillary own funds and basic Tier 2. Ancillary own funds consist of items other than basic own funds which can be called up to absorb losses. Ancillary own fund items require the prior approval of the supervisory authority. a.s.r. leven has no ancillary own fund items.
- Tier 3 consists of Deferred tax assets.

The rules impose limits on the amount of each tier that can be held to cover capital requirements with the aim of ensuring that the items will be available if needed to absorb any losses that might arise.

Eligible Own Funds to meet the SCR

	31 December 2019	31 December 2018
Tier 1 capital - unrestricted	5,761	5,424
Tier 1 capital - restricted	-	-
Tier 2 capital	-	-
Tier 3 capital	42	24
Eligible own funds to meet SCR	**5,802**	**5,448**

E.1.3 Own funds versus MCR

The MCR calculation is based on the standard formula.

Eligible Own Funds to meet the MCR

	31 December 2019	31 December 2018
Tier 1 capital - unrestricted	5,761	5,424
Tier 1 capital - restricted	-	-
Tier 2 capital	-	-
Tier 3 capital	-	-
Eligible own funds to meet MCR	**5,761**	**5,424**

According to Delegated Regulation article 248 to 251 the MCR (€ 1,235 million) of a.s.r. leven is calculated as a linear function of premiums, technical provisions and capital at risk.

E.1.4 Description of grandfathering
There are no hybrids loans at a.s.r. leven.

E.2 Solvency Capital Requirement

Capital requirement
The required capital stood at € 3,018 million per 31 December 2019. The required capital (before diversification) consists for € 2,427 million out of market risk, € 319 million of counterparty risk and the insurance risk amounted to € 1,682 million as per 31 December 2019.

a.s.r. leven complied during 2019 with the applicable externally imposed capital requirement. The table below presents the solvency ratio as at the date indicated.

Solvency II ratio

	31 December 2019	31 December 2018
Eligible Own Funds Solvency II	5,802	5,448
Required capital	3,018	2,694
Solvency II ratio	**192%**	**202%**

Under Solvency II it is permitted to reduce the required capital with the mitigating tax effects resulting from a 1-in-200-year loss ('Shock loss'). There is a mitigating tax effect to the extent that the Shock loss (BSCR + Operational risk) is deductible for tax purposes and can be compensated with taxable profits. This positive tax effect can only be taken into account when sufficiently substantiated ('more likely than not'). a.s.r. included a beneficial effect on its solvency ratio(s) due to the application of the LAC DT. The LAC DT benefit of a.s.r. leven amounted to € 561 million (2018 € 469 million).

Relevant regulation and current guidance (Delegated Regulation, Level 3 guidelines, Dutch Central Bank Q&As and IAS 12) is taken into account in the development of the LAC DT methodology.

Since 2016 a.s.r. uses an advanced model for the LAC DT of a.s.r. leven and a 'basic' model for the other OTSO's. The advanced model takes into account future profits and the timing of fiscal profits and losses according to Dutch tax legislation. The advanced model has been revisited in 2019. In this last update the expected projections of the DTL and DTA were included. Both models are and will be updated in case constrained by additional guidance or legislation provided.
The a.s.r. leven solvency ratio does not include any contingent liability potentially arising from any of the current and/ or future legal proceedings in relation to unit-linked insurance contracts or for other products sold, issued or advised on by a.s.r. leven's insurance subsidiaries in the past, the reason being that it is impossible at this time to make reliable estimates of the number of expected proceedings, possible future precedents and the financial impact of current and possible future proceedings.

Standard & Poor's confirmed the single A rating of ASR Levensverzekering N.V. on July 18, 2019.

Ratings

Ratings Standard & Poor's	Type	Rating	Outlook	Rating & outlook since
ASR Levensverzekering N.V.	CCR	A	Stable	23 August 2012
ASR Levensverzekering N.V.	IFSR	A	Stable	23 August 2012

CCR: counterparty credit rating
IFSR: insurer financial strength rating

Rating reports can be found on the a.s.r. website: http://asrnl.com/investor-relations/ratings.

E.3 Use of standard equity risk sub-module in calculation of Solvency Capital Requirement

Transitional measure for equity risk applies for shares in portfolio at 01-01-2016. The SCR equity shock is 22% at 01-01-2016, and linear increasing to (i) 39% + symmetric adjustment for type I shares and (ii) 49% + symmetric adjustment for type II shares.

E.4 Differences between Standard Formula and internal models

a.s.r. solvency is governed by a standard formula, rather than the self-developed internal model. The Executive Board believes that this should enhance transparency and consistent interpretation.

E.5 Non-compliance with the Minimum Capital Requirement and non-compliance with the Solvency Capital Requirement

As a.s.r. leven has not faced any form of non-compliance with the Minimum Capital Requirement or significant non-compliance with the Solvency Capital Requirement during the reporting period or at the reporting date, no further information is included here.

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